AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court For The District of Delaware on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
	6/22/2018	For The District of Delaware

PLAINTIFF	DEFENDANT
KONINKLIJKE KPN N.V.	TCL CORPORATION, TCL COMMUNICATION, INC., TCL COMMUNICATION TECHNOLOGY HOLDINGS LIMITED, TCT MOBILE, INC., TCT MOBILE (US) INC., and TCT MOBILE (US) HOLDINGS, INC.,

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	US 9,667,669 B2	5/30/2017	KONINKLIJKE KPN N.V.
2	US 9,654,330 B2	5/16/2017	KONINKLIJKE KPN N.V.
3			
4			
5			

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above---entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1---Upon initiation of action, mail this copy to Director Copy 3---Upon termination of action, mail this copy to Director
Copy 2---Upon filing document adding patent(s), mail this copy to Director Copy 4---Case file copy

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/015,765	05/16/2017	9654330	10-406-CON	6519

20306 7590 04/26/2017

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Hans Maarten Stokking, The Hague, NETHERLANDS;
Koninkijke KPN N.V., The Hague, NETHERLANDS;
Mattijs Oskar Van Deventer, Leidschendam, NETHERLANDS;
Fabian Arthur Walraven, Groningen, NETHERLANDS;
Omar Aziz Niamut, Vlaardingen, NETHERLANDS;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/730,024
	Filing Date	2013-08-30
	First Named Inventor	Hans Maarten Stokking
	Art Unit	2441
	Examiner Name	~~TBD~~ Alicia Baturay
	Attorney Docket Number	10-406-CON

	4	20090100147	A1	2009-04-16	Igarashi	
	5	20090180484	A1	2009-07-16	Igarashi	
	6	20090190603	A1	2009-07-30	Damola et al.	
	7	20090193469	A1	2009-07-30	Igarashi	
	8	20090217337	A1	2009-08-27	Åström ~~Aström~~	
Change(s) applied to document, /N.B.H./ 10/24/2016	9	20090235317	A1	2009-09-17	Igarashi	
	10	20090307307	A1	2009-12-10	Igarashi	
	11	20090313376	A1	2009-12-17	Cedervall et al.	
	12	20100005177	A1	2010-01-07	Cagenius	
	13	20100005501	A1	2010-01-07	Stokking et al.	
	14	20110209188	A1	2011-08-25	Petersson et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.B./

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

20306 7590 01/18/2017
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/015,765	08/30/2013	Hans Maarten Stokking	10-406-CON	6519

TITLE OF INVENTION: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$960	$0	$0	$960	04/18/2017

EXAMINER	ART UNIT	CLASS-SUBCLASS
BATURAY, ALICIA	2441	709-203000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 McDonnell Boehnen Hulbert
2 & Berghoff LLP
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: Koninklijke KPN N.V.

(B) RESIDENCE: (CITY and STATE OR COUNTRY): The Hague, Netherlands

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:
- ☒ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ☐ A check is enclosed.
- ☒ Payment by credit card. Form PTO-2038 is attached.
- ☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ☐ Applicant certifying micro entity status. See 37 CFR 1.29 — NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- ☐ Applicant asserting small entity status. See 37 CFR 1.27 — NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- ☐ Applicant changing to regular undiscounted fee status. — NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /David A. Grabelsky/ Date April 13, 2017

Typed or printed name David A. Grabelsky Registration No. 59,208

Samsung Ex. 1012, Page 4 of 691

Electronic Patent Application Fee Transmittal

Application Number:	14015765
Filing Date:	30-Aug-2013
Title of Invention:	METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Filer:	David A. Grabelsky/Holly Mueller
Attorney Docket Number:	10-406-CON

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	1501	1	960	960

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**960**

Electronic Acknowledgement Receipt

EFS ID:	28917765
Application Number:	14015765
International Application Number:	
Confirmation Number:	6519
Title of Invention:	METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Customer Number:	20306
Filer:	David A. Grabelsky
Filer Authorized By:	
Attorney Docket Number:	10-406-CON
Receipt Date:	13-APR-2017
Filing Date:	30-AUG-2013
Time Stamp:	15:37:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$960
RAM confirmation Number	041417INTEFSW15403900
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	10_406_CON_IssueFee.pdf	88570 36d728f69ec5071afcd96e3f9aedfa565d1138ec	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30370 9237d07adeead691887ead2ca115dbaf8dfa63e9	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	118940		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

20306 7590 01/18/2017

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

EXAMINER	
BATURAY, ALICIA	
ART UNIT	PAPER NUMBER
2441	

DATE MAILED: 01/18/2017

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/015,765	08/30/2013	Hans Maarten Stokking	10-406-CON	6519

TITLE OF INVENTION: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$960	$0	$0	$960	04/18/2017

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

20306 7590 01/18/2017
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/015,765	08/30/2013	Hans Maarten Stokking	10-406-CON	6519

TITLE OF INVENTION: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$960	$0	$0	$960	04/18/2017

EXAMINER	ART UNIT	CLASS-SUBCLASS
BATURAY, ALICIA	2441	709-203000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:
- ❑ Issue Fee
- ❑ Publication Fee (No small entity discount permitted)
- ❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ❑ A check is enclosed.
- ❑ Payment by credit card. Form PTO-2038 is attached.
- ❑ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ❑ Applicant certifying micro entity status. See 37 CFR 1.29
  NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- ❑ Applicant asserting small entity status. See 37 CFR 1.27
  NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- ❑ Applicant changing to regular undiscounted fee status.
  NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

Samsung Ex. 1012, Page 10 of 691

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/015,765	08/30/2013	Hans Maarten Stokking	10-406-CON	6519

20306 7590 01/18/2017

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

EXAMINER	
BATURAY, ALICIA	

ART UNIT	PAPER NUMBER
2441	

DATE MAILED: 01/18/2017

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Corrected Notice of Allowability	**Application No.** 14/015,765	**Applicant(s)** STOKKING ET AL.	
	Examiner Alicia Baturay	**Art Unit** 2441	**AIA (First Inventor to File) Status** No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the IDS filed 08 November 2016*.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are *14-21 and 23-36 (renumbered 1-22)*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☒ All b) ☐ Some *c) ☐ None of the:
   1. ☒ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
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7. ☐ Other _____.

/Alicia Baturay/
Primary Examiner, Art Unit 2441

Notice of References Cited	Application/Control No. 14/015,765	Applicant(s)/Patent Under Reexamination STOKKING ET AL.	
	Examiner Alicia Baturay	Art Unit 2441	Page 1 of 3

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	Examiner Alicia Baturay	Art Unit 2441	Page 2 of 3

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(71) Applicant *(for all designated States except US)*: **TELEFONAKTIEBOLAGET LM ERICSSON (PUBL)** [SE/SE]; S-164 83 Stockholm (SE).

(72) Inventor; and
(75) Inventor/Applicant *(for US only)*: **ÅSTRÖM, Bo** [SE/SE]; Fredsborgsgatan 2, S-117 59 Stockholm (SE).

(74) Agent: **LIND, Robert**; 4220 Nash Court, Oxford Business Park South, Oxford Oxfordshire OX4 2RU (GB).

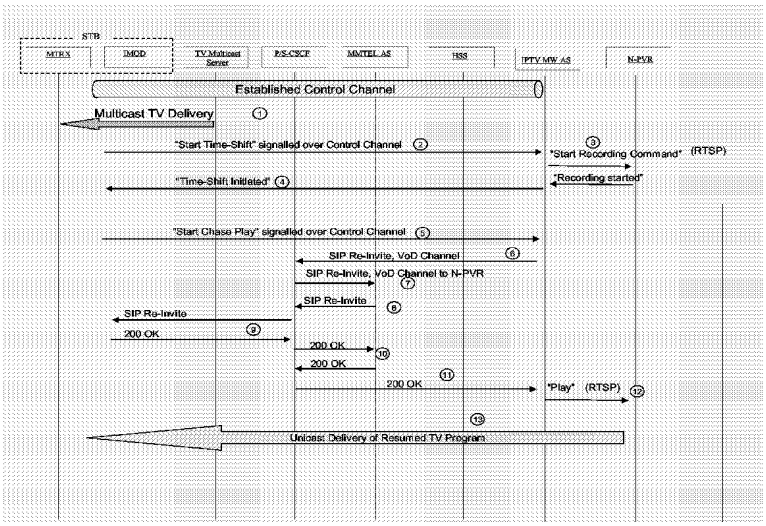
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TIME-SHIFTING AND CHASE-PLAY FOR AN IPTV SYSTEM



(57) Abstract: Time-shifting and chase-play is provided for an IPTV system, utilising a control channel established between the originating user and a selected IPTV Application Server (IPTV-AS). When time shifting of the IPTV content is required, for example due to receipt of a telephone call, a start time-shift command is sent to the IPTV-AS over the control channel. A start recording command is then sent from the IPTV-AS to a Network PVR system to initiate recording of the current multicast content. Subsequently, when the user is ready to resume viewing of the time-shifted content, a start chase-play command is sent to the IPTV-AS over the control channel to establish a unicast channel for playback of the time-shifted content; and a playback command is sent from the IPTV-AS to the Network PVR system to initiate playback of the time-shifted content over the unicast channel. Such a solution utilizes the standardized IMS communication system and its network architecture and a PVR residing in the Network to limit the traffic transmitted over the first mile connection to a home.

WO 2007/101473 A1

Time-Shifting and Chase-Play for an IPTV System

Field of the Invention

The present invention relates to time-shifting and chase-play for an IPTV system.

Reference is also made to the Applicant's copending PCT Application No. PCT/EP2006/060279, the contents of which are incorporated herein by reference..

Background to the Invention

IP Multimedia services provide a dynamic combination of voice, video, messaging, data, etc. within the same session. By increasing the number of basic applications and the media that it is possible to combine, it is possible to increase the number of services offered to the end users, and thus to enrich the inter-personal communication experience. This will lead to a new generation of personalised, rich multimedia communication services, including so-called "combinational IP Multimedia" services that are considered in more detail below.

IP Multimedia Subsystem (IMS) is the technology defined by the Third Generation Partnership Project (3GPP) to provide IP Multimedia services over mobile communication networks (3GPP TS 22.228, TS 23.218, TS 23.228, TS 24.228, TS 24.229, TS 29.228, TS 29.229, TS 29.328 and TS 29.329 Releases 5 to 7). IMS provides key features to enrich the end-user person-to-person communication experience through the use of standardised IMS Service Enablers, which facilitate new rich person-to-person (client-to-client) communication services as well as person-to-content (client-to-server) services over IP-based networks. The IMS makes use of the Session Initiation Protocol (SIP) to set up and control calls or sessions between user terminals (or user terminals and application servers). The Session Description Protocol (SDP), carried by SIP signalling is used to describe and negotiate the media components of the session. Whilst SIP was created as a user-to-user protocol,

IMS allows operators and service providers to control user access to services and to charge users accordingly.

The boundaries between the services provided by telecommunication operators, TV operators, and internet service providers are disappearing, and such companies are all offering customers all three services (so called "triple play"). For telecommunication operators wishing to offer TV services, a popular choice is to utilize so called IPTV which delivers the TV service over IP and the customer's broadband connection (e.g. ADSL, VDSL, Public Ethernet, etc.).

IPTV has a limited bandwidth at its disposal in the "first mile" of the broadband access from the xDSL modem and the broadband access (DSLAM). Linear content delivery, in which all channels in a subscription ("program package") are simultaneously delivered to the set top box (STB), is not suitable for IPTV due to the limited bandwidth. xDSL connection capacity varies depending on the DSL version used and the distance of the "first mile". ADSL can provide a capacity between 3 to 8 Mbps, whereas ADSL2 promises to deliver up to 25 Mbps downstream and VSDL data rates greater than 30 Mbps. Standard quality MPEG2 content requires 2 Mbps per channel, and HDTV will require 8-10 Mbps per channel. Luckily, the new MPEG4 standard will decrease the required bandwidth to half with the same quality as the MPEG2 coded content. Nevertheless, the available bandwidth is a scarce resource, and IPTV solutions must limit the number of channels to be delivered over the "first mile".

Existing time-shift/chase-play solutions are either based on proprietary network technology or on use of a Private Video Recorder (PVR) in the home. The solution described herein, utilizes the standardized IMS communication system and its network architecture, and a PVR residing in the Network to limit the traffic transmitted over the first mile connection to a home.

Summary of the Invention

It is an object of the present invention to provide a time-shift/chase-play solution based on a Network Private Video Recorder (N-PVR).

According to a first aspect of the present invention there is provided a method of time-shifting and chase-play for an IPTV system, the method comprising:

establishing a control channel between the originating user and a selected IPTV Application Server (IPTV-AS);

sending a start time-shift command to the IPTV-AS over the control channel;

sending a start recording command from the IPTV-AS to a Network PVR system to initiate recording of current multicast content;

when the user is ready to resume viewing of the time-shifted content, sending a start chase-play command to the IPTV-AS over the control channel to establish a unicast channel for playback of the time-shifted content; and

sending a playback command from the IPTV-AS to the Network PVR system to initiate playback of the time-shifted content over the unicast channel.

The invention addresses the issue of time-shifting and chase-play by the use of a Network PVR (N-PVR). An N-PVR makes a lot of sense in IPTV solutions. A PVR in the home requires content to be delivered over the first mile, whereas an N-PVR does not. Content is recorded in the network and will thus not burden the first mile if a user wishes to watch one channel whilst recording another simultaneously.

A user may choose to initiate the time-shift function of IPTV content delivery by means of a set top box (STB) for a number of reasons, such as an event taking place in the home requiring the user's full attention, such as the ringing of a door-bell, the arrival of an ordered pizza, or the imminent start of booked laundry time; the occurrence of incoming communication services, such as telephony, video-telephony, messaging or chat; and notification of a user-subscribed-to event, such as notification of lottery results, notification of hockey/football results, or the imminent start of an ordered pay-per-view movie

The solution uses capabilities in IMS to establish a unicast delivery channel of recorded content when a user decides to watch the time-shifted content and initiates chase-play, and allows the IPTV service to integrate with other IMS based services. Examples of other IMS based services are telephony, video-telephony, messaging, chat and push-to-talk.

The solution includes a mechanism for switching from multicast/broadcast delivered content to unicast delivered content. Such switching typically takes place when a user decides to start the time-shifting of multicast delivered content, with the object of resuming delivery of the content at a later time utilising chase-play over a unicast channel.

Some of the advantages obtained by use preferred embodiments of the present invention include:

(i) The possibility of blending the IPTV Service, IMS Communication Services and Personalized Information Services.

(ii) Limitation of the amount of content transmitted over the first mile of a broadband connection (the first mile being a limited resource where many service fight for available capacity).

(iii) Intelligent delivery of TV content allowing other services to utilize available bandwidth.

(iv) An IMS based method for switching between multicast and unicast delivery of content.

(v) An IPTV-AS acting as a gateway between a Network PVR system and STBs. This enables STB – IPTV-AS specific user interaction while allowing operators to use many types of N-PVR system. The adjustment to N-PVR required procedures and protocols is handled by the IPTV-AS.

(vi) The network taking an active role in the IPTV delivery and allowing operators to offer personalized Triple-Play service offerings.

According to a further aspect of the present invention, there is provided a time-shifting and chase-play IPTV system, comprising:

channel control means for establishing a control channel between the originating user and a selected IPTV Application Server (AS);

start time-shift means for sending a start time-shift command to the IPTV-AS over the control channel;

start recording means for sending a start recording command from the IPTV-AS to a Network PVR system to initiate recording of current multicast content;

start chase-play means for sending a start chase-play command to the IPTV-AS over the control channel when the user is ready to resume viewing of the time-shifted content, to establish a unicast channel for playback of the time-shifted content; and

playback means for sending a playback command from the IPTV-AS to the Network PVR system to initiate playback of the time-shifted content over the unicast channel.

According to a further aspect of the present invention, there is provided computer program code for carrying out the method of the first aspect of the invention.

Brief Description of the Drawings

In order that the invention may be more fully understood, a preferred embodiment in accordance with the invention will now be described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a schematic diagram illustrating the establishment of a control channel using a secure TCP/TLS connection;

Figure 2 is a schematic diagram illustrating a sequence for switching between multicast and unicast delivery of content;

Figure 3 is a schematic diagram illustrating a sequence for an Incoming Call Notification on screen; and

Figure 4 is a schematic diagram illustrating a sequence for a PSTN/ISDN Incoming Call Notification;

Figure 5 is a schematic diagram illustrating a sequence for an Extended Incoming Call Notification scenario with Time-shift; and

Figure 6 is a schematic diagram illustrating a sequence for an Event Triggered Time-shift.

Detailed Description of Preferred Embodiment

By way of background to the preferred embodiment, the following is a brief description of how the IP Multimedia Subsystem (IMS) fits into the mobile network architecture in the case of a GPRS/PS access network. Call/Session Control Functions (CSCFs) operate as SIP proxies within the IMS. The 3GPP architecture defines three types of CSCFs: the Proxy CSCF (P-CSCF) which is the first point of contact within the IMS for a SIP terminal; the Serving CSCF (S-CSCF) which provides services to the user that the user is subscribed to; and the Interrogating CSCF (I-CSCF) whose role is to identify the correct S-CSCF and to forward to that S-CSCF a request received from a SIP terminal via a P-CSCF.

A user registers with the IMS using the specified SIP REGISTER method. This is a mechanism for attaching to the IMS and announcing to the IMS the address at which a SIP user identity can be reached. The user receives a unique Uniform Resource Identifier (URI) from the S-CSCF to be used when it initiates a dialog. In 3GPP, when a SIP terminal performs a registration, the IMS authenticates the user, and allocates a S-CSCF to that user from the set of available S-CSCFs. Whilst the criteria for allocating S-CSCFs is not specified by 3GPP, these may include load sharing and service requirements. It is noted that the allocation of an S-CSCF is key to controlling (and charging for) user access to IMS-based services. Operators may provide a mechanism for preventing direct user-to-user SIP sessions that would otherwise bypass the S-CSCF.

During the registration process, it is the responsibility of the I-CSCF to select an S-CSCF if one is not already selected. The I-CSCF receives the required S-

CSCF capabilities from the home network's Home Subscriber Server (HSS), and selects an appropriate S-CSCF based on the received capabilities. (It is noted that S-CSCF allocation is also carried out for a user by the I-CSCF in the case where the user is called by another party, and the user is not currently allocated an S-CSCF.) When a registered user subsequently sends a session request (e.g. SIP INVITE) to the IMS, the request will include the P-CSCF and S-CSCF URIs so that the P-CSCF is able to forward the request to the selected S-CSCF. This applies both on the originating and terminating sides (of the IMS). (For the terminating call the request will include the P-CSCF address and the User Equipment (UE) address.)

Within the IMS service network, Application Servers (ASs) are provided for implementing IMS service functionality. ASs provide services to end-users in an IMS system, and may be connected either as end-points over the 3GPP defined Mr interface, or "linked in" by an S-CSCF over the 3GPP defined ISC interface. In the latter case, Initial Filter Criteria (IFC) are used by an S-CSCF to determine which ASs should be "linked in" during a SIP Session establishment. Different IFCs may be applied to different call cases. The IFCs are received by the S-CSCF from an HSS during the IMS registration procedure as part of a user's User Profile (UP). Certain ASs will perform actions dependent upon subscriber identities (either the called or calling subscriber, whichever is "owned" by the network controlling the AS). For example, in the case of call forwarding, the appropriate (terminating) application server will determine the new terminating party to which a call to a given subscriber will be forwarded.

The preferred embodiment to be described below relates to an IMS-enabled control channel for an IPTV set top box (STB). The control channel is set up using standard IMS procedures and is later used to send control messages to the IPTV applications server, as well as to deliver personalized content, such as advertisements, voting responses, personalized voting triggers and targeted interactive events.

IMOD Connection to IPTV AS

It should be noted that the STB is described as a single unit in the following. The sequences of the figures show division of the STB into an IMOD and a MTRX but the interaction between these is not described as this is not directly relevant to the inventive concepts described.

When the STB starts, it first registers on the IMS network using the IMS Private ID (IMPI - the private address of the STB) of the Identity and IMS Module (IMOD) in the authorization header, and the default 'family STB' public address in the "From" and "To" headers (as in the normal SIP REGISTER message). Both IMPUs representing the Media Transmitter/Receivers (MTRXs) and IMPUs representing users may register. For personalisation of services, a "User Connection to IPTV MW AS" use routine is executed.

Once the STB is registered, it establishes a secure TCP/TLS connection with the IPTV AS, using a SIP INVITE message. The procedure, as schematically indicated in Figure 1, is as follows (with reference to the numbers used in the figure):

1. The MTRX (the media end point of the STB) indicates to the IMOD (the Authentication / ISIM carrier part of the STB) that a connection to the IPTV MW AS should be established. The differentiation between the IMOD and the MTRX is optional, and can be seen as an STB internal realization. An STB not having this differentiation would behave identically in relation to the IMS network.

2. The IMOD sends a SIP INVITE message to the P-CSCF. The Public Service Identity of the IPTV MW AS is used to address the IPTV MW AS and may be pre-configured in the ISIM or configured by device management procedures. An SDP description of a TLS/TCP session is included. An alternative procedure would be to use an application framing protocol over the pure TCP/TLS channel, such as MSRP. In this case the SDP description contains MSRP/TLS/TCP instead of only TLS/TCP.

3. The SIP INVITE message is forwarded to the I-CSCF. 3GPP 23.228 describes alternative PSI routing on the terminating side, namely:

a. The I-CSCF interrogates I HSS where the HSS treats every PSI as a "user" and returns routing instructions to the end-point representing the PSI.

b. I-CSCF interrogation to the HSS where the HSS returns the user allocated S-CSCF. The S-CSCF routes the PSI addressed Invite according to IFC information stored per "PSI-subscriber". The "PSI-subscriber" is assigned an S-CSCF.

c. Sub-domain routing in the I-CSCF where the I-CSCF uses DNS to resolve the PSI into an IP-address for the end-point representing the PSI.

This solution requires Alternative b.

4. The I-CSCF uses DNS to translate the Public Service Identity to the IP address of the actual server that will handle this user this time (load sharing can be applied here). The S-CSCF then sends the SIP INVITE message to the chosen IPTV MW AS. The IPTV MW AS then executes the "Fetch User Data" sub-sequence.

5. The IPTV MW AS returns a 200 OK response. The URL of the user's TV service portal is included in the SDP, as, for example, an XML body that is interpreted in the STB but not in the intermediate nodes.

6. The S-CSCF forwards the 200 OK response.

7. The P-CSCF forwards the 200 OK response.

8. The IMOD receives the URL of the default user's TV service portal (i.e. the portal associated with the IMPU of the MTRX), and it is included in the SDP. This information may be included as an XML body in the 200 OK message, but other means are also possible.

9. The IMOD sends a SIP ACK response.

10. The P-CSCF forwards the SIP ACK response.

11. The S-CSCF forwards the SIP ACK response.

12. The IMOD sets up a TLS/TCP connection to the IPTV MW AS using a server side certificate.

This procedure can also be expanded to add distribution of keys for service protection (a.k.a. conditional access) if the service protection in the system is based on ciphering the content streams. This would involve additional steps after the last step above in which, for example, the keys could be fetched via HTTP. If the different users have different channel bundles, then that type of step would also be needed after the "User Connection, Local User" procedure.

This procedure could also be run only on an "as needed" basis (i.e. the connection would not be automatically set up at registration, but only when access to the IPTV MW AS is required), but the preferred alternative is that the connection is established immediately after the STB/MS registers. This is so that the delay in setting up this connection can be avoided at a time when interaction with the IPTV MW AS is required.

A new control channel is established for each MTRX that is to be connected to the IMOD, as described in the "IMS IPTV Architecture Study" ("Rechon Architecture", EAB-05:045608, Rev A, 2005-12-22).

The described control channel enables a plethora of functionalities, like remote control on the IPTB STB, as described in "IMS IPTV Architecture Study", EAB-06:001721, Rev A, 2006-02-08, or the user cases described in next section.

When the STB starts, it first registers on the IMS network using the IMS Private ID (IMPI - the private address of the STB) of the Identity and IMS Module (IMOD) in the authorization header, and the default 'family STB' public address in the "From" and "To" headers (as in the normal SIP REGISTER message). Once the STB has been registered, it establishes a secure TCP/TLS connection with the IPTV AS using a SIP INVITE message.

STB Initiated Time-Shift

In the event that the user requires time shifting of the content to begin, the following IMS based method for switching between multicast and unicast delivery of content can be initiated by the STB. The procedure, as schematically indicated in Figure 2, is as follows (with reference to the numbers used in the figure):

1) A control channel is established between the STB and the IPTV-AS by the procedure described above with reference to Figure 1. At this point the STB is receiving content that is delivered by multicast.

2) The user decides to start the Time-Shift function due to an event taking place in the home requiring the user's full attention, such as the ringing of a door-bell, the arrival of an ordered pizza, or the imminent start of booked laundry time, etc. The STB generates a "Start Time-Shift" command and sends this over the control channel to the IPTV-AS. The exact procedure and syntax of the command is a matter between the STB and the IPTV-AS, and many different variants are possible. The IPTV-AS interprets the command before taking the appropriate action.

3) The IPTV-AS initiates recording of the currently viewed multicast channel. This is possible as the STB always reports which multicast channel it is

currently receiving after a channel change has occurred (not shown in the figure). A "Start Recording" command is sent from the IPTV-AS to the N-PVR system. The exact procedure and syntax of the command is a matter between the STB and the IPTV-AS, and many different variants are possible. The IPTV-AS acts as a gateway between the N-PVR system and the STB. This enables STB / IPTV-AS specific user interaction whilst allowing use by operators of many different types of N-PVR system. The adjustment of the required N-PVR procedures and protocols is handled by the IPTV-AS.

4) An indication that the Time-Shift has started is returned to the STB and optionally displayed to the user. The multicast channel may or may not continue to be delivered to the STB after the Time-Shift has started. This is a deployment option.

5) When the user is ready to resume viewing of the time-shifted content, he initiates the Chase Play function and a "Start Chase Play" command is sent from the STB to the IPTV-AS over the control channel. The exact procedure and syntax of the command is a matter between the STB and the IPTV-AS, and many different variants are possible. The IPTV-AS acts as a gateway between the N-PVR system and the STB. This enables STB / IPTV-AS specific user interaction whilst allowing use by operators of many different types of N-PVR system. The adjustment of the required N-PVR procedures and protocols is handled by the IPTV-AS. RTSP is used in the sequence by way of example but the invention is not limited to the use of RTSP.

6) The IPTV-AS sends a SIP INVITE message in the same SIP session as the "Start Chase Play" command that is associated with the control channel. The SIP Re-Invite message is a request to establish a unicast channel that will be used to deliver the recorded (time-shifted) content stored in the N-PVR system. As a result the content delivery changes from multicast to unicast delivery with IMS being used to effect this change.

7-8) The SIP INVITE message is transmitted over the ISC and the Multimedia Telephony (MMTEL) AS, MMTel being used as the IMS Communication Service for IPTV in this case, thus resulting in the invocation of the MMTel AS over the ISC. It should however be noted that the method will work with other IMS Communication Services and is not limited to MMTel, MMTel being given merely by way of example. The MMTel AS may invoke supplementary services, such as restriction on the number of concurrent unicast deliveries, but this is not included in the sequence.

9-10) The SIP INVITE message is sent to the STB which acknowledges the request with a 200 OK response to accept the unicast channel invitation.

10, 11) The 200 OK response is sent along the SIP session path to the IPTV-AS.

12) The IPTV AS initiates playback of the recorded content by means of a "Play" command to the N-PVR system. The IPTV-AS acts as a gateway between the Network PVR system and the STB. This enables STB / IPTV-AS specific user interaction whilst allowing use by operators of many different types of N-PVR system. The adjustment of the required N-PVR procedures and protocols is handled by the IPTV-AS. RTSP is used as an example in the sequence but the invention is not limited to RTSP.

13) Unicast delivery is started.

Incoming Call Notification

This sequence describes how an Incoming Call Notification on a TV-screen and user determined call handling can be implemented for IMS calls to the STB/TV. The call is established to the STB/TV in this scenario, and the STB/TV is also used to notify a user of an incoming call and to allow the user to specify how the call shall be handled. The procedure, as schematically indicated in Figure 3, is as follows (with reference to the numbers used in the figure):

1) A control channel is established between the STB and the IPTV-AS by the procedure described above with reference to Figure 1. At this point the STB is receiving content that is delivered by multicast.

2) The I-CSCF in the called subscriber's network (the STB's network) receives a SIP INVITE message from the same IMS network or another IMS network, or from an IMS gateway to another network (e.g. ISDN/PSTN). The I-CSCF returns a 100 Trying response to the sender of the SIP Invite message to stop periodic retransmission of the same SIP INVITE message.

3) I-CSCF uses a Diameter LIR (Location Information Request) to obtain the called subscriber's S-CSCF address and the HSS returns this address in the LIA (Location Information Answer).

4) The SIP INVITE message is sent to the called subscriber's S-CSCF (100 trying response returned by the S-CSCF).

5) The trigger criteria for the called subscriber are stored by the S-CSCF. This IFC contains information about which AS's are to be invoked over the ISC interface. This example shows an incoming call for the MMTel IMS communication service and the MMTel AS is invoked over the ISC. The MMTel AS may invoke supplementary services, such as barring or forwarding of incoming sessions, but this is not included in the sequence.

6) The MMTel AS exposes enabling services towards other AS's to allow these to affect the session set up. The IPTV AS has subscribed to the incoming call event from the MMTel AS, and the service definition of the exposed services is based on the Parlay-X Web Service definitions for Call Control. A Parlay-X "Handle Called Number Request" is sent to the IPTV-AS. It should be noted that a Parlay-X service can also be exposed by an OSA(Open Service Access)/Parlay(-X) gateway that is connected over the ISC (IMS Service Control) interface in the same way as an IMS (IP Multimedia Subsystem) AS. It

should further be noted that the IPTV-AS can be connected over the ISC in series with the MMTel AS to perform the Call Notification procedures described below. Whilst this description only refers to the alternative where the Parlay-X Call Control service is exposed by the MMTel AS, it will be appreciated that the invention is not limited to this.

7) An "Incoming Call Notification" command is sent from the IPTV-AS to the STB over the control channel. The exact procedure and syntax of the command is a matter between the STB and the IPTV-AS, and many different variants are possible. The user is given a number of call handling options, such as:

- allow call to STB/TV
- forward call to voice-mail (multimedia mail)
- forward call to another number

The user's choice is returned by the STB to the IPTV-AS. In the following it is assumed that the user chooses to allow the call.

8) The IPTV-AS returns a Parlay-X "Handle Called Number Response" to the MMTel AS with information specifying that the call set up may proceed to the STB.

9) The S-CSCF receives the SIP Invite message from the MMTel AS (MMTel works as a B2BUA in this example). An S-CSCF may perform forking for the contacts registered for one particular Public User Identity (PUI). The STB has a unique PUI in this example and no other SIP UA is allowed to register as a contact for the STB's PUI. The STB may however register as a contact for other user assigned PUIs, and this allows a mobile phone and the STB to register as possible contacts for one particular PUI for example.

10, 11, 12 13) The SIP Invite message is sent to the STB and the STB returns a 180 Ringing response which is relayed along the SIP path.

14, 15, 16, 17) A 200 OK response from the STB indicates that the session has been accepted and that the media plane can be established.

18) The media plane for speech is established and the call proceeds.

PSTN/ISDN Incoming Call Notification

This sequence describes how an Incoming Call Notification on a TV-screen and user determined call handling can be implemented for PSTN/ISDN phones in the home. It should be noted that the call is not established to the STB/TV in this scenario. The STB/TV is only used to notify a user of an incoming call and to allow the user to specify how the call shall be handled. The procedure, as schematically indicated in Figure 4, is as follows (with reference to the numbers used in the figure):

1) A control channel is established between the STB and the IPTV-AS by the procedure described above with reference to Figure 1. At this point the STB is receiving content that is delivered by multicast.

2, 3) An SSF (Service Switching Function) in the called subscriber's network receives an ISUP(ISDN User Part) IAM (Initial Address Message). This triggers the SSF to contact a Service Control Point (SCP) in an IN (Intelligent Network) architecture.
An OSA/Parlay GW (Gateway) plays the role of an SCP towards the SSF, but allows AS's to take the real decisions on how to handle calls. Many different variants on INAP protocols exist, e.g. CS1, CS2, CAP, etc. This description is given with reference to an IDP (Initial Detection Point) operation invocation which can be found in CAP (CAMEL Application Part), although it will be appreciated that the invention is not limited to this particular type of INAP (Intelligent Network Application Part).

4) The IDP is translated into the Parlay-X Web service definition for Call Control. A Parlay-X "Handle Called Number Request" is sent to the IPTV-AS. This is the same message that was sent in the previous sequence from the MMTel IMS AS to the IPTV AS, and enables the IPTV AS to have a common call handling interface for IMS and PSTN/ISDN calls. It should be noted that the

IPTV-AS can also be connected as an SCP (Service Control Point) via INAP. This description refers only to the alternative where the Parlay-X Call Control service is used, but the invention is not limited to this.

5) An "Incoming Call Notification" command is sent from the IPTV-AS to the STB over the control channel. The exact procedure and syntax of the command is a matter between the STB and the IPTV-AS, and many different variants are possible. The user is given a number of call handling options, such as:

- allow call to STB/TV
- forward call to voice-mail (multimedia mail)
- forward call to another number

The user's choice is returned by the STB to the IPTV-AS. In the following it is assumed that the user chooses to allow the call.

6) The IPTV-AS returns a Parlay-X "Handle Called Number Response" to the MMTel AS with information specifying that the call set up to the PSTN/ISDN phone may proceed.

7) The OSA/Parlay GW returns the appropriate INAP message to the SSF, e.g. a Continue operation invocation.

8) The SSF sends an ISUP IAM message to the Local Exchange that the user's PSTN/ISDN phone is connected to.

9) A Q.931 ISDN Set-up message is sent to the ISDN phone (only ISDN shown from now on), and is acknowledged by a Call Confirmed message.

10, 11) An ISUP ACM (Address Complete Message) message is sent from the Local Exchange to the SSF (Service Switching Function) and onwards.

12, 13, 14) An alert is forwarded in ISUP CPG (Call Progress).

15, 16, 17) An Answer message is translated into an ISUP ANM (Answer Message).

18) The ISDN/PSTN call is established.

Extended Incoming Call Scenario with Time-shift

This sequence extends the Incoming Call Notification sequence with Time-Shift functionality. The procedure, as schematically indicated in Figure 5, is as follows (with reference to the numbers used in the figure):

1) A control channel is established between the STB and the IPTV-AS by the procedure described above with reference to Figure 1. At this point the STB is receiving content that is delivered by multicast.

2) The I-CSCF in the called subscriber's network (the STB's network) receives a SIP Invite message from the same IMS network or another IMS network, or from an IMS gateway to another network (e.g. ISDN/PSTN). The I-CSCF returns a 100 Trying response to the sender of the SIP Invite message to stop periodic retransmission of the same SIP Invite message.

3) I-CSCF uses a Diameter LIR (Location Information Request) to obtain the called subscriber's S-CSCF address and the HSS returns this address in the LIA (Location Information Answer).

4) The SIP INVITE message is sent to the called subscriber's S-CSCF (100 trying response returned by the S-CSCF).

5) The trigger criteria for the called subscriber are stored by the S-CSCF. This IFC contains information about which AS's that are to be invoked over the ISC interface. This example shows an incoming call for the MMTel IMS communication service and the MMTel AS is invoked over the ISC. The MMTel AS may invoke supplementary services such as barring or forwarding of incoming sessions, but this is not included in the sequence.

6) The MMTel AS exposes enabling services towards other AS's to allow these to affect the session set up. The IPTV AS has subscribed to the incoming call event from the MMTel AS, and the service definition of the exposed services is based on the Parlay-X Web Service definitions for Call Control. A Parlay-X "Handle Called Number Request" is sent to the IPTV-AS. It should be noted that a Parlay-X service can also be exposed by an OSA/Parlay(-X) gateway (OSA = Open Service Access) that is connected over the ISC (IMS Service Control) interface in the same way as an IMS-AS. It should further be noted that the IPTV-AS can be connected over the ISC in series with the MMTel AS to perform the Call Notification procedures described below. Whilst this description only refers to the alternative where the Parlay-X Call Control service is exposed by the MMTel AS, it will be appreciated that the invention is not limited to this.

7) An "Incoming Call Notification" command is sent from the IPTV-AS to the STB over the control channel. The exact procedure and syntax of the command is a matter between the STB and the IPTV, and many different variants are possible. The user is given a number of call handling options, such as:

- allow call to STB/TV
- forward call to voice-mail (multimedia mail)
- forward call to another number
- allow call and start Time-Shift

The user's choice is returned by the STB to the IPTV-AS. In this example the user chooses to allow the call and to start Time-Shift.

8) The IPTV-AS initiates recording of the currently viewed multicast channel. This is possible since the STB always reports which multicast channel it is currently receiving after a channel change (not shown in the sequences). A "Start Recording" command is sent from the IPTV-AS to the N-PVR system. The IPTV-AS acts as a gateway between the Network PVR system and the STB. This enables STB / IPTV-AS specific user interaction whilst allowing use

by operators of many different types of N-PVR system. The adjustment of the required N-PVR procedures and protocols is handled by the IPTV-AS.

9) The IPTV-AS returns a Parlay-X "Handle Called Number Response" to the MMTel AS with information specifying that the call set up may proceed to the STB. The S-CSCF receives the SIP INVITE message from the MMTel AS (MMTel works as a B2BUA in this example). An S-CSCF may perform forking for the contacts registered for one particular Public User Identity. The STB has a unique PUI in this example and no other SIP UA is allowed to register as a contact for the STB's PUI. The STB may however register as a contact for other user assigned PUIs, and this allows a mobile phone and the STB to register as possible contacts for one particular PUI for example.

10, 11, 12 13) The SIP INVITE message is sent to the STB and the STB returns a 180 Ringing response which is relayed along the SIP path.

14, 15, 16, 17) A 200 OK response from the STB indicates that the session has been accepted and that the media plane can be established.

18) The media plane for speech is established and the call proceeds.

19) When the user is ready to resume viewing of the time-shifted content, he initiates the Chase Play function.

20) A "Start Chase Play" command is sent from the STB to the IPTV-AS over the control channel. The exact procedure and syntax of the command is a matter between the STB and the IPTV-AS, and many different variants are possible. The IPTV-AS acts as a gateway between the Network PVR system and the STB. This enables STB / IPTV-AS specific user interaction whilst allowing use by operators of many different types of N-PVR system. The adjustment of the required N-PVR procedures and protocols is handled by the IPTV-AS. RTSP is used as an example in the sequence but the invention is not limited to RTSP.

21) The IPTV-AS sends a SIP INVITE message on the same SIP session that is associated with the control channel. The SIP INVITE message is a request to establish a unicast channel that will be used to deliver the recorded (time-shifted) content stored in the N-PVR system. As a result the content delivery changes from multicast to unicast with the IMS being used to effect this change.

22, 23) The SIP INVITE message is transmitted over the ISC and the MMTEL AS.

24, 25) The SIP INVITE message is sent to the STB which acknowledges the request with a 200 OK response to accept the unicast channel invitation.

26) The IPTV AS initiates playback of the recorded content by means of a "Play" command to the N-PVR system. The IPTV-AS acts as a gateway between the Network PVR system and the STB. This enables STB / IPTV-AS specific user interaction whilst allowing use by operators of many different types of N-PVR system. The adjustment of the required N-PVR procedures and protocols is handled by the IPTV-AS. RTSP is used as an example in the sequence but the invention is not limited to RTSP.

27) Unicast delivery is started.

Event Triggered Time-Shift

This sequence is an example of how operators can use the control channel to deliver personalized information services combined with the Time-Shift function described previously. This solution makes it possible to combine IPTV Service, IMS Communication Services and Personalized Information Services and enables the network to take an active role in IPTV delivery and operators to offer personalized Triple-Play service offerings. The procedure, as schematically indicated in Figure 7, is as follows (with reference to the numbers used in the figure):

1) A control channel is established between the STB and the IPTV-AS by the procedure described above with reference to Figure 1. At this point the STB is receiving content that is delivered by multicast.

2, 3) Two user subscribed-to information events are delivered to the IPTV-AS. The procedure for subscribing to the events is not shown in the sequence but can be implemented over the control channel.

4) The first event reporting lottery results is delivered to the STB over the control channel, and the results are displayed by the STB. The user may start the Time-Shift function if so desired, but this is not shown.

5) A notification is sent over the control channel specifying that a recorded football goal is available. The subscribed-to event may for example be goals occurring in a particular football game. When presented with this information, the user can choose to watch the goal and start the Time Shift for the channel that he is currently watching.

6) As a result the IPTV-AS initiates recording of the currently viewed multicast channel. This is possible as the STB always reports which multicast channel it is currently receiving after a channel change has occurred (not shown in the figure).

7) The IPTV-AS sends a SIP INVITE message in the same SIP session as that of the notification sent over the control channel. The SIP INVITE message is a request to establish a unicast channel that will be used to deliver the football goal stored in the N-PVR2 system.

8,9) The SIP INVITE message is transmitted over the ISC and the MMTEL AS. MMTel is used as the IMS Communication Service for IPTV in this method, thus resulting in the invocation of the MMTel AS over the ISC.

10, 11) The SIP INVITE message is sent to the STB which acknowledges the request with a 200 OK response to accept the unicast channel invitation.

12) The IPTV AS initiates playback of the recorded goal by means of a "Play" command to the N-PVR system. The IPTV-AS acts as a gateway between a N-PVR system and the STB.

13) Unicast delivery of the goal is started.

14) When the user is ready to resume viewing of the time-shifted content, he initiates the Chase Play function.

15) A "Start Chase Play" command is sent from the STB to the IPTV-AS over the control channel. The exact procedure and syntax of the command is a matter between the STB and the IPTV-AS, and many different variants are possible.

16) The IPTV-AS sends a SIP INVITE message in the same SIP session as that of the "Start Chase Play" command sent over the control channel. The SIP INVITE message is a request to establish a unicast channel that will be used to deliver the recorded (time-shifted) content stored in the N-PVR1 system.

17) The SIP INVITE message is transmitted over the ISC and the MMTEL AS.

18, 19 20) The SIP INVITE message is sent to the STB which acknowledges the request with a 200 OK response to accept the unicast channel invitation.

21) The IPTV AS initiates playback of the recorded content by means of a "Play" command to the N-PVR1 system.

22) Unicast delivery of the originally viewed program is started

The above described IMS based method for switching between multicast and unicast delivery of content relies on the IPTV-AS acting as a gateway between the Network PVR system and the STB's so that the network takes an active role in IPTV delivery and permits operators to offer a personalized Triple-Play service. By limiting the amount of content transmitted over the first mile of a broadband connection this frees up available bandwidth for use by other services.

It will be appreciated by the persons skilled in the art that various modifications may be made to the embodiment described above without departing from the scope of the present invention.

CLAIMS:

1. A method of time-shifting and chase-play for an IPTV system, the method comprising:

establishing a control channel between the originating user and a selected IPTV Application Server (IPTV-AS);

sending a start time-shift command to the IPTV-AS over the control channel;

sending a start recording command from the IPTV-AS to a Network PVR system to initiate recording of current multicast content;

when the user is ready to resume viewing of the time-shifted content, sending a start chase-play command to the IPTV-AS over the control channel to establish a unicast channel for playback of the time-shifted content; and

sending a playback command from the IPTV-AS to the Network PVR system to initiate playback of the time-shifted content over the unicast channel.

2. A method according to claim 1, wherein the control channel is set up using standard IMS procedures.

3. A method according to claim 1 or 2, wherein an indication that recording has been started is returned from the IPTV-AS to the originating user.

4. A method according to any one of the preceding claims, wherein a SIP INVITE message is sent from the IPTV-AS to establish the unicast channel for playback of the time-shifted content.

5. A method according to any one of the preceding claims, wherein a SIP INVITE message is sent from the IPTV-AS to the originating user to provide notification of an incoming call.

6. A method according to claim 5, wherein a user decision instruction for handling the incoming call is sent by the originating user to the IPTV-AS.

7. A method according to claim 6, wherein a media plane within the IPTV system is established for speech or multimedia communication in response to the user decision instruction.

8. A method according to claim 6, wherein a separate ISDN/PSTN channel is established for speech in response to the user decision instruction.

9. A method according to claim 6, 7 or 8, wherein the start recording command from the IPTV-AS to the Network PVR system is triggered in response to the user decision instruction.

10. A method according to any one of the preceding claims, wherein an indication that a subscribed-to event is available for viewing is sent from the IPTV-AS to the originating user, and the user is given the option of sending a start time-shift command to the IPTV-AS to initiate recording of current multicast content whilst the subscribed-to event is viewed.

11. A time-shifting and chase-play IPTV system, comprising:

channel control means for establishing a control channel between the originating user and a selected IPTV Application Server (AS);

start time-shift means for sending a start time-shift command to the IPTV-AS over the control channel;

start recording means for sending a start recording command from the IPTV-AS to a Network PVR system to initiate recording of current multicast content;

start chase-play means for sending a start chase-play command to the IPTV-AS over the control channel when the user is ready to resume viewing of the time-shifted content, to establish a unicast channel for playback of the time-shifted content; and

playback means for sending a playback command from the IPTV-AS to the Network PVR system to initiate playback of the time-shifted content over the unicast channel.

12. Computer program code for carrying out the method of any of claims 1 to 10.

Figure 1

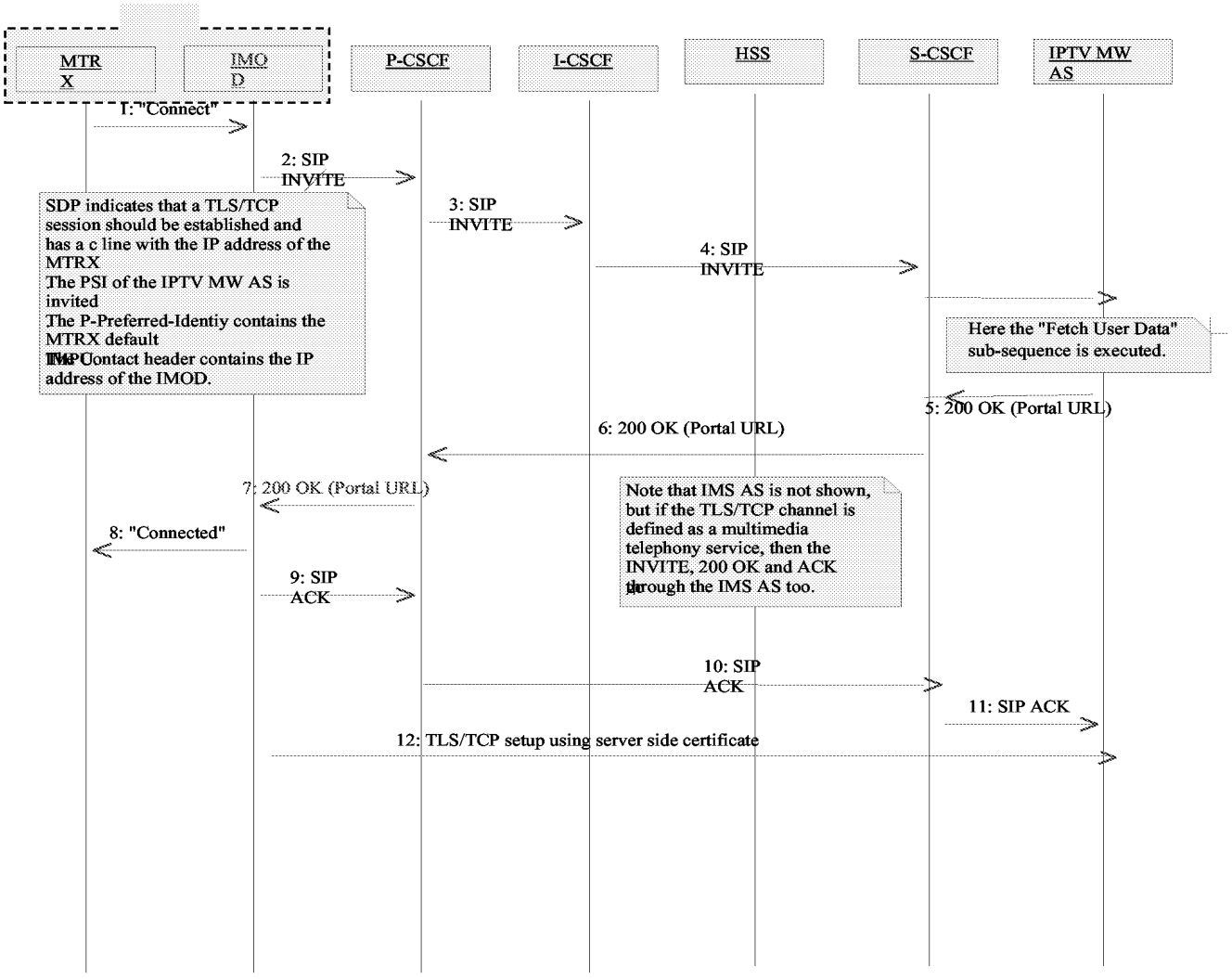

MTR X
IMO D
P-CSCF
I-CSCF
HSS
S-CSCF
IPTV MW AS
1: "Connect"
2: SIP INVITE
3: SIP INVITE
4: SIP INVITE
SDP indicates that a TLS/TCP session should be established and has a c line with the IP address of the MTRX
The PSI of the IPTV MW AS is invited
The P-Preferred-Identiy contains the MTRX default
The Contact header contains the IP address of the IMOD.
Here the "Fetch User Data" sub-sequence is executed.
5: 200 OK (Portal URL)
6: 200 OK (Portal URL)
7: 200 OK (Portal URL)
Note that IMS AS is not shown, but if the TLS/TCP channel is defined as a multimedia telephony service, then the INVITE, 200 OK and ACK through the IMS AS too.
8: "Connected"
9: SIP ACK
10: SIP ACK
11: SIP ACK
12: TLS/TCP setup using server side certificate

Figure 2

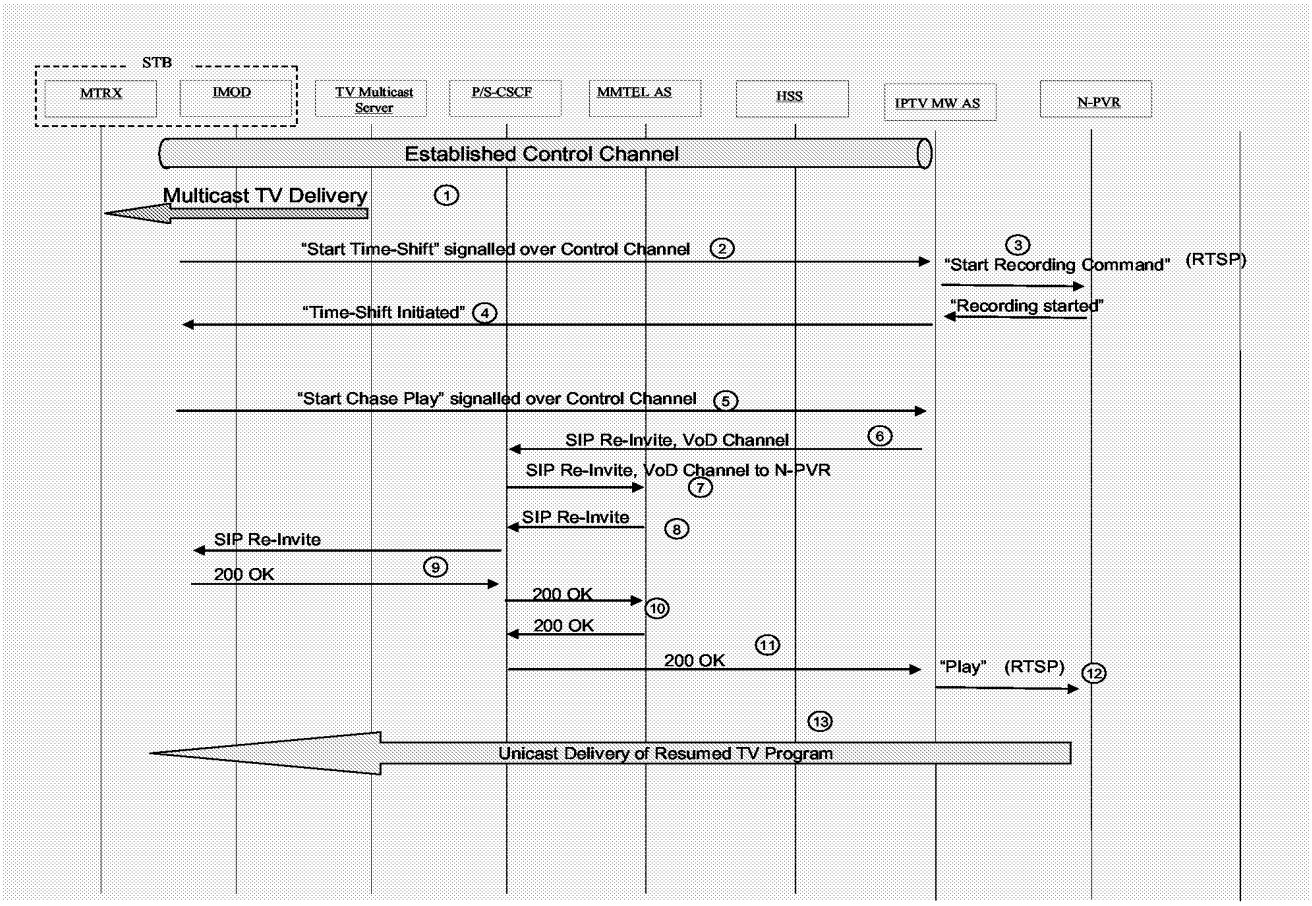

STB
MTRX
IMOD
TV Multicast Server
P/S-CSCF
MMTEL AS
HSS
IPTV MW AS
N-PVR
Established Control Channel
Multicast TV Delivery
1
"Start Time-Shift" signalled over Control Channel
2
3
"Start Recording Command"
(RTSP)
"Recording started"
"Time-Shift Initiated"
4
"Start Chase Play" signalled over Control Channel
5
SIP Re-Invite, VoD Channel
6
SIP Re-Invite, VoD Channel to N-PVR
7
SIP Re-Invite
8
SIP Re-Invite
200 OK
9
200 OK
10
200 OK
11
200 OK
"Play"
(RTSP)
12
13
Unicast Delivery of Resumed TV Program

Figure 3

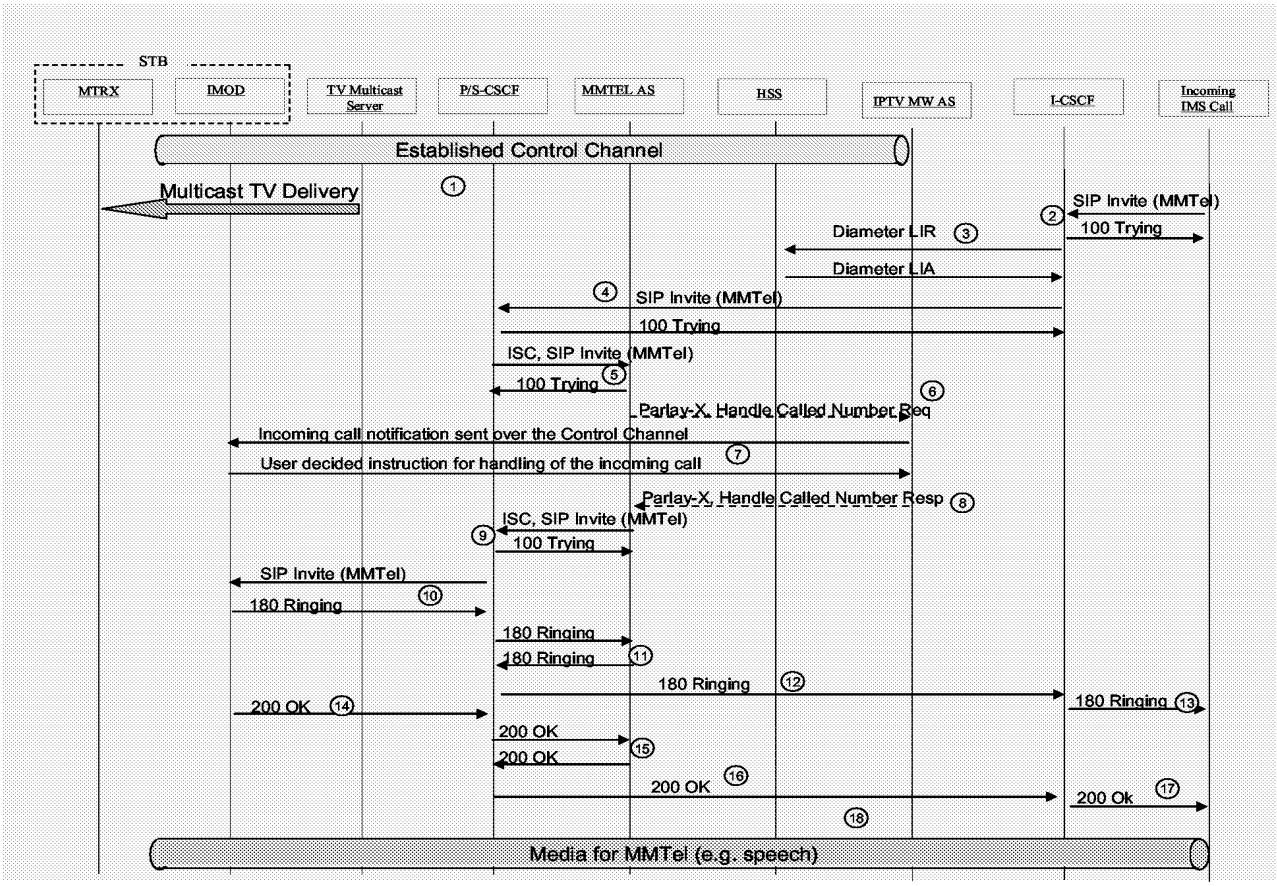

STB
MTRX
IMOD
TV Multicast Server
P/S-CSCF
MMTEL AS
HSS
IPTV MW AS
I-CSCF
Incoming IMS Call
Established Control Channel
1
Multicast TV Delivery
2
SIP Invite (MMTel)
100 Trying
3
Diameter LIR
Diameter LIA
4
SIP Invite (MMTel)
100 Trying
ISC, SIP Invite (MMTel)
5
100 Trying
6
Parlay-X, Handle Called Number Req
Incoming call notification sent over the Control Channel
7
User decided instruction for handling of the incoming call
Parlay-X, Handle Called Number Resp
8
ISC, SIP Invite (MMTel)
9
100 Trying
SIP Invite (MMTel)
10
180 Ringing
180 Ringing
11
180 Ringing
12
180 Ringing
13
200 OK
14
200 OK
15
200 OK
16
200 OK
200 Ok
17
18
Media for MMTel (e.g. speech)

Figure 4

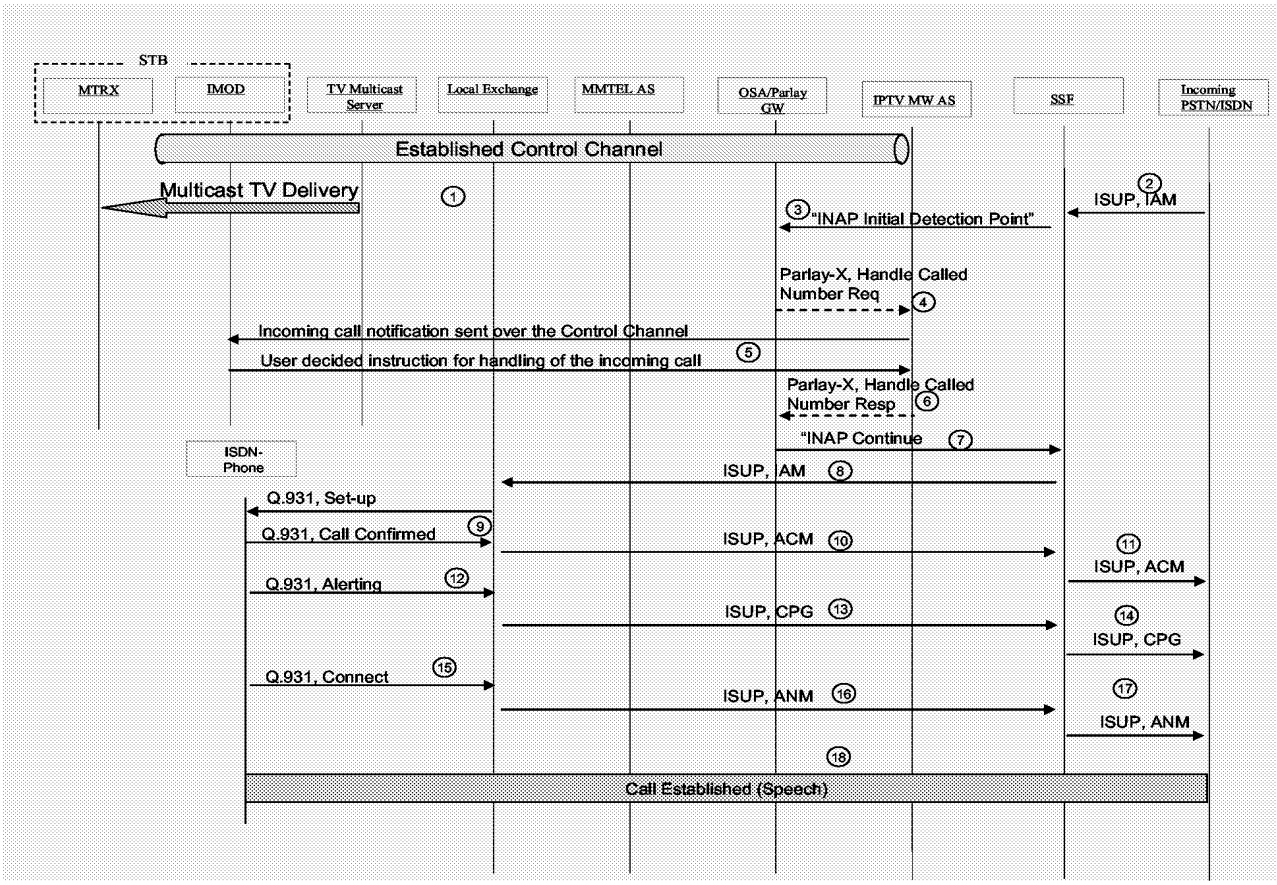
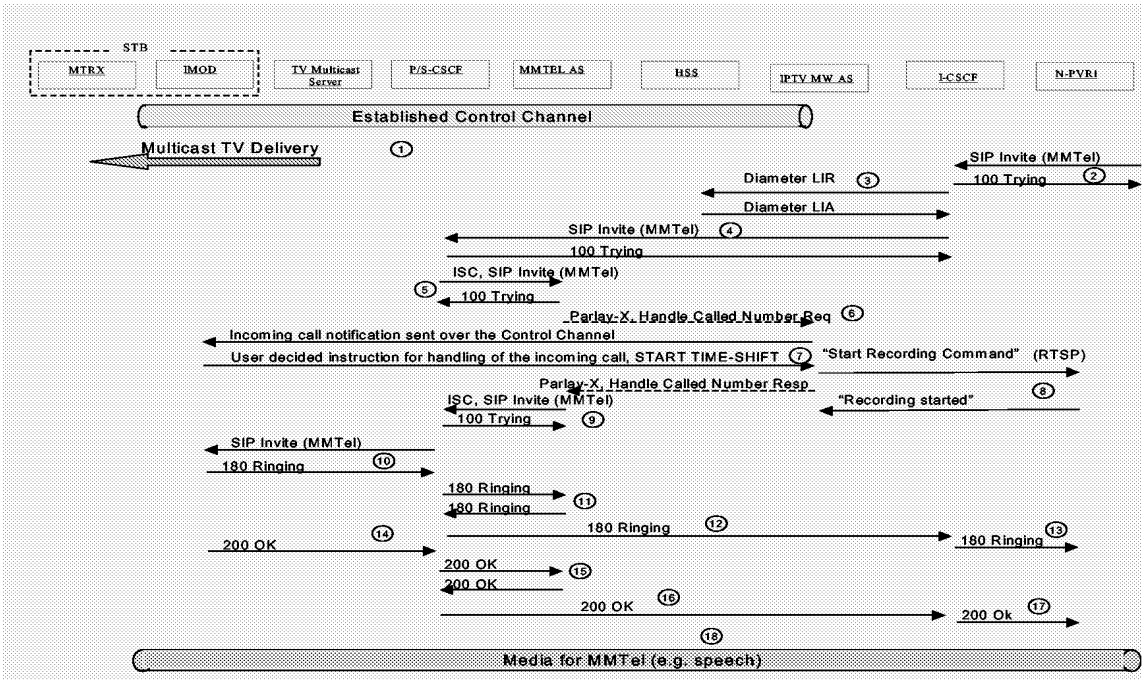

STB
MTRX
IMOD
TV Multicast Server
Local Exchange
MMTEL AS
OSA/Parlay GW
IPTV MW AS
SSF
Incoming PSTN/ISDN
Established Control Channel
Multicast TV Delivery
1
2
ISUP, IAM
3
"INAP Initial Detection Point"
Parlay-X, Handle Called Number Req
4
Incoming call notification sent over the Control Channel
User decided instruction for handling of the incoming call
5
Parlay-X, Handle Called Number Resp
6
"INAP Continue
7
ISDN-Phone
ISUP, AM
8
Q.931, Set-up
Q.931, Call Confirmed
9
ISUP, ACM
10
11
ISUP, ACM
Q.931, Alerting
12
ISUP, CPG
13
14
ISUP, CPG
Q.931, Connect
15
ISUP, ANM
16
17
ISUP, ANM
18
Call Established (Speech)

Figure 5


STB
MTRX
IMOD
TV Multicast Server
P/S-CSCF
MMTEL AS
HSS
IPTV MW AS
I-CSCF
N-PVRI
Established Control Channel
Multicast TV Delivery
1
SIP Invite (MMTel)
100 Trying
2
Diameter LIR
3
Diameter LIA
SIP Invite (MMTel)
4
100 Trying
ISC, SIP Invite (MMTel)
5
100 Trying
Parlay-X, Handle Called Number Req
6
Incoming call notification sent over the Control Channel
User decided instruction for handling of the incoming call, START TIME-SHIFT
7
"Start Recording Command" (RTSP)
Parlay-X, Handle Called Number Resp
8
"Recording started"
ISC, SIP Invite (MMTel)
100 Trying
9
SIP Invite (MMTel)
180 Ringing
10
180 Ringing
180 Ringing
11
180 Ringing
12
180 Ringing
13
200 OK
14
200 OK
15
200 OK
200 OK
16
200 Ok
17
18
Media for MMTel (e.g. speech)

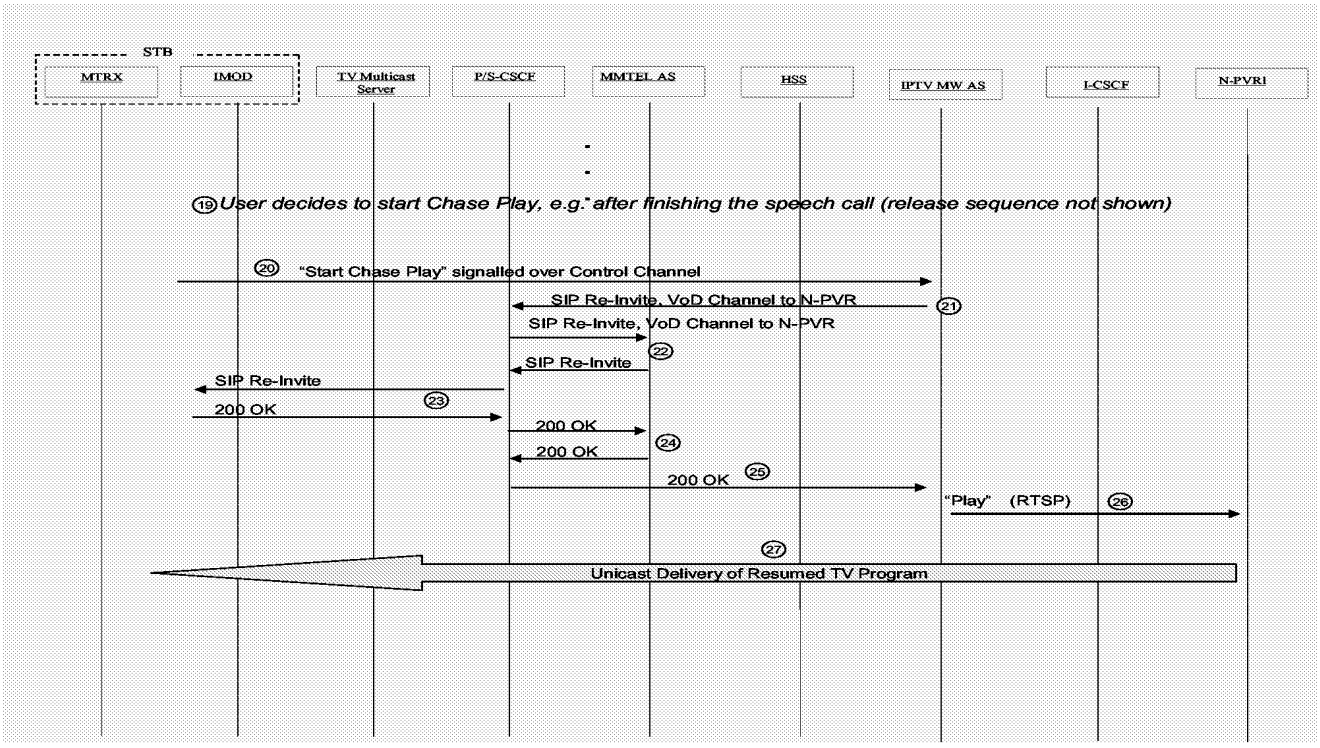
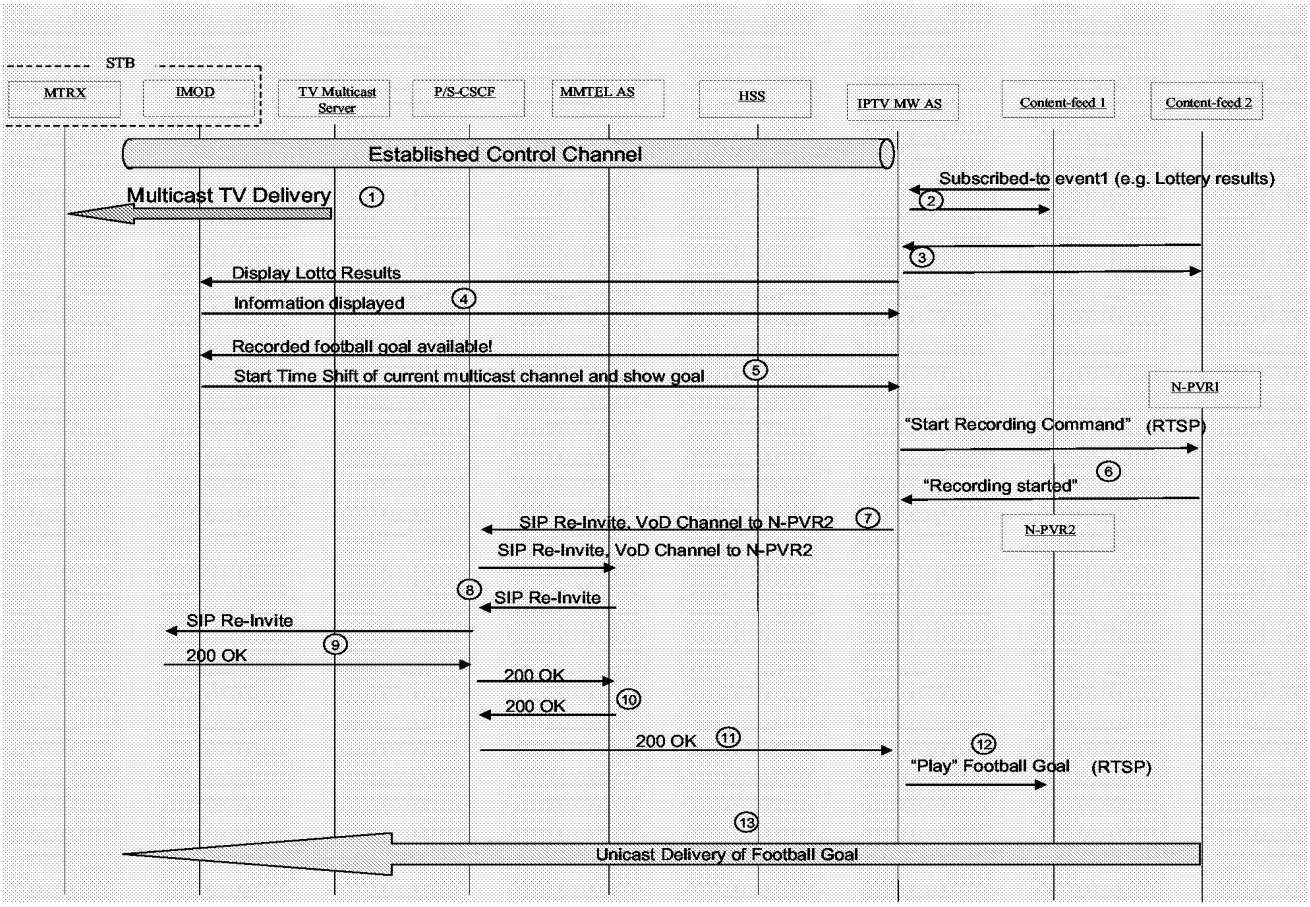

STB
MTRX
IMOD
TV Multicast Server
P/S-CSCF
MMTEL AS
HSS
IPTV MW AS
I-CSCF
N-PVRI
19 User decides to start Chase Play, e.g. after finishing the speech call (release sequence not shown)
20
"Start Chase Play" signalled over Control Channel
SIP Re-Invite, VoD Channel to N-PVR
21
SIP Re-Invite, VoD Channel to N-PVR
22
SIP Re-Invite
SIP Re-Invite
23
200 OK
200 OK
24
200 OK
200 OK
25
"Play" (RTSP)
26
27
Unicast Delivery of Resumed TV Program

Figure 6


STB
MTRX
IMOD
TV Multicast Server
P/S-CSCF
MMTEL AS
HSS
IPTV MW AS
Content-feed 1
Content-feed 2
Established Control Channel
Multicast TV Delivery
1
Subscribed-to event1 (e.g. Lottery results)
2
3
Display Lotto Results
Information displayed
4
Recorded football goal available!
Start Time Shift of current multicast channel and show goal
5
N-PVR1
"Start Recording Command" (RTSP)
6
"Recording started"
SIP Re-Invite, VoD Channel to N-PVR2
7
N-PVR2
SIP Re-Invite, VoD Channel to N-PVR2
8
SIP Re-Invite
SIP Re-Invite
9
200 OK
200 OK
200 OK
10
200 OK
11
12
"Play" Football Goal (RTSP)
13
Unicast Delivery of Football Goal

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2006/060530

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04N7/24 H04N7/173

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 2005/183120 A1 (JAIN SAURABH ET AL) 18 August 2005 (2005-08-18) abstract paragraphs [0008] - [0021] paragraphs [0035] - [0089] figures 1-10	1-4, 10-12 5-9
Y A	US 6 882 709 B1 (SHERLOCK PETER ET AL) 19 April 2005 (2005-04-19) abstract column 6, lines 23-36 figures 1-6	5-9 1-4, 10-12

-/--

[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
8 November 2006	23/11/2006

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	MARZAL-ABARCA, X

Form PCT/ISA/210 (second sheet) (April 2005)

Samsung Ex. 1012, Page 51 of 691

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	MAGEDANZ T ET AL: "The IMS Playground @ Fokus - An Open Testebed for Next Generation Network Multimedia Services" TESTBEDS AND RESEARCH INFRASTRUCTURES FOR THE DEVELOPMENT OF NETWORKS AND COMMUNITIES, 2005. TRIDENTCOM 2004. FIRST INTERNATIONAL CONFERENCE ON TRENTO, ITALY 23-25 FEB. 2005, PISCATAWAY, NJ, USA,IEEE, 23 February 2005 (2005-02-23), pages 2-11, XP010774253 ISBN: 0-7695-2219-X the whole document	1-4, 10-12
A	FENG LIU ET AL: "An approach of integrating sip in converged multimodal/multimedia communication services" COMPUTER COMMUNICATIONS AND NETWORKS, 2003. ICCCN 2003. PROCEEDINGS. THE 12TH INTERNATIONAL CONFERENCE ON DALLAS, TX, USA 20-22 OCT. 2003, PISCATAWAY, NJ, USA,IEEE, 20 October 2003 (2003-10-20), pages 137-142, XP010695709 ISBN: 0-7803-7945-4 Section 2.1 Multimedia Technology Integration Platform Section 2.2 Integrating SIP with MTIP	1-4, 10-12
A	FRANZ R ED - INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS: "Control architecture for voice/data convergence" ICC 2001. 2001 IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS. CONFERENCE RECORD. HELSINKY, FINLAND, JUNE 11 - 14, 2001, IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS, NEW YORK, NY : IEEE, US, vol. VOL. 1 OF 10, 11 June 2001 (2001-06-11), pages 758-762, XP010553104 ISBN: 0-7803-7097-1 the whole document	1-4, 10-12
A	J-F REY ET AL: "SIP Technology in the Enterprise: SIP technology will be the next step in IP telephony, bringing new Internet telephony services to enterprise users" ALCATEL TELECOMMUNICATIONS REVIEW, ALCATEL, PARIS CEDEX, FR, October 2002 (2002-10), XP007005899 ISSN: 1267-7167 the whole document	1-4, 10-12

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2006/060530

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. [X] As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

[X] The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-4,10,11,12

Time-shifting and chase-play for an IPTV system.

2. claims: 5-9

Voice call handling

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2006/060530

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2005183120 A1	18-08-2005	NONE	
US 6882709 B1	19-04-2005	NONE	

PUB-NO: WO2007101473A1
DOCUMENT-IDENTIFIER: WO 2007101473 A1
TITLE: TIME-SHIFTING AND CHASE-PLAY FOR AN IPTV SYSTEM
PUBN-DATE: September 13, 2007

INVENTOR-INFORMATION:

NAME	COUNTRY
AASTROEM, BO	SE

ASSIGNEE-INFORMATION:

NAME	COUNTRY
ERICSSON TELEFON AB L M	SE
AASTROEM BO	SE

APPL-NO: EP2006060530
APPL-DATE: March 7, 2006

PRIORITY-DATA: EP2006060530W (March 7, 2006)

INT-CL (IPC): H04N005/00

EUR-CL (EPC): H04N005/00

US-CL-CURRENT: 348/E5.008 , 348/E7.071

ABSTRACT:

Time-shifting and chase-play is provided for an IPTV system, utilising a control channel established between the originating user and a selected IPTV Application Server (IPTV-AS). When time shifting of the IPTV content is required, for example due to receipt of a telephone call, a start time-shift command is sent to the IPTV-AS over the control channel. A start recording command is then sent from the IPTV-AS to a Network PVR system to initiate recording of the current multicast content. Subsequently, when the user is ready to resume viewing of the time-shifted content, a start chase-play command is sent to the IPTV-AS over the control channel to establish a unicast channel for playback of the time-shifted content; and a playback command is sent from the IPTV-AS to the Network PVR system to initiate playback of the time-shifted content over the unicast channel. Such a solution utilizes the standardized IMS communication system and its network architecture and a PVR residing in the Network to limit the traffic transmitted over the first mile connection to a home.

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	14015765
Filing Date	2013-08-30
First Named Inventor	Hans Maarten Stokking
Art Unit	2441
Examiner Name	Alicia Baturay
Attorney Docket Number	10-406-CON

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Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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	1	20050141542	A1	2005-06-30	Handekyn et al.	

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/ALICIA BATURAY/ 01/04/2017

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.B./

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14015765
	Filing Date	2013-08-30
	First Named Inventor	Hans Maarten Stokking
	Art Unit	2441
	Examiner Name	Alicia Baturay
	Attorney Docket Number	10-406-CON

	1	Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); IMS-based IPTV stage 3 specification;ETSI TS 183 063 V2.1.0 (2008-06).
	2	Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Dedicated IPTV subsystem stage 3 specification; ETSI TS 183 064 V2.1.1 (2008-10).
	3	Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); IPTV Architecture; Dedicated subsystem for IPTV functions;ETSI TS 182 028 V2.0.0 (2008-01).
	4	Meng Guo; Ammar, M.H.;Zegura,E.W. "A Vehicle-to-Vehicle Live Video Streaming Architecture,"Pervasive Computing and Communications, 2005. PerCom 2005. Third IEEE International Conference on 08-12 March 2005 Page(s):171 - 180.

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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.B./

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14015765	STOKKING ET AL.
	Examiner	**Art Unit**
	ALICIA BATURAY	2441

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☒ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	12/08/2014	07/06/2015	02/09/2016	10/06/2016					
	1	-	-	-	-					
	2	-	-	-	-					
	3	-	-	-	-					
	4	-	-	-	-					
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	6	-	-	-	-					
	7	-	-	-	-					
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	9	-	-	-	-					
	10	-	-	-	-					
	11	-	-	-	-					
	12	-	-	-	-					
	13	-	-	-	-					
1	14	✓	✓	✓	=					
2	15	✓	✓	✓	=					
3	16	✓	✓	✓	=					
4	17	✓	✓	✓	=					
5	18	✓	✓	✓	=					
6	19	✓	✓	✓	=					
7	20	✓	✓	✓	=					
8	21	✓	✓	✓	=					
	22	✓	✓	✓	-					
9	23	✓	✓	✓	=					
10	24	✓	✓	✓	=					
11	25	✓	✓	✓	=					
12	26	✓	✓	✓	=					
13	27	✓	✓	✓	=					
14	28	✓	✓	✓	=					
15	29	✓	✓	✓	=					
16	30	✓	✓	✓	=					
17	31	✓	✓	✓	=					
18	32	✓	✓	✓	=					
19	33	✓	✓	✓	=					
20	34	O	O	O	=					
21	35	✓	✓	✓	=					
22	36	✓	✓	✓	=					

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CONFIRMATION NO. 6519

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
14/015,765	08/30/2013	709	2441	10-406-CON

APPLICANTS
Koninkijke KPN N.V., The Hague, NETHERLANDS;

INVENTORS
Hans Maarten Stokking, The Hague, NETHERLANDS;
Mattijs Oskar Van Deventer, Leidschendam, NETHERLANDS;
Fabian Arthur Walraven, Groningen, NETHERLANDS;
Omar Aziz Niamut, Vlaardingen, NETHERLANDS;

**** CONTINUING DATA ***************************
This application is a CON of 12/808,665 06/16/2010 PAT 8549151
which is a 371 of PCT/EP08/11014 12/22/2008
which claims benefit of 61/008,644 12/21/2007

**** FOREIGN APPLICATIONS ***************************
EUROPEAN PATENT OFFICE (EPO) 08002517.4 02/12/2008

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ****
09/17/2013

Foreign Priority claimed ☑ Yes ☐ No 35 USC 119(a-d) conditions met ☑ Yes ☐ No Verified and Acknowledged /ALICIA BATURAY/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		NETHERLANDS	9	~~23~~ 22	3

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MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
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CHICAGO, IL 60606
UNITED STATES

TITLE
METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM

FILING FEE RECEIVED		
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	37	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2017/01/04 15:17
L2	37	709/227.ccls. and (RTSP same SIP same (gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/01/04 15:17
L3	614	(RTSP and SIP and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/01/04 15:17
L4	430	L3 AND ((H04L65/1069 OR H04L65/1016 OR H04L65/80 OR H04L65/4084 OR H04L65/60 OR H04L65/608 OR H04L43/08 OR H04L47/14 OR H04L41/5009 OR H04L43/50 OR H04L47/20 OR H04L47/29 OR H04L65/1006 OR H04L65/4076 OR H04L65/4092 OR H04L65/602 OR H04L29/06027 OR H04L47/10 OR H04L63/0428 OR H04L63/0815 OR H04L63/166 OR H04L65/607 OR H04L67/025 OR H04L12/189 OR H04L12/5695 OR H04L41/00 OR H04L43/024 OR H04L43/04 OR H04L43/0864 OR H04L43/0876 OR H04L43/0888 OR H04L47/12 OR H04L47/22 OR H04L47/2433 OR H04L47/2458 OR H04L47/2483 OR H04L47/748 OR H04L47/808 OR H04L47/824 OR H04L51/38 OR H04L63/083 OR H04L63/0853 OR H04L63/102 OR H04L65/1043 OR H04L65/1083 OR H04L65/4007 OR H04L65/403 OR H04L65/4069 OR H04L67/02 OR H04L67/10 OR H04L67/14 OR H04L67/2823 OR H04L67/2842 OR H04L67/32 OR H04L69/08 OR H04L69/16 OR H04L69/161 OR H04L12/1407 OR H04L12/1435 OR H04L12/1492 OR H04L12/1818 OR H04L12/2896 OR H04L12/437 OR H04L12/6418 OR H04L12/66 OR H04L1/00 OR H04L2012/6486 OR H04L29/06 OR H04L29/06517 OR H04L29/08522 OR H04L29/12009 OR H04L29/12018 OR H04L29/12047 OR H04L41/0293 OR H04L41/046 OR H04L41/06 OR H04L41/0631 OR	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/01/04 15:17

		H04L41/0654 OR H04L41/142 OR H04L41/22 OR H04L41/5029 OR H04L41/5038 OR H04L41/5051 OR H04L41/5061 OR H04L41/509 OR H04L43/0811 OR H04L43/0829 OR H04L43/0852 OR H04L43/0858 OR H04L43/087 OR H04L43/0882 OR H04L43/10 OR H04L43/12 OR H04L43/16 OR H04L45/00 OR H04L45/02 OR H04L45/22 OR H04L45/308 OR H04L45/38 OR H04L45/44 OR H04L45/50 OR H04L47/2416 OR H04L47/245 OR H04L47/2475 OR H04L47/25 OR H04L47/263 OR H04L47/31 OR H04L49/3009 OR H04L5/0096 OR H04L61/10 OR H04L61/15 OR H04L61/1511 OR H04L61/2514 OR H04L63/02 OR H04L63/04 OR H04L63/08 OR H04L63/0884 OR H04L63/164 OR H04L63/205 OR H04L63/306 OR H04L65/00 OR H04L65/103 OR H04L65/104 OR H04L65/1046 OR H04L65/105 OR H04L65/1096 OR H04L65/4015 OR H04L65/601 OR H04L65/605 OR H04L67/1036 OR H04L67/104 OR H04L67/145 OR H04L67/146 OR H04L67/148 OR H04L67/22 OR H04L67/303 OR H04L67/306 OR H04L67/38 OR H04L67/42 OR H04L69/14 OR H04L9/3242).CPC.)				
S1	1	"20110010459".pn.	US-PGPUB	OR	OFF	2012/04/02 14:39
S2	1	("20060291472").PN.	US-PGPUB	OR	OFF	2012/04/02 15:03
S3	198	(Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)	US-PGPUB; USPAT	OR	OFF	2012/04/02 15:37
S4	49	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal)	US-PGPUB; USPAT	OR	OFF	2012/04/02 15:37
S5	10	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2012/04/02 15:37
S6	8	709/220.ccls. and (RTSP and SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/02 15:42
S7	4	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/02 15:55
S8	530	@ad<"20071221" and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 10:27
S9	47	@ad<"20071221" and (RTSP and SIP and gateway and IPTV)	US-PGPUB; USPAT;	OR	OFF	2012/04/03 10:27

			EPO; JPO; DERWENT; IBM_TDB			
S10	13	@ad<"20071221" and (RTSP and SIP and gateway and IPTV and bye)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 10:30
S11	15	@ad<"20071221" and (RTSP and SIP and gateway and IPTV and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 10:43
S12	13	@ad<"20071221" and (RTSP same SIP and gateway and IPTV and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:39
S13	715	@ad<"20071221" and (RTSP same SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:39
S14	168	@ad<"20071221" and (RTSP same SIP same (gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:40
S15	2	@ad<"20071221" and (RTSP same SIP same (gateway or proxy) same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:40
S16	36	@ad<"20071221" and (RTSP same SIP same (gateway or proxy) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:41
S17	789	(first adj protocol) and (second adj protocol) and (third adj protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:10
S18	615	@ad<"20071221" and (first adj protocol) and (second adj protocol) and (third adj protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:11
S19	0	@ad<"20071221" and ((first adj protocol) and (second adj protocol) and (third adj protocol) and SIP and RSTP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:11
S20	72	@ad<"20071221" and ((first adj protocol) and (second adj protocol) and (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:11
S21	26	SIP same RTSP same SMS	US-PGPUB; USPAT;	OR	OFF	2012/04/03 13:35

			EPO; JPO; DERWENT; IBM_TDB			
S22	62	709/227.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:37
S23	18	709/227.ccls. and (RTSP same SIP same (gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:39
S24	3	@ad<"20071221" and (RTSP same SIP same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:43
S25	33	@ad<"20071221" and (RTSP and SIP and gateway and ((peer adj peer) or P2P))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:39
S26	64	@ad<"20071221" and (((peer adj peer) or P2P) same (bi adj directional))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:40
S27	2	@ad<"20071221" and (((peer adj peer) or P2P) same (bi adj directional) same stream)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:40
S28	0	("2005/0135366").URPN.	USPAT	OR	OFF	2012/04/04 13:41
S29	12332	@ad<"20071221" and (interactive adj (television or TV))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:48
S30	140	@ad<"20071221" and ((interactive adj (television or TV)) same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:48
S31	4	@ad<"20071221" and ((interactive adj (television or TV)) same trigger same (bi adj directional))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:49
S32	328	@ad<"20071221" and ((interactive adj (television or TV)) same gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 14:58
S33	0	@ad<"20071221" and ((interactive adj (television or TV)) same gateway same resolv$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 14:59

S34	49	@ad<"20071221" and ((interactive adj (television or TV)) same gateway and resolv$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 14:59
S35	125	@ad<"20071221" and (gateway same resolv$5 same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:00
S36	15	@ad<"20071221" and (gateway same resolv$5 same (identifier or ID) same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:00
S37	21	@ad<"20071221" and (gateway same resolv$5 same (identifier or ID) same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:02
S38	6784	@ad<"20071221" and ((bi adj directional) same buffer$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:23
S39	711	@ad<"20071221" and ((bi adj directional) same buffer$3 same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:23
S40	8	@ad<"20071221" and ((bi adj directional) same buffer$3 same (gateway or proxy) same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:24
S41	43	@ad<"20071221" and (("RTSP TEARDOWN") same server)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:36
S42	0	@ad<"20071221" and (("RTSP TEARDOWN") same peer)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:40
S43	0	@ad<"20071221" and (("RTSP TEARDOWN") same p2p)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:40
S44	7	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:27
S45	12	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2012/10/11 14:27
S46	3	@ad<"20071221" and (RTSP same SIP	US-PGPUB;	OR	OFF	2012/10/11

		same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB			14:27
S47	126	@ad<"20071221" and (RTSP same SIP and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:27
S48	745	@ad<"20071221" and (RTSP same SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:35
S49	315	@ad<"20071221" and (RTSP same SIP same (server or gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:35
S50	3	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (SIP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:36
S51	90	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:33
S52	44	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy) same session)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:33
S53	27	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy) same session same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:33
S54	10	@ad<"20071221" and ((RTSP adj (server)) same (gateway or proxy) same session same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:35
S55	4	@ad<"20071221" and ((RTSP adj (server)) same (gateway or proxy) same (session adj initiation) same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:51
S56	2	@ad<"20071221" and ((RTSP adj (server)) same (gateway or proxy) same (session adj information) same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:51
S57	22	709/220.ccls. and (RTSP and SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/06/03 11:06

S58	12	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/06/03 11:06
S59	19	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2013/06/03 11:09
S64	1	"20140040350".pn.	US-PGPUB	OR	OFF	2014/12/08 15:02
S65	1	"8549151".pn.	USPAT	OR	OFF	2014/12/08 15:07
S66	31	("20090190603" | "20090217337" | "8027353" | "20060128376" | "20050135366" | "20090100147" | "20090307307" | "7286521" | "7804848" | "20080092178" | "20090180484" | "20090193469" | "7716310" | "8032589" | "20100005177" | "20100005501" | "7804848" | "20070177616" | "6895439" | "7043528" | "20060291472" | "20090235317" | "7792025" | "8046479" | "6895439" | "20060128376" | "7231658" | "7440440" | "7724691" | "7953867" | "7724691" | "20060291472" | "20070025301" | "20090313376" | "20110209188" | "7643411").PN.	US-PGPUB; USPAT	OR	OFF	2014/12/09 09:54
S67	744	(first adj protocol) same (second adj protocol) same (third adj protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:48
S68	407	@ad<"20071221" and (first adj protocol) same (second adj protocol) same (third adj protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:48
S69	29	@ad<"20071221" and (gateway same (first adj protocol) same (second adj protocol) same (third adj protocol))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:49
S70	0	@ad<"20071221" and (gateway same (first adj protocol) same (second adj protocol) same (third adj protocol) same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:52
S71	4	@ad<"20071221" and (gateway same (first adj protocol) same (second adj protocol) same (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:52
S72	4	@ad<"20071221" and (gateway same (first adj protocol) same (second adj protocol) same (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:09
S73	22	@ad<"20071221" and (gateway and (first adj protocol) same (second adj protocol) same (third adj protocol) and	US-PGPUB; USPAT; EPO; JPO;	OR	OFF	2015/07/06 16:15

		trigger)	DERWENT; IBM_TDB			
S74	48	@ad<"20071221" and ((first adj protocol) same (second adj protocol) same (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:16
S75	215	@ad<"20071221" and (gateway same trigger same media)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:25
S76	171	@ad<"20071221" and (gateway same trigger same SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:25
S77	3	@ad<"20071221" and (gateway same trigger same SIP same RTSP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:26
S78	1	chase adj play	EPO	OR	OFF	2015/07/06 16:34
S79	216	@ad<"20071221" and (gateway same trigger same media)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/07 09:02
S80	1	proxy adj higa	EPO	OR	OFF	2015/07/07 09:51
S81	16	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/02/11 14:55
S82	35	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2016/02/11 14:55
S83	554	(RTSP and SIP and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/02/11 14:55
S84	386	S83 AND ((H04L65/1069 OR H04L65/1016 OR H04L65/80 OR H04L65/4084 OR H04L65/60 OR H04L65/608 OR H04L43/08 OR H04L47/14 OR H04L41/5009 OR H04L43/50 OR H04L47/20 OR H04L47/29 OR H04L65/1006 OR H04L65/4076 OR H04L65/4092 OR H04L65/602 OR H04L29/06027 OR H04L47/10 OR H04L63/0428 OR H04L63/0815 OR H04L63/166 OR H04L65/607 OR H04L67/025 OR H04L12/189 OR H04L12/5695 OR H04L41/00 OR H04L43/024 OR H04L43/04 OR H04L43/0864 OR H04L43/0876 OR H04L43/0888 OR	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/02/11 14:56

		H04L47/12 OR H04L47/22 OR H04L47/2433 OR H04L47/2458 OR H04L47/2483 OR H04L47/748 OR H04L47/808 OR H04L47/824 OR H04L51/38 OR H04L63/083 OR H04L63/0853 OR H04L63/102 OR H04L65/1043 OR H04L65/1083 OR H04L65/4007 OR H04L65/403 OR H04L65/4069 OR H04L67/02 OR H04L67/10 OR H04L67/14 OR H04L67/2823 OR H04L67/2842 OR H04L67/32 OR H04L69/08 OR H04L69/16 OR H04L69/161 OR H04L12/1407 OR H04L12/1435 OR H04L12/1492 OR H04L12/1818 OR H04L12/2896 OR H04L12/437 OR H04L12/6418 OR H04L12/66 OR H04L1/00 OR H04L2012/6486 OR H04L29/06 OR H04L29/06517 OR H04L29/08522 OR H04L29/12009 OR H04L29/12018 OR H04L29/12047 OR H04L41/0293 OR H04L41/046 OR H04L41/06 OR H04L41/0631 OR H04L41/0654 OR H04L41/142 OR H04L41/22 OR H04L41/5029 OR H04L41/5038 OR H04L41/5051 OR H04L41/5061 OR H04L41/509 OR H04L43/0811 OR H04L43/0829 OR H04L43/0852 OR H04L43/0858 OR H04L43/087 OR H04L43/0882 OR H04L43/10 OR H04L43/12 OR H04L43/16 OR H04L45/00 OR H04L45/02 OR H04L45/22 OR H04L45/308 OR H04L45/38 OR H04L45/44 OR H04L45/50 OR H04L47/2416 OR H04L47/245 OR H04L47/2475 OR H04L47/25 OR H04L47/263 OR H04L47/31 OR H04L49/3009 OR H04L5/0096 OR H04L61/10 OR H04L61/15 OR H04L61/1511 OR H04L61/2514 OR H04L63/02 OR H04L63/04 OR H04L63/08 OR H04L63/0884 OR H04L63/164 OR H04L63/205 OR H04L63/306 OR H04L65/00 OR H04L65/103 OR H04L65/104 OR H04L65/1046 OR H04L65/105 OR H04L65/1096 OR H04L65/4015 OR H04L65/601 OR H04L65/605 OR H04L67/1036 OR H04L67/104 OR H04L67/145 OR H04L67/146 OR H04L67/148 OR H04L67/22 OR H04L67/303 OR H04L67/306 OR H04L67/38 OR H04L67/42 OR H04L69/14 OR H04L9/3242).CPC.)				
S85	35	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2016/02/23 09:47
S86	556	(RTSP and SIP and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/02/23 09:47

S87	388	S86 AND ((H04L65/1069 OR H04L65/1016 OR H04L65/80 OR H04L65/4084 OR H04L65/60 OR H04L65/608 OR H04L43/08 OR H04L47/14 OR H04L41/5009 OR H04L43/50 OR H04L47/20 OR H04L47/29 OR H04L65/1006 OR H04L65/4076 OR H04L65/4092 OR H04L65/602 OR H04L29/06027 OR H04L47/10 OR H04L63/0428 OR H04L63/0815 OR H04L63/166 OR H04L65/607 OR H04L67/025 OR H04L12/189 OR H04L12/5695 OR H04L41/00 OR H04L43/024 OR H04L43/04 OR H04L43/0864 OR H04L43/0876 OR H04L43/0888 OR H04L47/12 OR H04L47/22 OR H04L47/2433 OR H04L47/2458 OR H04L47/2483 OR H04L47/748 OR H04L47/808 OR H04L47/824 OR H04L51/38 OR H04L63/083 OR H04L63/0853 OR H04L63/102 OR H04L65/1043 OR H04L65/1083 OR H04L65/4007 OR H04L65/403 OR H04L65/4069 OR H04L67/02 OR H04L67/10 OR H04L67/14 OR H04L67/2823 OR H04L67/2842 OR H04L67/32 OR H04L69/08 OR H04L69/16 OR H04L69/161 OR H04L12/1407 OR H04L12/1435 OR H04L12/1492 OR H04L12/1818 OR H04L12/2896 OR H04L12/437 OR H04L12/6418 OR H04L12/66 OR H04L1/00 OR H04L2012/6486 OR H04L29/06 OR H04L29/06517 OR H04L29/08522 OR H04L29/12009 OR H04L29/12018 OR H04L29/12047 OR H04L41/0293 OR H04L41/046 OR H04L41/06 OR H04L41/0631 OR H04L41/0654 OR H04L41/142 OR H04L41/22 OR H04L41/5029 OR H04L41/5038 OR H04L41/5051 OR H04L41/5061 OR H04L41/509 OR H04L43/0811 OR H04L43/0829 OR H04L43/0852 OR H04L43/0858 OR H04L43/087 OR H04L43/0882 OR H04L43/10 OR H04L43/12 OR H04L43/16 OR H04L45/00 OR H04L45/02 OR H04L45/22 OR H04L45/308 OR H04L45/38 OR H04L45/44 OR H04L45/50 OR H04L47/2416 OR H04L47/245 OR H04L47/2475 OR H04L47/25 OR H04L47/263 OR H04L47/31 OR H04L49/3009 OR H04L5/0096 OR H04L61/10 OR H04L61/15 OR H04L61/1511 OR H04L61/2514 OR H04L63/02 OR H04L63/04 OR H04L63/08 OR H04L63/0884 OR H04L63/164 OR H04L63/205 OR H04L63/306 OR H04L65/00 OR H04L65/103 OR H04L65/104 OR H04L65/1046 OR H04L65/105 OR H04L65/1096 OR H04L65/4015 OR	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/02/23 09:47

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S89	1	"20140040350".pn.	US-PGPUB	OR	ON	2016/04/26 15:24
S90	36	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2016/10/06 10:40
S91	37	709/227.ccls. and (RTSP same SIP same (gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/10/06 10:40
S92	600	(RTSP and SIP and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/10/06 10:40
S93	416	S92 AND ((H04L65/1069 OR H04L65/1016 OR H04L65/80 OR H04L65/4084 OR H04L65/60 OR H04L65/608 OR H04L43/08 OR H04L47/14 OR H04L41/5009 OR H04L43/50 OR H04L47/20 OR H04L47/29 OR H04L65/1006 OR H04L65/4076 OR H04L65/4092 OR H04L65/602 OR H04L29/06027 OR H04L47/10 OR H04L63/0428 OR H04L63/0815 OR H04L63/166 OR H04L65/607 OR H04L67/025 OR H04L12/189 OR H04L12/5695 OR H04L41/00 OR H04L43/024 OR H04L43/04 OR H04L43/0864 OR H04L43/0876 OR H04L43/0888 OR H04L47/12 OR H04L47/22 OR H04L47/2433 OR H04L47/2458 OR H04L47/2483 OR H04L47/748 OR H04L47/808 OR H04L47/824 OR H04L51/38 OR H04L63/083 OR H04L63/0853 OR H04L63/102 OR H04L65/1043 OR H04L65/1083 OR H04L65/4007 OR H04L65/403 OR H04L65/4069 OR H04L67/02 OR H04L67/10 OR H04L67/14 OR H04L67/2823 OR H04L67/2842 OR H04L67/32 OR H04L69/08 OR H04L69/16 OR H04L69/161 OR H04L12/1407 OR H04L12/1435 OR H04L12/1492 OR H04L12/1818 OR H04L12/2896 OR H04L12/437 OR H04L12/6418 OR H04L12/66 OR H04L1/00 OR H04L2012/6486 OR H04L29/06 OR H04L29/06517 OR	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/10/06 10:40

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S97	37	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2017/01/04 07:14
S98	37	709/227.ccls. and (RTSP same SIP same (gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/01/04 07:14
S99	614	(RTSP and SIP and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/01/04 07:14
S100	430	S99 AND ((H04L65/1069 OR H04L65/1016 OR H04L65/80 OR H04L65/4084 OR H04L65/60 OR H04L65/608 OR H04L43/08 OR H04L47/14 OR H04L41/5009 OR H04L43/50 OR H04L47/20 OR H04L47/29 OR H04L65/1006 OR H04L65/4076 OR H04L65/4092 OR H04L65/602 OR H04L29/06027 OR H04L47/10 OR H04L63/0428 OR H04L63/0815 OR H04L63/166 OR H04L65/607 OR H04L67/025 OR H04L12/189 OR H04L12/5695 OR H04L41/00 OR H04L43/024 OR	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/01/04 07:14

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EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S60	190	((first adj protocol) and (second adj protocol) and (third adj protocol)).clm.	USPAT	OR	OFF	2013/06/03 11:07

S61	0	((first adj protocol) and (second adj protocol) and (third adj protocol) and (RTSP adj (server))).clm.	USPAT	OR	OFF	2013/06/03 11:07
S62	25	((first adj protocol) and (second adj protocol) and (third adj protocol) and (gateway or proxy)).clm.	USPAT	OR	OFF	2013/06/03 11:07
S63	8	((first adj protocol) same (second adj protocol) same (third adj protocol) same (gateway or proxy)).clm.	USPAT	OR	OFF	2013/06/03 11:08
S94	262	(RTSP and SIP and gateway and IPTV)	US-PGPUB	OR	OFF	2016/10/06 10:40
S95	675	(first adj protocol) and (second adj protocol) and (third adj protocol)	US-PGPUB	OR	OFF	2016/10/06 10:41
S96	26262	(gateway and trigger and media)	US-PGPUB	OR	OFF	2016/10/06 10:41

1/4/2017 3:18:19 PM
C:\Users\abaturay\Alicia's Documents\EAST Searches\14015765-TransmittingAMultimediaStreamCON.wsp

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14015765	STOKKING ET AL.
	Examiner	Art Unit
	ALICIA BATURAY	2441

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
709	227	12/09/2014	AB
709	227	07/06/2015	AB
709	227	02/09/2016	AB
709	227	10/06/2016	AB
709	227	01/04/2017	AB

SEARCH NOTES		
Search Notes	Date	Examiner
Searched EAST (US-PGPUB, USPAT, EPO, JPO, DERWENT, IBM_TDB)	12/08/2014	AB
Conducted Inventor Name Search	12/08/2014	AB
Conducted Class/Subclass Search	12/08/2014	AB
Updated EAST Search (US-PGPUB, USPAT, EPO, JPO, DERWENT, IBM_TDB)	07/06/2015	AB
Updated Inventor Name Search	07/06/2015	AB
Updated Class/Subclass Search	07/06/2015	AB
Updated EAST Search (US-PGPUB, USPAT, EPO, JPO, DERWENT, IBM_TDB)	02/09/2016	AB
Updated Inventor Name Search	02/09/2016	AB
Updated Class/Subclass Search	02/09/2016	AB
Updated EAST Search (US-PGPUB, USPAT, EPO, JPO, DERWENT, IBM_TDB)	10/06/2016	AB
Updated Inventor Name Search	10/06/2016	AB
Updated Class/Subclass Search	10/06/2016	AB
Conducted Interference Search	10/06/2016	AB

SEARCH NOTES		
Search Notes	**Date**	**Examiner**
Updated EAST Search (US-PGPUB, USPAT, EPO, JPO, DERWENT, IBM_TDB)	01/04/2017	AB
Updated Inventor Name Search	01/04/2017	AB
Updated Class/Subclass Search	01/04/2017	AB
Conducted Interference Search	01/04/2017	AB

INTERFERENCE SEARCH			
US Class/ CPC Symbol	**US Subclass / CPC Group**	**Date**	**Examiner**
PG-PUB	See Search History	10/06/2016	AB
PG-PUB	See Search History	01/04/2017	AB

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14015765	STOKKING ET AL.
	Examiner	**Art Unit**
	ALICIA BATURAY	2441

CPC						
Symbol					**Type**	**Version**
H04L		29	/	06517	F	2013-01-01
H04L		65	/	1006	I	2013-01-01
H04L		65	/	1016	A	2013-01-01
H04L		65	/	104	I	2013-01-01
H04L		65	/	4076	I	2013-01-01
H04L		65	/	1069	I	2013-01-01
H04L		65	/	608	A	2013-01-01
H04L		65	/	103	I	2013-01-01
H04L		69	/	08	I	2013-01-01
H04L		29	/	08522	I	2013-01-01
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			/			
			/			
			/			

CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
			/					
			/					

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	22	
/ALICIA BATURAY/ Primary Examiner.Art Unit 2441	01/04/2017	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	14	7

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14015765	STOKKING ET AL.
	Examiner	**Art Unit**
	ALICIA BATURAY	2441

US ORIGINAL CLASSIFICATION		INTERNATIONAL CLASSIFICATION											
CLASS	SUBCLASS	CLAIMED					NON-CLAIMED						
709	219	G	0	6	F	15 / 16 (2006.01.01)							
CROSS REFERENCE(S)													
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)												

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	22	
/ALICIA BATURAY/ Primary Examiner.Art Unit 2441	01/04/2017	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	14	7

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14015765	STOKKING ET AL.
	Examiner	**Art Unit**
	ALICIA BATURAY	2441

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☒ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
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	2	5	18	20	34										
	3	6	19	21	35										
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	6		22												
	7	9	23												
	8	10	24												
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	10	12	26												
	11	13	27												
	12	14	28												
	13	15	29												
1	14	16	30												
2	15	17	31												
3	16	18	32												

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 22	
/ALICIA BATURAY/ Primary Examiner.Art Unit 2441 (Primary Examiner)	01/04/2017 (Date)	O.G. Print Claim(s) 14	O.G. Print Figure 7

Doc code: RCEX
Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (07-14)
Approved for use through 07/31/2016. OMB 0651-0031
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REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	14015765	Filing Date	2013-08-30	Docket Number (if applicable)	10-406-CON	Art Unit	2441
First Named Inventor	Hans Maarten Stokking			Examiner Name	Alicia Baturay		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, to any international application that does not comply with the requirements of 35 U.S.C. 371, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV.

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☐ Amendment/Reply
- ☒ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____ (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

☒ **The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**
The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 132490

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

Applicant Signature

PTO/SB/30EFS (07-14)
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Signature of Registered U.S. Patent Practitioner			
Signature	/David A. Grabelsky/	Date (YYYY-MM-DD)	2016-11-08
Name	David A. Grabelsky	Registration Number	59208

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

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1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	14015765
Filing Date	2013-08-30
First Named Inventor	Hans Maarten Stokking
Art Unit	2441
Examiner Name	Alicia Baturay
Attorney Docket Number	10-406-CON

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Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20050141542	A1	2005-06-30	Handekyn et al.	

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Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							

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NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14015765
	Filing Date	2013-08-30
	First Named Inventor	Hans Maarten Stokking
	Art Unit	2441
	Examiner Name	Alicia Baturay
	Attorney Docket Number	10-406-CON

	1	Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); IMS-based IPTV stage 3 specification;ETSI TS 183 063 V2.1.0 (2008-06).
	2	Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Dedicated IPTV subsystem stage 3 specification; ETSI TS 183 064 V2.1.1 (2008-10).
	3	Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); IPTV Architecture; Dedicated subsystem for IPTV functions;ETSI TS 182 028 V2.0.0 (2008-01).
	4	Meng Guo; Ammar, M.H.;Zegura,E.W. "A Vehicle-to-Vehicle Live Video Streaming Architecture,"Pervasive Computing and Communications, 2005. PerCom 2005. Third IEEE International Conference on 08-12 March 2005 Page(s):171 - 180.

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14015765
	Filing Date	2013-08-30
	First Named Inventor	Hans Maarten Stokking
	Art Unit	2441
	Examiner Name	Alicia Baturay
	Attorney Docket Number	10-406-CON

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/David A. Grabelsky/	Date (YYYY-MM-DD)	2016-11-08
Name/Print	David A. Grabelsky	Registration Number	59,208

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	14015765
Filing Date:	30-Aug-2013
Title of Invention:	METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Filer:	David A. Grabelsky
Attorney Docket Number:	10-406-CON

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
RCE- 2ND AND SUBSEQUENT REQUEST	1820	1	1700	1700
		Total in USD ($)		**1700**

Electronic Acknowledgement Receipt

EFS ID:	27444918
Application Number:	14015765
International Application Number:	
Confirmation Number:	6519
Title of Invention:	METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Customer Number:	20306
Filer:	David A. Grabelsky
Filer Authorized By:	
Attorney Docket Number:	10-406-CON
Receipt Date:	08-NOV-2016
Filing Date:	30-AUG-2013
Time Stamp:	12:19:59
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$1700
RAM confirmation Number	110816INTEFSW00009119132490
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	10-406-CON_Response_RCE_Transmittal_11Oct16_NOA.pdf	105919 ab3fd29ed405ad01e95723ba0fc113175854b97f	no	1
Warnings:					
Information:					
2	Request for Continued Examination (RCE)	10-406-CON_Request_for_Continued_Examination.pdf	1350058 59b1cabe5fcabcfc775c5a14c72ade485970f2c8	no	3
Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Form (SB08)	10-406-CON_Information_Disclosure_Statement_07Nov16.pdf	528358 19bf8ded86e3615b22fb99a1ca21471842b2d0b3	no	4
Warnings:					
Information:					
4	Non Patent Literature	Meng_Guo_2005.pdf	1079793 314157114f479534afc393875c7d7d4823336997	no	20
Warnings:					
Information:					
5	Non Patent Literature	ts_183064v020101.pdf	10132584 b0ca7ea01409f323c6833944beedd473ad34f7ca	no	46
Warnings:					
Information:					
6	Non Patent Literature	ts_183063v020100.pdf	7289455 3298e5b6c4d9f04cc79e159714d81fc4ae8172e7	no	127
Warnings:					

The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing

Information:					
7	Non Patent Literature	ts_182028v020000.pdf	8140017 22fe1aaef3546aafc9d611aecfda7c15585218e9	no	38
Warnings:					
Information:					
8	Fee Worksheet (SB06)	fee-info.pdf	30282 e29e90ad36e722846e53b1c96ba909c973ad6d89	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	28656466	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Docket No. 10-406-CON)

In re Application of:	)	
	)	
Hans Maarten Stokking et al.	)	
	)	**Examiner: Alicia Baturay**
Serial No. 14/015,765	)	
	)	**Group Art Unit: 2441**
Filed: August 30, 2013	)	
	)	**Conf. No. 6519**
	)	
For: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM	)	

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO THE NOTICE OF ALLOWANCE MAILED OCTOBER 11, 2016

In response to the Notice of Allowance mailed October 11, 2016, Applicants submit the following:

1. A Request for Continued Examination under 37 C.F.R. § 1.114.

2. An Information Disclosure Statement.

Applicant authorizes the Office to charge any fees associated with the present submission to Deposit Account No. 132490.

Respectfully submitted,

McDonnell Boehnen Hulbert & Berghoff

Date: November 8, 2016

By: /David A. Grabelsky/
David A. Grabelsky
Reg. No. 59,208

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE,
CHICAGO, IL 60606
(312)913-0001

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

20306 7590 10/11/2016

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

EXAMINER
BATURAY, ALICIA

ART UNIT	PAPER NUMBER
2441	

DATE MAILED: 10/11/2016

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/015,765	08/30/2013	Hans Maarten Stokking	10-406-CON	6519

TITLE OF INVENTION: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$960	$0	$0	$960	01/11/2017

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

20306 7590 10/11/2016
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/015,765	08/30/2013	Hans Maarten Stokking	10-406-CON	6519

TITLE OF INVENTION: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$960	$0	$0	$960	01/11/2017

EXAMINER	ART UNIT	CLASS-SUBCLASS
BATURAY, ALICIA	2441	709-203000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:
- ❑ Issue Fee
- ❑ Publication Fee (No small entity discount permitted)
- ❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ❑ A check is enclosed.
- ❑ Payment by credit card. Form PTO-2038 is attached.
- ❑ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ❑ Applicant certifying micro entity status. See 37 CFR 1.29 — NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- ❑ Applicant asserting small entity status. See 37 CFR 1.27 — NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- ❑ Applicant changing to regular undiscounted fee status. — NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

Samsung Ex. 1012, Page 94 of 691

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/015,765	08/30/2013	Hans Maarten Stokking	10-406-CON	6519

20306 7590 10/11/2016

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

EXAMINER	
BATURAY, ALICIA	

ART UNIT	PAPER NUMBER
2441	

DATE MAILED: 10/11/2016

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
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Notice of Allowability	Application No. 14/015,765	Applicant(s) STOKKING ET AL.	
	Examiner Alicia Baturay	Art Unit 2441	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the terminal disclaimer filed on 20 September 2016*.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are *14-21 and 23-36 (renumbered 1-22)*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☒ All b) ☐ Some *c) ☐ None of the:
   1. ☒ Certified copies of the priority documents have been received.
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Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

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   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
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7. ☐ Other _____.

/Alicia Baturay/
Primary Examiner, Art Unit 2441

Notice of References Cited	Application/Control No. 14/015,765	Applicant(s)/Patent Under Reexamination STOKKING ET AL.	
	Examiner Alicia Baturay	Art Unit 2441	Page 1 of 3

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	Examiner Alicia Baturay	Art Unit 2441	Page 2 of 3

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	Examiner Alicia Baturay	Art Unit 2441	Page 3 of 3

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(71) Applicant *(for all designated States except US)*: TELEFONAKTIEBOLAGET LM ERICSSON (PUBL) [SE/SE]; S-164 83 Stockholm (SE).

(72) Inventor; and
(75) Inventor/Applicant *(for US only)*: ÅSTRÖM, Bo [SE/SE]; Fredsborgsgatan 2, S-117 59 Stockholm (SE).

(74) Agent: LIND, Robert; 4220 Nash Court, Oxford Business Park South, Oxford Oxfordshire OX4 2RU (GB).

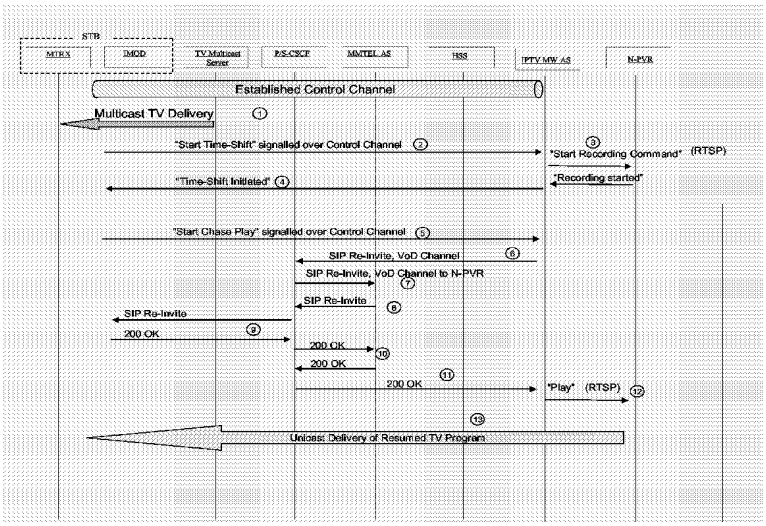
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TIME-SHIFTING AND CHASE-PLAY FOR AN IPTV SYSTEM



(57) Abstract: Time-shifting and chase-play is provided for an IPTV system, utilising a control channel established between the originating user and a selected IPTV Application Server (IPTV-AS). When time shifting of the IPTV content is required, for example due to receipt of a telephone call, a start time-shift command is sent to the IPTV-AS over the control channel. A start recording command is then sent from the IPTV-AS to a Network PVR system to initiate recording of the current multicast content. Subsequently, when the user is ready to resume viewing of the time-shifted content, a start chase-play command is sent to the IPTV-AS over the control channel to establish a unicast channel for playback of the time-shifted content; and a playback command is sent from the IPTV-AS to the Network PVR system to initiate playback of the time-shifted content over the unicast channel. Such a solution utilizes the standardized IMS communication system and its network architecture and a PVR residing in the Network to limit the traffic transmitted over the first mile connection to a home.

WO 2007/101473 A1

Time-Shifting and Chase-Play for an IPTV System

Field of the Invention

The present invention relates to time-shifting and chase-play for an IPTV system.

Reference is also made to the Applicant's copending PCT Application No. PCT/EP2006/060279, the contents of which are incorporated herein by reference..

Background to the Invention

IP Multimedia services provide a dynamic combination of voice, video, messaging, data, etc. within the same session. By increasing the number of basic applications and the media that it is possible to combine, it is possible to increase the number of services offered to the end users, and thus to enrich the inter-personal communication experience. This will lead to a new generation of personalised, rich multimedia communication services, including so-called "combinational IP Multimedia" services that are considered in more detail below.

IP Multimedia Subsystem (IMS) is the technology defined by the Third Generation Partnership Project (3GPP) to provide IP Multimedia services over mobile communication networks (3GPP TS 22.228, TS 23.218, TS 23.228, TS 24.228, TS 24.229, TS 29.228, TS 29.229, TS 29.328 and TS 29.329 Releases 5 to 7). IMS provides key features to enrich the end-user person-to-person communication experience through the use of standardised IMS Service Enablers, which facilitate new rich person-to-person (client-to-client) communication services as well as person-to-content (client-to-server) services over IP-based networks. The IMS makes use of the Session Initiation Protocol (SIP) to set up and control calls or sessions between user terminals (or user terminals and application servers). The Session Description Protocol (SDP), carried by SIP signalling is used to describe and negotiate the media components of the session. Whilst SIP was created as a user-to-user protocol,

IMS allows operators and service providers to control user access to services and to charge users accordingly.

The boundaries between the services provided by telecommunication operators, TV operators, and internet service providers are disappearing, and such companies are all offering customers all three services (so called "triple play"). For telecommunication operators wishing to offer TV services, a popular choice is to utilize so called IPTV which delivers the TV service over IP and the customer's broadband connection (e.g. ADSL, VDSL, Public Ethernet, etc.).

IPTV has a limited bandwidth at its disposal in the "first mile" of the broadband access from the xDSL modem and the broadband access (DSLAM). Linear content delivery, in which all channels in a subscription ("program package") are simultaneously delivered to the set top box (STB), is not suitable for IPTV due to the limited bandwidth. xDSL connection capacity varies depending on the DSL version used and the distance of the "first mile". ADSL can provide a capacity between 3 to 8 Mbps, whereas ADSL2 promises to deliver up to 25 Mbps downstream and VSDL data rates greater than 30 Mbps. Standard quality MPEG2 content requires 2 Mbps per channel, and HDTV will require 8-10 Mbps per channel. Luckily, the new MPEG4 standard will decrease the required bandwidth to half with the same quality as the MPEG2 coded content. Nevertheless, the available bandwidth is a scarce resource, and IPTV solutions must limit the number of channels to be delivered over the "first mile".

Existing time-shift/chase-play solutions are either based on proprietary network technology or on use of a Private Video Recorder (PVR) in the home. The solution described herein, utilizes the standardized IMS communication system and its network architecture, and a PVR residing in the Network to limit the traffic transmitted over the first mile connection to a home.

Summary of the Invention

It is an object of the present invention to provide a time-shift/chase-play solution based on a Network Private Video Recorder (N-PVR).

According to a first aspect of the present invention there is provided a method of time-shifting and chase-play for an IPTV system, the method comprising:

establishing a control channel between the originating user and a selected IPTV Application Server (IPTV-AS);

sending a start time-shift command to the IPTV-AS over the control channel;

sending a start recording command from the IPTV-AS to a Network PVR system to initiate recording of current multicast content;

when the user is ready to resume viewing of the time-shifted content, sending a start chase-play command to the IPTV-AS over the control channel to establish a unicast channel for playback of the time-shifted content; and

sending a playback command from the IPTV-AS to the Network PVR system to initiate playback of the time-shifted content over the unicast channel.

The invention addresses the issue of time-shifting and chase-play by the use of a Network PVR (N-PVR). An N-PVR makes a lot of sense in IPTV solutions. A PVR in the home requires content to be delivered over the first mile, whereas an N-PVR does not. Content is recorded in the network and will thus not burden the first mile if a user wishes to watch one channel whilst recording another simultaneously.

A user may choose to initiate the time-shift function of IPTV content delivery by means of a set top box (STB) for a number of reasons, such as an event taking place in the home requiring the user's full attention, such as the ringing of a door-bell, the arrival of an ordered pizza, or the imminent start of booked laundry time; the occurrence of incoming communication services, such as telephony, video-telephony, messaging or chat; and notification of a user-subscribed-to event, such as notification of lottery results, notification of hockey/football results, or the imminent start of an ordered pay-per-view movie

The solution uses capabilities in IMS to establish a unicast delivery channel of recorded content when a user decides to watch the time-shifted content and initiates chase-play, and allows the IPTV service to integrate with other IMS based services. Examples of other IMS based services are telephony, video-telephony, messaging, chat and push-to-talk.

The solution includes a mechanism for switching from multicast/broadcast delivered content to unicast delivered content. Such switching typically takes place when a user decides to start the time-shifting of multicast delivered content, with the object of resuming delivery of the content at a later time utilising chase-play over a unicast channel.

Some of the advantages obtained by use preferred embodiments of the present invention include:

(i) The possibility of blending the IPTV Service, IMS Communication Services and Personalized Information Services.

(ii) Limitation of the amount of content transmitted over the first mile of a broadband connection (the first mile being a limited resource where many service fight for available capacity).

(iii) Intelligent delivery of TV content allowing other services to utilize available bandwidth.

(iv) An IMS based method for switching between multicast and unicast delivery of content.

(v) An IPTV-AS acting as a gateway between a Network PVR system and STBs. This enables STB – IPTV-AS specific user interaction while allowing operators to use many types of N-PVR system. The adjustment to N-PVR required procedures and protocols is handled by the IPTV-AS.

(vi) The network taking an active role in the IPTV delivery and allowing operators to offer personalized Triple-Play service offerings.

According to a further aspect of the present invention, there is provided a time-shifting and chase-play IPTV system, comprising:

channel control means for establishing a control channel between the originating user and a selected IPTV Application Server (AS);

start time-shift means for sending a start time-shift command to the IPTV-AS over the control channel;

start recording means for sending a start recording command from the IPTV-AS to a Network PVR system to initiate recording of current multicast content;

start chase-play means for sending a start chase-play command to the IPTV-AS over the control channel when the user is ready to resume viewing of the time-shifted content, to establish a unicast channel for playback of the time-shifted content; and

playback means for sending a playback command from the IPTV-AS to the Network PVR system to initiate playback of the time-shifted content over the unicast channel.

According to a further aspect of the present invention, there is provided computer program code for carrying out the method of the first aspect of the invention.

Brief Description of the Drawings

In order that the invention may be more fully understood, a preferred embodiment in accordance with the invention will now be described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a schematic diagram illustrating the establishment of a control channel using a secure TCP/TLS connection;

Figure 2 is a schematic diagram illustrating a sequence for switching between multicast and unicast delivery of content;

Figure 3 is a schematic diagram illustrating a sequence for an Incoming Call Notification on screen; and

Figure 4 is a schematic diagram illustrating a sequence for a PSTN/ISDN Incoming Call Notification;

Figure 5 is a schematic diagram illustrating a sequence for an Extended Incoming Call Notification scenario with Time-shift; and
Figure 6 is a schematic diagram illustrating a sequence for an Event Triggered Time-shift.

Detailed Description of Preferred Embodiment

By way of background to the preferred embodiment, the following is a brief description of how the IP Multimedia Subsystem (IMS) fits into the mobile network architecture in the case of a GPRS/PS access network. Call/Session Control Functions (CSCFs) operate as SIP proxies within the IMS. The 3GPP architecture defines three types of CSCFs: the Proxy CSCF (P-CSCF) which is the first point of contact within the IMS for a SIP terminal; the Serving CSCF (S-CSCF) which provides services to the user that the user is subscribed to; and the Interrogating CSCF (I-CSCF) whose role is to identify the correct S-CSCF and to forward to that S-CSCF a request received from a SIP terminal via a P-CSCF.

A user registers with the IMS using the specified SIP REGISTER method. This is a mechanism for attaching to the IMS and announcing to the IMS the address at which a SIP user identity can be reached. The user receives a unique Uniform Resource Identifier (URI) from the S-CSCF to be used when it initiates a dialog. In 3GPP, when a SIP terminal performs a registration, the IMS authenticates the user, and allocates a S-CSCF to that user from the set of available S-CSCFs. Whilst the criteria for allocating S-CSCFs is not specified by 3GPP, these may include load sharing and service requirements. It is noted that the allocation of an S-CSCF is key to controlling (and charging for) user access to IMS-based services. Operators may provide a mechanism for preventing direct user-to-user SIP sessions that would otherwise bypass the S-CSCF.

During the registration process, it is the responsibility of the I-CSCF to select an S-CSCF if one is not already selected. The I-CSCF receives the required S-

CSCF capabilities from the home network's Home Subscriber Server (HSS), and selects an appropriate S-CSCF based on the received capabilities. (It is noted that S-CSCF allocation is also carried out for a user by the I-CSCF in the case where the user is called by another party, and the user is not currently allocated an S-CSCF.) When a registered user subsequently sends a session request (e.g. SIP INVITE) to the IMS, the request will include the P-CSCF and S-CSCF URIs so that the P-CSCF is able to forward the request to the selected S-CSCF. This applies both on the originating and terminating sides (of the IMS). (For the terminating call the request will include the P-CSCF address and the User Equipment (UE) address.)

Within the IMS service network, Application Servers (ASs) are provided for implementing IMS service functionality. ASs provide services to end-users in an IMS system, and may be connected either as end-points over the 3GPP defined Mr interface, or "linked in" by an S-CSCF over the 3GPP defined ISC interface. In the latter case, Initial Filter Criteria (IFC) are used by an S-CSCF to determine which ASs should be "linked in" during a SIP Session establishment. Different IFCs may be applied to different call cases. The IFCs are received by the S-CSCF from an HSS during the IMS registration procedure as part of a user's User Profile (UP). Certain ASs will perform actions dependent upon subscriber identities (either the called or calling subscriber, whichever is "owned" by the network controlling the AS). For example, in the case of call forwarding, the appropriate (terminating) application server will determine the new terminating party to which a call to a given subscriber will be forwarded.

The preferred embodiment to be described below relates to an IMS-enabled control channel for an IPTV set top box (STB). The control channel is set up using standard IMS procedures and is later used to send control messages to the IPTV applications server, as well as to deliver personalized content, such as advertisements, voting responses, personalized voting triggers and targeted interactive events.

IMOD Connection to IPTV AS

It should be noted that the STB is described as a single unit in the following. The sequences of the figures show division of the STB into an IMOD and a MTRX but the interaction between these is not described as this is not directly relevant to the inventive concepts described.

When the STB starts, it first registers on the IMS network using the IMS Private ID (IMPI - the private address of the STB) of the Identity and IMS Module (IMOD) in the authorization header, and the default 'family STB' public address in the "From" and "To" headers (as in the normal SIP REGISTER message). Both IMPUs representing the Media Transmitter/Receivers (MTRXs) and IMPUs representing users may register. For personalisation of services, a "User Connection to IPTV MW AS" use routine is executed.

Once the STB is registered, it establishes a secure TCP/TLS connection with the IPTV AS, using a SIP INVITE message. The procedure, as schematically indicated in Figure 1, is as follows (with reference to the numbers used in the figure):

1. The MTRX (the media end point of the STB) indicates to the IMOD (the Authentication / ISIM carrier part of the STB) that a connection to the IPTV MW AS should be established. The differentiation between the IMOD and the MTRX is optional, and can be seen as an STB internal realization. An STB not having this differentiation would behave identically in relation to the IMS network.

2. The IMOD sends a SIP INVITE message to the P-CSCF. The Public Service Identity of the IPTV MW AS is used to address the IPTV MW AS and may be pre-configured in the ISIM or configured by device management procedures. An SDP description of a TLS/TCP session is included. An alternative procedure would be to use an application framing protocol over the pure TCP/TLS channel, such as MSRP. In this case the SDP description contains MSRP/TLS/TCP instead of only TLS/TCP.

3. The SIP INVITE message is forwarded to the I-CSCF. 3GPP 23.228 describes alternative PSI routing on the terminating side, namely:

a. The I-CSCF interrogates I HSS where the HSS treats every PSI as a "user" and returns routing instructions to the end-point representing the PSI.

b. I-CSCF interrogation to the HSS where the HSS returns the user allocated S-CSCF. The S-CSCF routes the PSI addressed Invite according to IFC information stored per "PSI-subscriber". The "PSI-subscriber" is assigned an S-CSCF.

c. Sub-domain routing in the I-CSCF where the I-CSCF uses DNS to resolve the PSI into an IP-address for the end-point representing the PSI.

This solution requires Alternative b.

4. The I-CSCF uses DNS to translate the Public Service Identity to the IP address of the actual server that will handle this user this time (load sharing can be applied here). The S-CSCF then sends the SIP INVITE message to the chosen IPTV MW AS. The IPTV MW AS then executes the "Fetch User Data" sub-sequence.

5. The IPTV MW AS returns a 200 OK response. The URL of the user's TV service portal is included in the SDP, as, for example, an XML body that is interpreted in the STB but not in the intermediate nodes.

6. The S-CSCF forwards the 200 OK response.

7. The P-CSCF forwards the 200 OK response.

8. The IMOD receives the URL of the default user's TV service portal (i.e. the portal associated with the IMPU of the MTRX), and it is included in the SDP. This information may be included as an XML body in the 200 OK message, but other means are also possible.

9. The IMOD sends a SIP ACK response.

10. The P-CSCF forwards the SIP ACK response.

11. The S-CSCF forwards the SIP ACK response.

12. The IMOD sets up a TLS/TCP connection to the IPTV MW AS using a server side certificate.

This procedure can also be expanded to add distribution of keys for service protection (a.k.a. conditional access) if the service protection in the system is based on ciphering the content streams. This would involve additional steps after the last step above in which, for example, the keys could be fetched via HTTP. If the different users have different channel bundles, then that type of step would also be needed after the "User Connection, Local User" procedure.

This procedure could also be run only on an "as needed" basis (i.e. the connection would not be automatically set up at registration, but only when access to the IPTV MW AS is required), but the preferred alternative is that the connection is established immediately after the STB/MS registers. This is so that the delay in setting up this connection can be avoided at a time when interaction with the IPTV MW AS is required.

A new control channel is established for each MTRX that is to be connected to the IMOD, as described in the "IMS IPTV Architecture Study" ("Rechon Architecture", EAB-05:045608, Rev A, 2005-12-22).

The described control channel enables a plethora of functionalities, like remote control on the IPTB STB, as described in "IMS IPTV Architecture Study", EAB-06:001721, Rev A, 2006-02-08, or the user cases described in next section.

When the STB starts, it first registers on the IMS network using the IMS Private ID (IMPI - the private address of the STB) of the Identity and IMS Module (IMOD) in the authorization header, and the default 'family STB' public address in the "From" and "To" headers (as in the normal SIP REGISTER message). Once the STB has been registered, it establishes a secure TCP/TLS connection with the IPTV AS using a SIP INVITE message.

STB Initiated Time-Shift

In the event that the user requires time shifting of the content to begin, the following IMS based method for switching between multicast and unicast delivery of content can be initiated by the STB. The procedure, as schematically indicated in Figure 2, is as follows (with reference to the numbers used in the figure):

1) A control channel is established between the STB and the IPTV-AS by the procedure described above with reference to Figure 1. At this point the STB is receiving content that is delivered by multicast.

2) The user decides to start the Time-Shift function due to an event taking place in the home requiring the user's full attention, such as the ringing of a door-bell, the arrival of an ordered pizza, or the imminent start of booked laundry time, etc. The STB generates a "Start Time-Shift" command and sends this over the control channel to the IPTV-AS. The exact procedure and syntax of the command is a matter between the STB and the IPTV-AS, and many different variants are possible. The IPTV-AS interprets the command before taking the appropriate action.

3) The IPTV-AS initiates recording of the currently viewed multicast channel. This is possible as the STB always reports which multicast channel it is

currently receiving after a channel change has occurred (not shown in the figure). A "Start Recording" command is sent from the IPTV-AS to the N-PVR system. The exact procedure and syntax of the command is a matter between the STB and the IPTV-AS, and many different variants are possible. The IPTV-AS acts as a gateway between the N-PVR system and the STB. This enables STB / IPTV-AS specific user interaction whilst allowing use by operators of many different types of N-PVR system. The adjustment of the required N-PVR procedures and protocols is handled by the IPTV-AS.

4) An indication that the Time-Shift has started is returned to the STB and optionally displayed to the user. The multicast channel may or may not continue to be delivered to the STB after the Time-Shift has started. This is a deployment option.

5) When the user is ready to resume viewing of the time-shifted content, he initiates the Chase Play function and a "Start Chase Play" command is sent from the STB to the IPTV-AS over the control channel. The exact procedure and syntax of the command is a matter between the STB and the IPTV-AS, and many different variants are possible. The IPTV-AS acts as a gateway between the N-PVR system and the STB. This enables STB / IPTV-AS specific user interaction whilst allowing use by operators of many different types of N-PVR system. The adjustment of the required N-PVR procedures and protocols is handled by the IPTV-AS. RTSP is used in the sequence by way of example but the invention is not limited to the use of RTSP.

6) The IPTV-AS sends a SIP INVITE message in the same SIP session as the "Start Chase Play" command that is associated with the control channel. The SIP Re-Invite message is a request to establish a unicast channel that will be used to deliver the recorded (time-shifted) content stored in the N-PVR system. As a result the content delivery changes from multicast to unicast delivery with IMS being used to effect this change.

7-8) The SIP INVITE message is transmitted over the ISC and the Multimedia Telephony (MMTEL) AS, MMTel being used as the IMS Communication Service for IPTV in this case, thus resulting in the invocation of the MMTel AS over the ISC. It should however be noted that the method will work with other IMS Communication Services and is not limited to MMTel, MMTel being given merely by way of example. The MMTel AS may invoke supplementary services, such as restriction on the number of concurrent unicast deliveries, but this is not included in the sequence.

9-10) The SIP INVITE message is sent to the STB which acknowledges the request with a 200 OK response to accept the unicast channel invitation.

10, 11) The 200 OK response is sent along the SIP session path to the IPTV-AS.

12) The IPTV AS initiates playback of the recorded content by means of a "Play" command to the N-PVR system. The IPTV-AS acts as a gateway between the Network PVR system and the STB. This enables STB / IPTV-AS specific user interaction whilst allowing use by operators of many different types of N-PVR system. The adjustment of the required N-PVR procedures and protocols is handled by the IPTV-AS. RTSP is used as an example in the sequence but the invention is not limited to RTSP.

13) Unicast delivery is started.

Incoming Call Notification

This sequence describes how an Incoming Call Notification on a TV-screen and user determined call handling can be implemented for IMS calls to the STB/TV. The call is established to the STB/TV in this scenario, and the STB/TV is also used to notify a user of an incoming call and to allow the user to specify how the call shall be handled. The procedure, as schematically indicated in Figure 3, is as follows (with reference to the numbers used in the figure):

1) A control channel is established between the STB and the IPTV-AS by the procedure described above with reference to Figure 1. At this point the STB is receiving content that is delivered by multicast.

2) The I-CSCF in the called subscriber's network (the STB's network) receives a SIP INVITE message from the same IMS network or another IMS network, or from an IMS gateway to another network (e.g. ISDN/PSTN). The I-CSCF returns a 100 Trying response to the sender of the SIP Invite message to stop periodic retransmission of the same SIP INVITE message.

3) I-CSCF uses a Diameter LIR (Location Information Request) to obtain the called subscriber's S-CSCF address and the HSS returns this address in the LIA (Location Information Answer).

4) The SIP INVITE message is sent to the called subscriber's S-CSCF (100 trying response returned by the S-CSCF).

5) The trigger criteria for the called subscriber are stored by the S-CSCF. This IFC contains information about which AS's are to be invoked over the ISC interface. This example shows an incoming call for the MMTel IMS communication service and the MMTel AS is invoked over the ISC. The MMTel AS may invoke supplementary services, such as barring or forwarding of incoming sessions, but this is not included in the sequence.

6) The MMTel AS exposes enabling services towards other AS's to allow these to affect the session set up. The IPTV AS has subscribed to the incoming call event from the MMTel AS, and the service definition of the exposed services is based on the Parlay-X Web Service definitions for Call Control. A Parlay-X "Handle Called Number Request" is sent to the IPTV-AS. It should be noted that a Parlay-X service can also be exposed by an OSA(Open Service Access)/Parlay(-X) gateway that is connected over the ISC (IMS Service Control) interface in the same way as an IMS (IP Multimedia Subsystem) AS. It

should further be noted that the IPTV-AS can be connected over the ISC in series with the MMTel AS to perform the Call Notification procedures described below. Whilst this description only refers to the alternative where the Parlay-X Call Control service is exposed by the MMTel AS, it will be appreciated that the invention is not limited to this.

7) An "Incoming Call Notification" command is sent from the IPTV-AS to the STB over the control channel. The exact procedure and syntax of the command is a matter between the STB and the IPTV-AS, and many different variants are possible. The user is given a number of call handling options, such as:

- allow call to STB/TV
- forward call to voice-mail (multimedia mail)
- forward call to another number

The user's choice is returned by the STB to the IPTV-AS. In the following it is assumed that the user chooses to allow the call.

8) The IPTV-AS returns a Parlay-X "Handle Called Number Response" to the MMTel AS with information specifying that the call set up may proceed to the STB.

9) The S-CSCF receives the SIP Invite message from the MMTel AS (MMTel works as a B2BUA in this example). An S-CSCF may perform forking for the contacts registered for one particular Public User Identity (PUI). The STB has a unique PUI in this example and no other SIP UA is allowed to register as a contact for the STB's PUI. The STB may however register as a contact for other user assigned PUIs, and this allows a mobile phone and the STB to register as possible contacts for one particular PUI for example.

10, 11, 12 13) The SIP Invite message is sent to the STB and the STB returns a 180 Ringing response which is relayed along the SIP path.

14, 15, 16, 17) A 200 OK response from the STB indicates that the session has been accepted and that the media plane can be established.

18) The media plane for speech is established and the call proceeds.

PSTN/ISDN Incoming Call Notification

This sequence describes how an Incoming Call Notification on a TV-screen and user determined call handling can be implemented for PSTN/ISDN phones in the home. It should be noted that the call is not established to the STB/TV in this scenario. The STB/TV is only used to notify a user of an incoming call and to allow the user to specify how the call shall be handled. The procedure, as schematically indicated in Figure 4, is as follows (with reference to the numbers used in the figure):

1) A control channel is established between the STB and the IPTV-AS by the procedure described above with reference to Figure 1. At this point the STB is receiving content that is delivered by multicast.

2, 3) An SSF (Service Switching Function) in the called subscriber's network receives an ISUP(ISDN User Part) IAM (Initial Address Message). This triggers the SSF to contact a Service Control Point (SCP) in an IN (Intelligent Network) architecture.
An OSA/Parlay GW (Gateway) plays the role of an SCP towards the SSF, but allows AS's to take the real decisions on how to handle calls. Many different variants on INAP protocols exist, e.g. CS1, CS2, CAP, etc. This description is given with reference to an IDP (Initial Detection Point) operation invocation which can be found in CAP (CAMEL Application Part), although it will be appreciated that the invention is not limited to this particular type of INAP (Intelligent Network Application Part).

4) The IDP is translated into the Parlay-X Web service definition for Call Control. A Parlay-X "Handle Called Number Request" is sent to the IPTV-AS. This is the same message that was sent in the previous sequence from the MMTel IMS AS to the IPTV AS, and enables the IPTV AS to have a common call handling interface for IMS and PSTN/ISDN calls. It should be noted that the

IPTV-AS can also be connected as an SCP (Service Control Point) via INAP. This description refers only to the alternative where the Parlay-X Call Control service is used, but the invention is not limited to this.

5) An "Incoming Call Notification" command is sent from the IPTV-AS to the STB over the control channel. The exact procedure and syntax of the command is a matter between the STB and the IPTV-AS, and many different variants are possible. The user is given a number of call handling options, such as:

- allow call to STB/TV
- forward call to voice-mail (multimedia mail)
- forward call to another number

The user's choice is returned by the STB to the IPTV-AS. In the following it is assumed that the user chooses to allow the call.

6) The IPTV-AS returns a Parlay-X "Handle Called Number Response" to the MMTel AS with information specifying that the call set up to the PSTN/ISDN phone may proceed.

7) The OSA/Parlay GW returns the appropriate INAP message to the SSF, e.g. a Continue operation invocation.

8) The SSF sends an ISUP IAM message to the Local Exchange that the user's PSTN/ISDN phone is connected to.

9) A Q.931 ISDN Set-up message is sent to the ISDN phone (only ISDN shown from now on), and is acknowledged by a Call Confirmed message.

10, 11) An ISUP ACM (Address Complete Message) message is sent from the Local Exchange to the SSF (Service Switching Function) and onwards.

12, 13, 14) An alert is forwarded in ISUP CPG (Call Progress).

15, 16, 17) An Answer message is translated into an ISUP ANM (Answer Message).

18) The ISDN/PSTN call is established.

Extended Incoming Call Scenario with Time-shift

This sequence extends the Incoming Call Notification sequence with Time-Shift functionality. The procedure, as schematically indicated in Figure 5, is as follows (with reference to the numbers used in the figure):

1) A control channel is established between the STB and the IPTV-AS by the procedure described above with reference to Figure 1. At this point the STB is receiving content that is delivered by multicast.

2) The I-CSCF in the called subscriber's network (the STB's network) receives a SIP Invite message from the same IMS network or another IMS network, or from an IMS gateway to another network (e.g. ISDN/PSTN). The I-CSCF returns a 100 Trying response to the sender of the SIP Invite message to stop periodic retransmission of the same SIP Invite message.

3) I-CSCF uses a Diameter LIR (Location Information Request) to obtain the called subscriber's S-CSCF address and the HSS returns this address in the LIA (Location Information Answer).

4) The SIP INVITE message is sent to the called subscriber's S-CSCF (100 trying response returned by the S-CSCF).

5) The trigger criteria for the called subscriber are stored by the S-CSCF. This IFC contains information about which AS's that are to be invoked over the ISC interface. This example shows an incoming call for the MMTel IMS communication service and the MMTel AS is invoked over the ISC. The MMTel AS may invoke supplementary services such as barring or forwarding of incoming sessions, but this is not included in the sequence.

6) The MMTel AS exposes enabling services towards other AS's to allow these to affect the session set up. The IPTV AS has subscribed to the incoming call event from the MMTel AS, and the service definition of the exposed services is based on the Parlay-X Web Service definitions for Call Control. A Parlay-X "Handle Called Number Request" is sent to the IPTV-AS. It should be noted that a Parlay-X service can also be exposed by an OSA/Parlay(-X) gateway (OSA = Open Service Access) that is connected over the ISC (IMS Service Control) interface in the same way as an IMS-AS. It should further be noted that the IPTV-AS can be connected over the ISC in series with the MMTel AS to perform the Call Notification procedures described below. Whilst this description only refers to the alternative where the Parlay-X Call Control service is exposed by the MMTel AS, it will be appreciated that the invention is not limited to this.

7) An "Incoming Call Notification" command is sent from the IPTV-AS to the STB over the control channel. The exact procedure and syntax of the command is a matter between the STB and the IPTV, and many different variants are possible. The user is given a number of call handling options, such as:

- allow call to STB/TV
- forward call to voice-mail (multimedia mail)
- forward call to another number
- allow call and start Time-Shift

The user's choice is returned by the STB to the IPTV-AS. In this example the user chooses to allow the call and to start Time-Shift.

8) The IPTV-AS initiates recording of the currently viewed multicast channel. This is possible since the STB always reports which multicast channel it is currently receiving after a channel change (not shown in the sequences). A "Start Recording" command is sent from the IPTV-AS to the N-PVR system. The IPTV-AS acts as a gateway between the Network PVR system and the STB. This enables STB / IPTV-AS specific user interaction whilst allowing use

by operators of many different types of N-PVR system. The adjustment of the required N-PVR procedures and protocols is handled by the IPTV-AS.

9) The IPTV-AS returns a Parlay-X "Handle Called Number Response" to the MMTel AS with information specifying that the call set up may proceed to the STB. The S-CSCF receives the SIP INVITE message from the MMTel AS (MMTel works as a B2BUA in this example). An S-CSCF may perform forking for the contacts registered for one particular Public User Identity. The STB has a unique PUI in this example and no other SIP UA is allowed to register as a contact for the STB's PUI. The STB may however register as a contact for other user assigned PUIs, and this allows a mobile phone and the STB to register as possible contacts for one particular PUI for example.

10, 11, 12 13) The SIP INVITE message is sent to the STB and the STB returns a 180 Ringing response which is relayed along the SIP path.

14, 15, 16, 17) A 200 OK response from the STB indicates that the session has been accepted and that the media plane can be established.

18) The media plane for speech is established and the call proceeds.

19) When the user is ready to resume viewing of the time-shifted content, he initiates the Chase Play function.

20) A "Start Chase Play" command is sent from the STB to the IPTV-AS over the control channel. The exact procedure and syntax of the command is a matter between the STB and the IPTV-AS, and many different variants are possible. The IPTV-AS acts as a gateway between the Network PVR system and the STB. This enables STB / IPTV-AS specific user interaction whilst allowing use by operators of many different types of N-PVR system. The adjustment of the required N-PVR procedures and protocols is handled by the IPTV-AS. RTSP is used as an example in the sequence but the invention is not limited to RTSP.

21) The IPTV-AS sends a SIP INVITE message on the same SIP session that is associated with the control channel. The SIP INVITE message is a request to establish a unicast channel that will be used to deliver the recorded (time-shifted) content stored in the N-PVR system. As a result the content delivery changes from multicast to unicast with the IMS being used to effect this change.

22, 23) The SIP INVITE message is transmitted over the ISC and the MMTEL AS.

24, 25) The SIP INVITE message is sent to the STB which acknowledges the request with a 200 OK response to accept the unicast channel invitation.

26) The IPTV AS initiates playback of the recorded content by means of a "Play" command to the N-PVR system. The IPTV-AS acts as a gateway between the Network PVR system and the STB. This enables STB / IPTV-AS specific user interaction whilst allowing use by operators of many different types of N-PVR system. The adjustment of the required N-PVR procedures and protocols is handled by the IPTV-AS. RTSP is used as an example in the sequence but the invention is not limited to RTSP.

27) Unicast delivery is started.

Event Triggered Time-Shift

This sequence is an example of how operators can use the control channel to deliver personalized information services combined with the Time-Shift function described previously. This solution makes it possible to combine IPTV Service, IMS Communication Services and Personalized Information Services and enables the network to take an active role in IPTV delivery and operators to offer personalized Triple-Play service offerings. The procedure, as schematically indicated in Figure 7, is as follows (with reference to the numbers used in the figure):

1) A control channel is established between the STB and the IPTV-AS by the procedure described above with reference to Figure 1. At this point the STB is receiving content that is delivered by multicast.

2, 3) Two user subscribed-to information events are delivered to the IPTV-AS. The procedure for subscribing to the events is not shown in the sequence but can be implemented over the control channel.

4) The first event reporting lottery results is delivered to the STB over the control channel, and the results are displayed by the STB. The user may start the Time-Shift function if so desired, but this is not shown.

5) A notification is sent over the control channel specifying that a recorded football goal is available. The subscribed-to event may for example be goals occurring in a particular football game. When presented with this information, the user can choose to watch the goal and start the Time Shift for the channel that he is currently watching.

6) As a result the IPTV-AS initiates recording of the currently viewed multicast channel. This is possible as the STB always reports which multicast channel it is currently receiving after a channel change has occurred (not shown in the figure).

7) The IPTV-AS sends a SIP INVITE message in the same SIP session as that of the notification sent over the control channel. The SIP INVITE message is a request to establish a unicast channel that will be used to deliver the football goal stored in the N-PVR2 system.

8,9) The SIP INVITE message is transmitted over the ISC and the MMTEL AS. MMTel is used as the IMS Communication Service for IPTV in this method, thus resulting in the invocation of the MMTel AS over the ISC.

10, 11) The SIP INVITE message is sent to the STB which acknowledges the request with a 200 OK response to accept the unicast channel invitation.

12) The IPTV AS initiates playback of the recorded goal by means of a "Play" command to the N-PVR system. The IPTV-AS acts as a gateway between a N-PVR system and the STB.

13) Unicast delivery of the goal is started.

14) When the user is ready to resume viewing of the time-shifted content, he initiates the Chase Play function.

15) A "Start Chase Play" command is sent from the STB to the IPTV-AS over the control channel. The exact procedure and syntax of the command is a matter between the STB and the IPTV-AS, and many different variants are possible.

16) The IPTV-AS sends a SIP INVITE message in the same SIP session as that of the "Start Chase Play" command sent over the control channel. The SIP INVITE message is a request to establish a unicast channel that will be used to deliver the recorded (time-shifted) content stored in the N-PVR1 system.

17) The SIP INVITE message is transmitted over the ISC and the MMTEL AS.

18, 19 20) The SIP INVITE message is sent to the STB which acknowledges the request with a 200 OK response to accept the unicast channel invitation.

21) The IPTV AS initiates playback of the recorded content by means of a "Play" command to the N-PVR1 system.

22) Unicast delivery of the originally viewed program is started

The above described IMS based method for switching between multicast and unicast delivery of content relies on the IPTV-AS acting as a gateway between the Network PVR system and the STB's so that the network takes an active role in IPTV delivery and permits operators to offer a personalized Triple-Play service. By limiting the amount of content transmitted over the first mile of a broadband connection this frees up available bandwidth for use by other services.

It will be appreciated by the persons skilled in the art that various modifications may be made to the embodiment described above without departing from the scope of the present invention.

CLAIMS:

1. A method of time-shifting and chase-play for an IPTV system, the method comprising:

establishing a control channel between the originating user and a selected IPTV Application Server (IPTV-AS);

sending a start time-shift command to the IPTV-AS over the control channel;

sending a start recording command from the IPTV-AS to a Network PVR system to initiate recording of current multicast content;

when the user is ready to resume viewing of the time-shifted content, sending a start chase-play command to the IPTV-AS over the control channel to establish a unicast channel for playback of the time-shifted content; and

sending a playback command from the IPTV-AS to the Network PVR system to initiate playback of the time-shifted content over the unicast channel.

2. A method according to claim 1, wherein the control channel is set up using standard IMS procedures.

3. A method according to claim 1 or 2, wherein an indication that recording has been started is returned from the IPTV-AS to the originating user.

4. A method according to any one of the preceding claims, wherein a SIP INVITE message is sent from the IPTV-AS to establish the unicast channel for playback of the time-shifted content.

5. A method according to any one of the preceding claims, wherein a SIP INVITE message is sent from the IPTV-AS to the originating user to provide notification of an incoming call.

6. A method according to claim 5, wherein a user decision instruction for handling the incoming call is sent by the originating user to the IPTV-AS.

7. A method according to claim 6, wherein a media plane within the IPTV system is established for speech or multimedia communication in response to the user decision instruction.

8. A method according to claim 6, wherein a separate ISDN/PSTN channel is established for speech in response to the user decision instruction.

9. A method according to claim 6, 7 or 8, wherein the start recording command from the IPTV-AS to the Network PVR system is triggered in response to the user decision instruction.

10. A method according to any one of the preceding claims, wherein an indication that a subscribed-to event is available for viewing is sent from the IPTV-AS to the originating user, and the user is given the option of sending a start time-shift command to the IPTV-AS to initiate recording of current multicast content whilst the subscribed-to event is viewed.

11. A time-shifting and chase-play IPTV system, comprising:

channel control means for establishing a control channel between the originating user and a selected IPTV Application Server (AS);

start time-shift means for sending a start time-shift command to the IPTV-AS over the control channel;

start recording means for sending a start recording command from the IPTV-AS to a Network PVR system to initiate recording of current multicast content;

start chase-play means for sending a start chase-play command to the IPTV-AS over the control channel when the user is ready to resume viewing of the time-shifted content, to establish a unicast channel for playback of the time-shifted content; and

playback means for sending a playback command from the IPTV-AS to the Network PVR system to initiate playback of the time-shifted content over the unicast channel.

12. Computer program code for carrying out the method of any of claims 1 to 10.

Figure 1

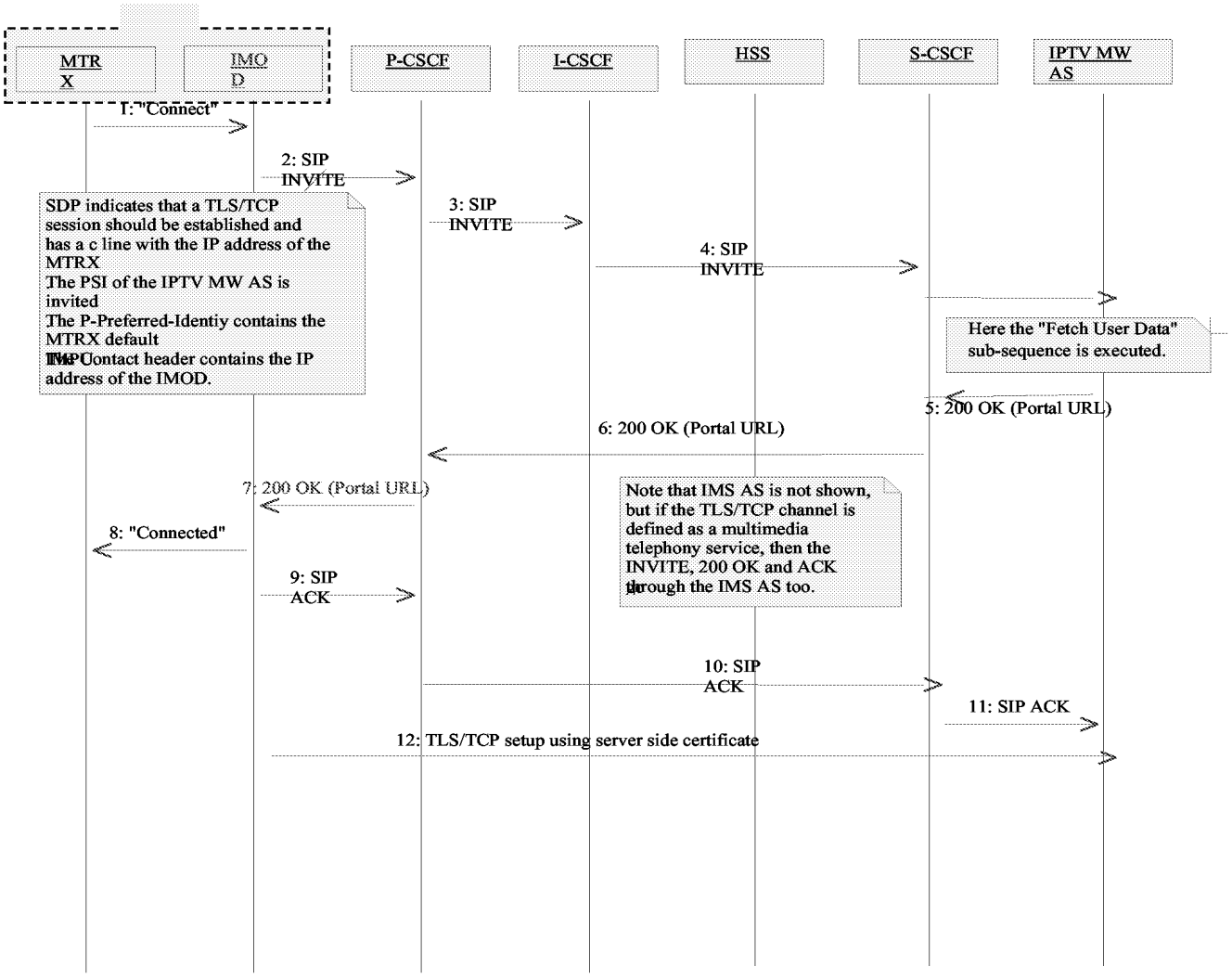

MTR X
IMO D
P-CSCF
I-CSCF
HSS
S-CSCF
IPTV MW AS
1: "Connect"
2: SIP INVITE
3: SIP INVITE
4: SIP INVITE
SDP indicates that a TLS/TCP session should be established and has a c line with the IP address of the MTRX
The PSI of the IPTV MW AS is invited
The P-Preferred-Identiy contains the MTRX default
The Contact header contains the IP address of the IMOD.
Here the "Fetch User Data" sub-sequence is executed.
5: 200 OK (Portal URL)
6: 200 OK (Portal URL)
7: 200 OK (Portal URL)
Note that IMS AS is not shown, but if the TLS/TCP channel is defined as a multimedia telephony service, then the INVITE, 200 OK and ACK through the IMS AS too.
8: "Connected"
9: SIP ACK
10: SIP ACK
11: SIP ACK
12: TLS/TCP setup using server side certificate

Figure 2

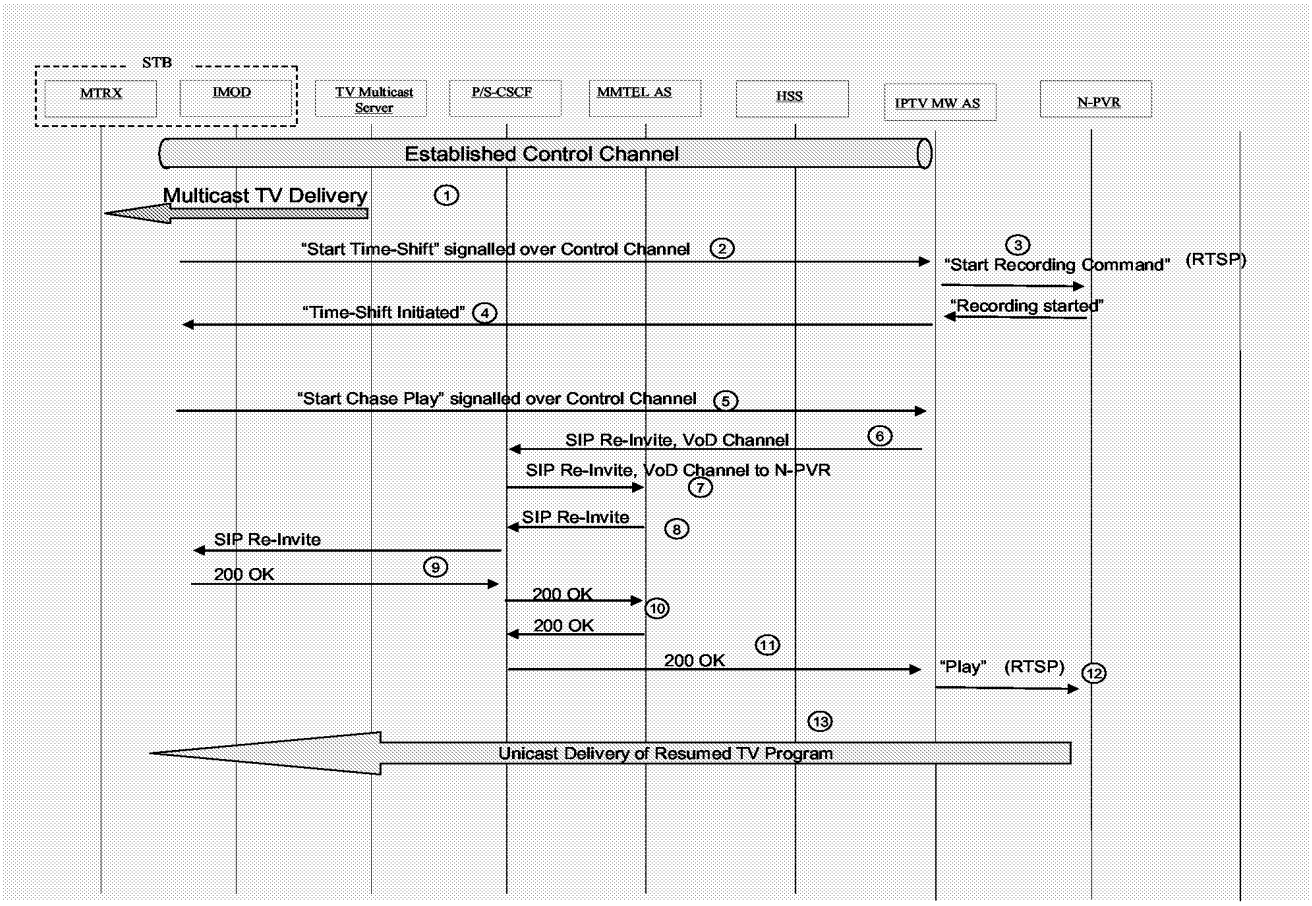

STB
MTRX
IMOD
TV Multicast Server
P/S-CSCF
MMTEL AS
HSS
IPTV MW AS
N-PVR
Established Control Channel
Multicast TV Delivery
1
"Start Time-Shift" signalled over Control Channel
2
3
"Start Recording Command" (RTSP)
"Recording started"
"Time-Shift Initiated"
4
"Start Chase Play" signalled over Control Channel
5
SIP Re-Invite, VoD Channel
6
SIP Re-Invite, VoD Channel to N-PVR
7
SIP Re-Invite
8
SIP Re-Invite
200 OK
9
200 OK
10
200 OK
11
200 OK
"Play" (RTSP)
12
13
Unicast Delivery of Resumed TV Program

Figure 3

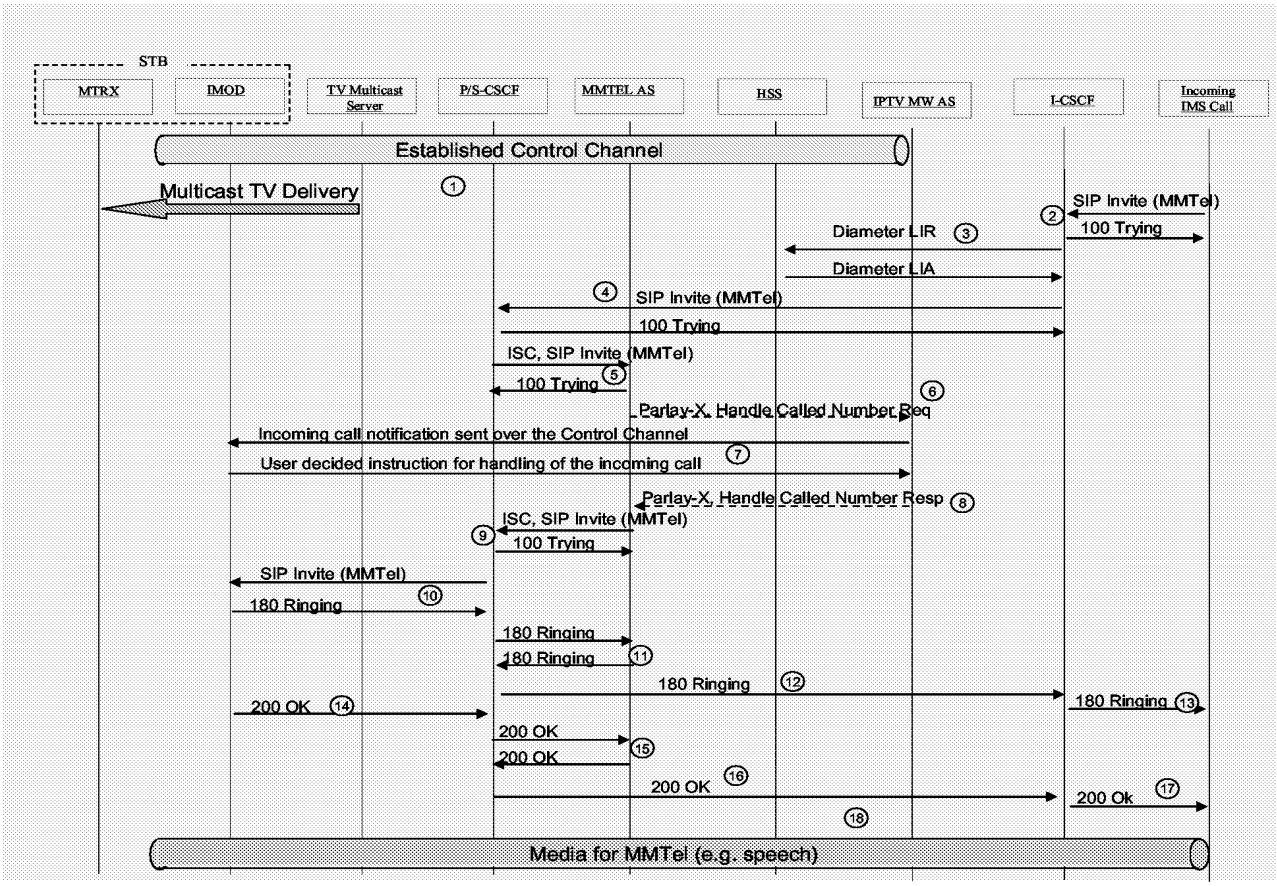

STB
MTRX
IMOD
TV Multicast Server
P/S-CSCF
MMTEL AS
HSS
IPTV MW AS
I-CSCF
Incoming IMS Call
Established Control Channel
1
Multicast TV Delivery
2
SIP Invite (MMTel)
100 Trying
3
Diameter LIR
Diameter LIA
4
SIP Invite (MMTel)
100 Trying
ISC, SIP Invite (MMTel)
5
100 Trying
6
Parlay-X, Handle Called Number Req
Incoming call notification sent over the Control Channel
7
User decided instruction for handling of the incoming call
Parlay-X, Handle Called Number Resp
8
ISC, SIP Invite (MMTel)
9
100 Trying
SIP Invite (MMTel)
10
180 Ringing
180 Ringing
11
180 Ringing
12
180 Ringing
13
200 OK
14
200 OK
15
200 OK
16
200 OK
200 Ok
17
18
Media for MMTel (e.g. speech)

Figure 4

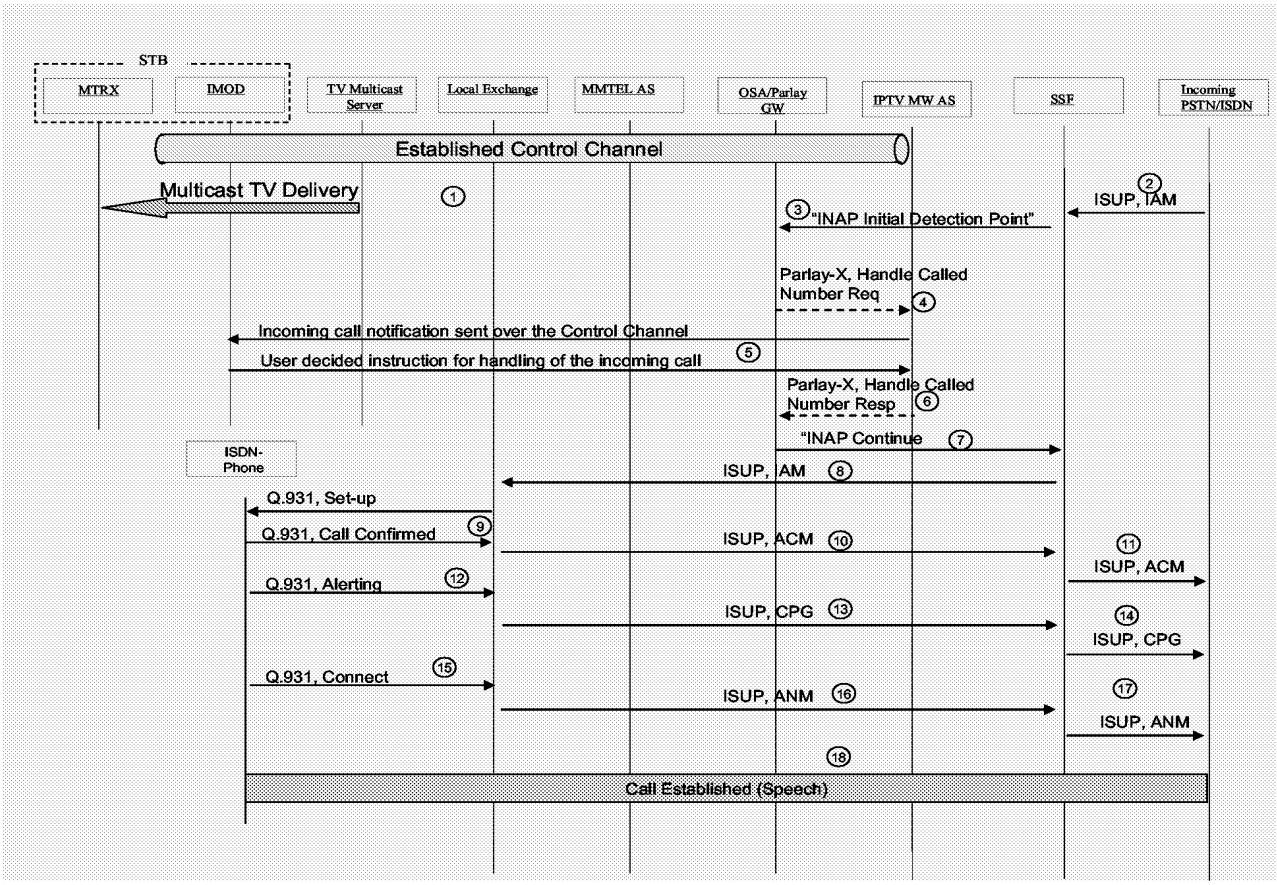
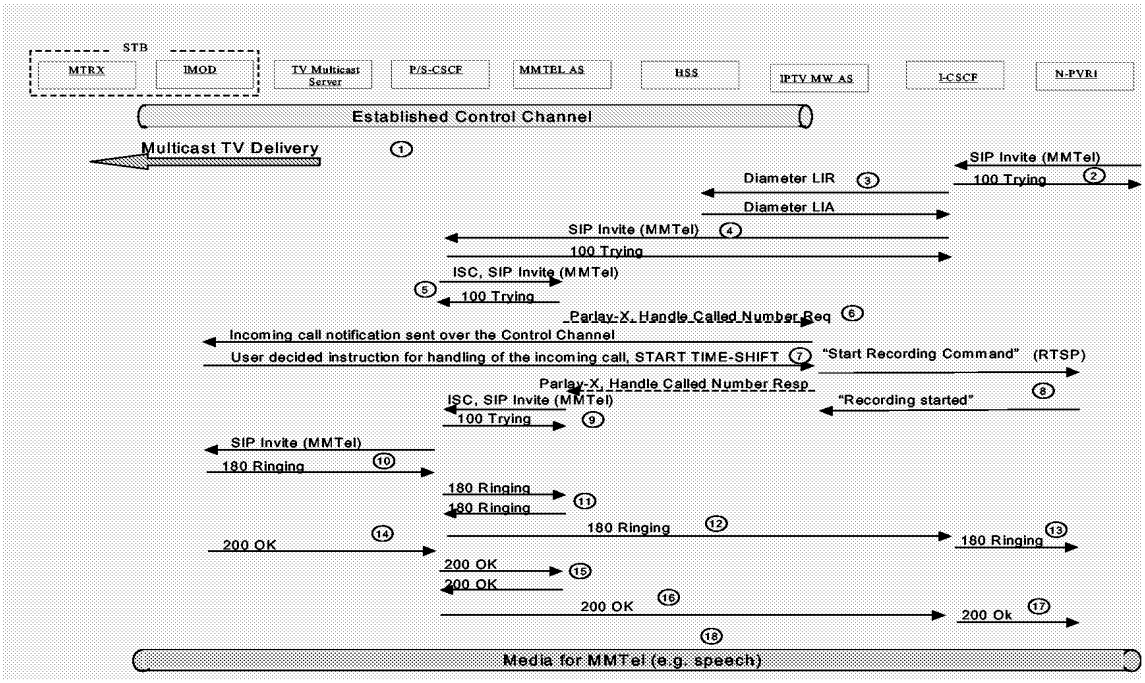

STB
MTRX
IMOD
TV Multicast Server
Local Exchange
MMTEL AS
OSA/Parlay GW
IPTV MW AS
SSF
Incoming PSTN/ISDN
Established Control Channel
Multicast TV Delivery
1
2
ISUP, IAM
3
"INAP Initial Detection Point"
Parlay-X, Handle Called Number Req
4
Incoming call notification sent over the Control Channel
User decided instruction for handling of the incoming call
5
Parlay-X, Handle Called Number Resp
6
"INAP Continue
7
ISDN-Phone
ISUP, AM
8
Q.931, Set-up
Q.931, Call Confirmed
9
ISUP, ACM
10
11
ISUP, ACM
Q.931, Alerting
12
ISUP, CPG
13
14
ISUP, CPG
Q.931, Connect
15
ISUP, ANM
16
17
ISUP, ANM
18
Call Established (Speech)

Figure 5


STB
MTRX
IMOD
TV Multicast Server
P/S-CSCF
MMTEL AS
HSS
IPTV MW AS
I-CSCF
N-PVRI
Established Control Channel
Multicast TV Delivery
1
SIP Invite (MMTel)
100 Trying
2
Diameter LIR
3
Diameter LIA
SIP Invite (MMTel)
4
100 Trying
ISC, SIP Invite (MMTel)
5
100 Trying
Parlay-X, Handle Called Number Req
6
Incoming call notification sent over the Control Channel
User decided instruction for handling of the incoming call, START TIME-SHIFT
7
"Start Recording Command" (RTSP)
Parlay-X, Handle Called Number Resp
8
"Recording started"
ISC, SIP Invite (MMTel)
100 Trying
9
SIP Invite (MMTel)
180 Ringing
10
180 Ringing
180 Ringing
11
180 Ringing
12
180 Ringing
13
200 OK
14
200 OK
15
200 OK
200 OK
16
200 Ok
17
18
Media for MMTel (e.g. speech)

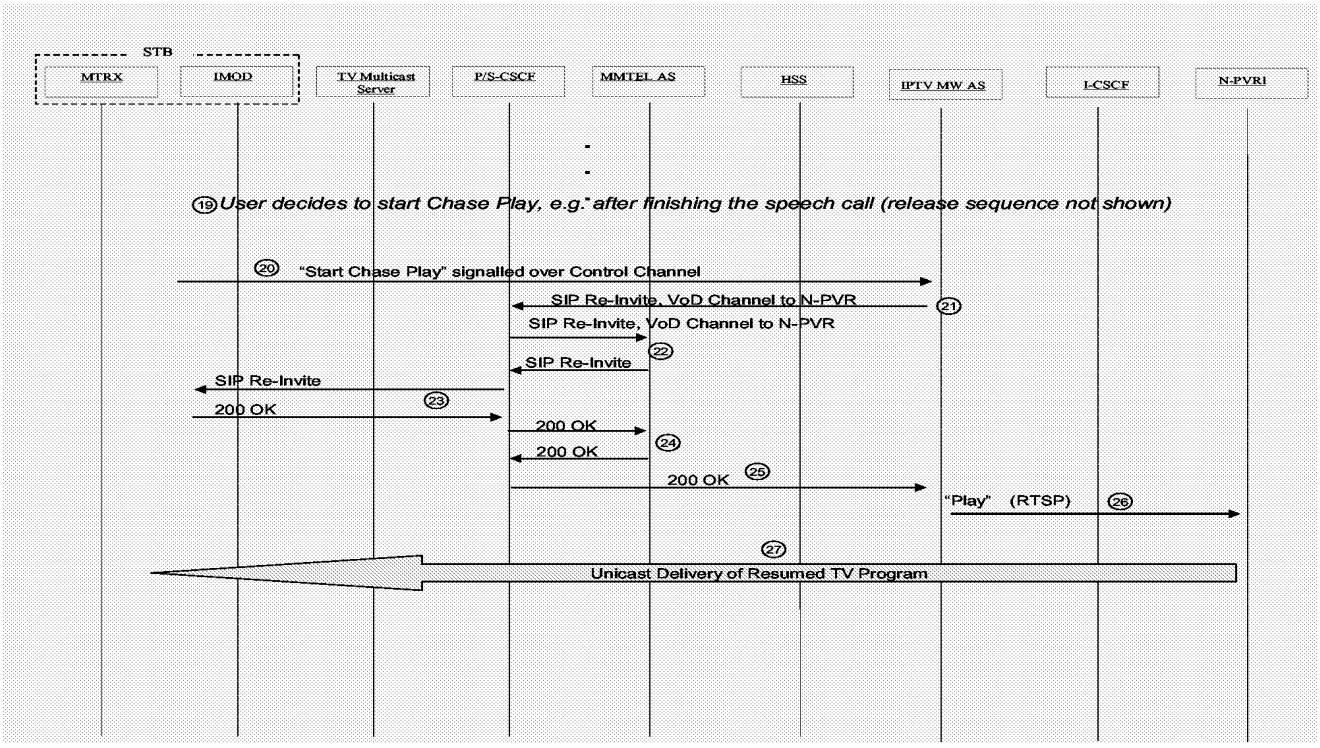
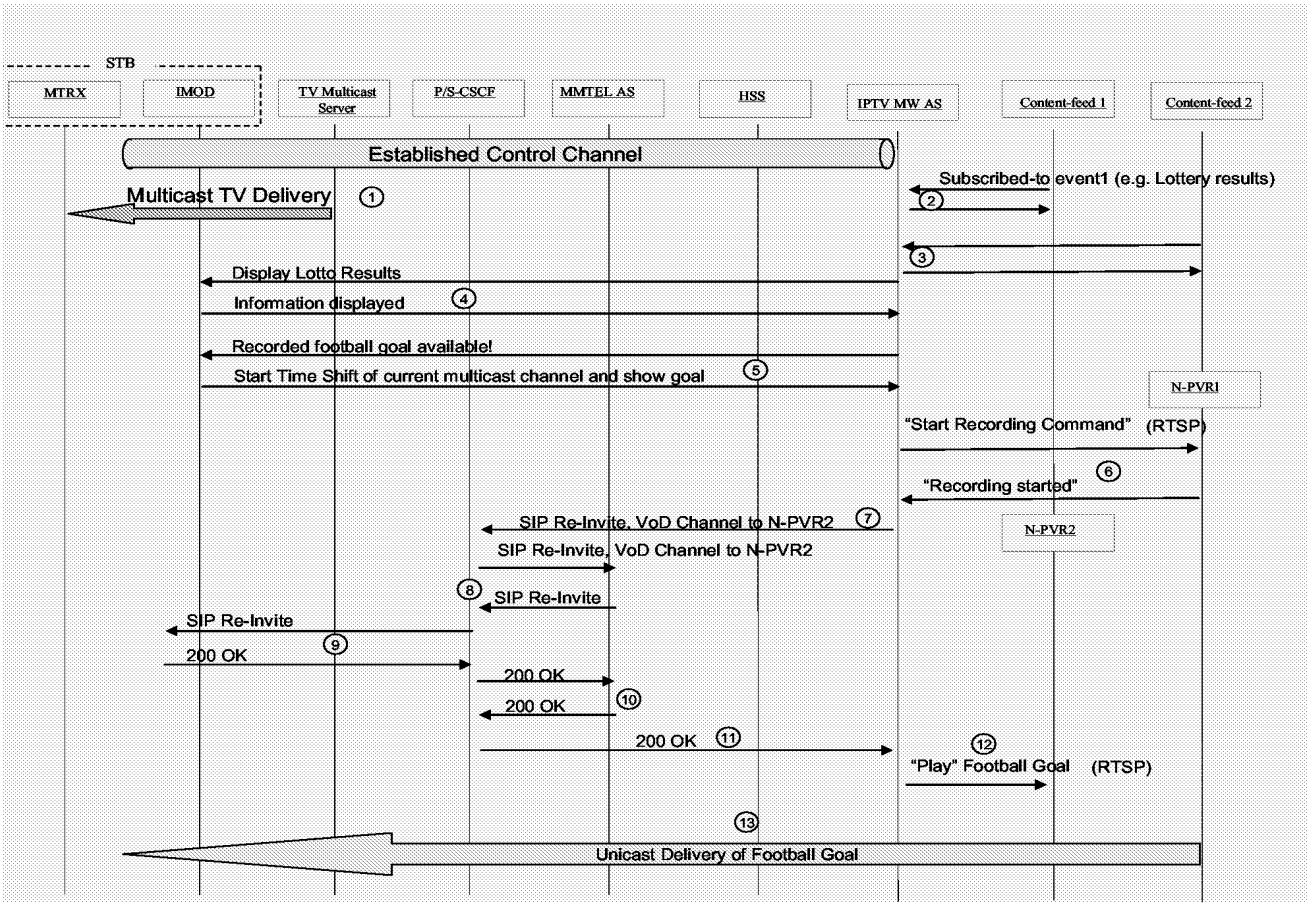

STB
MTRX
IMOD
TV Multicast Server
P/S-CSCF
MMTEL AS
HSS
IPTV MW AS
I-CSCF
N-PVRI
19 User decides to start Chase Play, e.g. after finishing the speech call (release sequence not shown)
20
"Start Chase Play" signalled over Control Channel
SIP Re-Invite, VoD Channel to N-PVR
21
SIP Re-Invite, VoD Channel to N-PVR
22
SIP Re-Invite
SIP Re-Invite
23
200 OK
200 OK
24
200 OK
200 OK
25
"Play" (RTSP)
26
27
Unicast Delivery of Resumed TV Program

Figure 6


STB
MTRX
IMOD
TV Multicast Server
P/S-CSCF
MMTEL AS
HSS
IPTV MW AS
Content-feed 1
Content-feed 2
Established Control Channel
Multicast TV Delivery
1
Subscribed-to event1 (e.g. Lottery results)
2
3
Display Lotto Results
Information displayed
4
Recorded football goal available!
Start Time Shift of current multicast channel and show goal
5
N-PVR1
"Start Recording Command" (RTSP)
6
"Recording started"
SIP Re-Invite, VoD Channel to N-PVR2
7
N-PVR2
SIP Re-Invite, VoD Channel to N-PVR2
8
SIP Re-Invite
SIP Re-Invite
9
200 OK
200 OK
200 OK
10
200 OK
11
12
"Play" Football Goal (RTSP)
13
Unicast Delivery of Football Goal

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2006/060530

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04N7/24 H04N7/173

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 2005/183120 A1 (JAIN SAURABH ET AL) 18 August 2005 (2005-08-18) abstract paragraphs [0008] - [0021] paragraphs [0035] - [0089] figures 1-10	1-4, 10-12 5-9
Y A	US 6 882 709 B1 (SHERLOCK PETER ET AL) 19 April 2005 (2005-04-19) abstract column 6, lines 23-36 figures 1-6	5-9 1-4, 10-12

-/--

[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
8 November 2006	23/11/2006

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	MARZAL-ABARCA, X

Form PCT/ISA/210 (second sheet) (April 2005)

Samsung Ex. 1012, Page 135 of 691

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	MAGEDANZ T ET AL: "The IMS Playground @ Fokus - An Open Testebed for Next Generation Network Multimedia Services" TESTBEDS AND RESEARCH INFRASTRUCTURES FOR THE DEVELOPMENT OF NETWORKS AND COMMUNITIES, 2005. TRIDENTCOM 2004. FIRST INTERNATIONAL CONFERENCE ON TRENTO, ITALY 23-25 FEB. 2005, PISCATAWAY, NJ, USA,IEEE, 23 February 2005 (2005-02-23), pages 2-11, XP010774253 ISBN: 0-7695-2219-X the whole document	1-4, 10-12
A	FENG LIU ET AL: "An approach of integrating sip in converged multimodal/multimedia communication services" COMPUTER COMMUNICATIONS AND NETWORKS, 2003. ICCCN 2003. PROCEEDINGS. THE 12TH INTERNATIONAL CONFERENCE ON DALLAS, TX, USA 20-22 OCT. 2003, PISCATAWAY, NJ, USA,IEEE, 20 October 2003 (2003-10-20), pages 137-142, XP010695709 ISBN: 0-7803-7945-4 Section 2.1 Multimedia Technology Integration Platform Section 2.2 Integrating SIP with MTIP	1-4, 10-12
A	FRANZ R ED - INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS: "Control architecture for voice/data convergence" ICC 2001. 2001 IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS. CONFERENCE RECORD. HELSINKY, FINLAND, JUNE 11 - 14, 2001, IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS, NEW YORK, NY : IEEE, US, vol. VOL. 1 OF 10, 11 June 2001 (2001-06-11), pages 758-762, XP010553104 ISBN: 0-7803-7097-1 the whole document	1-4, 10-12
A	J-F REY ET AL: "SIP Technology in the Enterprise: SIP technology will be the next step in IP telephony, bringing new Internet telephony services to enterprise users" ALCATEL TELECOMMUNICATIONS REVIEW, ALCATEL, PARIS CEDEX, FR, October 2002 (2002-10), XP007005899 ISSN: 1267-7167 the whole document	1-4, 10-12

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2006/060530

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. [X] As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

[X] The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-4,10,11,12

Time-shifting and chase-play for an IPTV system.

2. claims: 5-9

Voice call handling

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2006/060530

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2005183120 A1	18-08-2005	NONE	
US 6882709 B1	19-04-2005	NONE	

PUB-NO: WO2007101473A1
DOCUMENT-IDENTIFIER: WO 2007101473 A1
TITLE: TIME-SHIFTING AND CHASE-PLAY FOR AN IPTV SYSTEM
PUBN-DATE: September 13, 2007

INVENTOR-INFORMATION:

NAME	COUNTRY
AASTROEM, BO	SE

ASSIGNEE-INFORMATION:

NAME	COUNTRY
ERICSSON TELEFON AB L M	SE
AASTROEM BO	SE

APPL-NO: EP2006060530
APPL-DATE: March 7, 2006

PRIORITY-DATA: EP2006060530W (March 7, 2006)

INT-CL (IPC): H04N005/00

EUR-CL (EPC): H04N005/00

US-CL-CURRENT: 348/E5.008 , 348/E7.071

ABSTRACT:

Time-shifting and chase-play is provided for an IPTV system, utilising a control channel established between the originating user and a selected IPTV Application Server (IPTV-AS). When time shifting of the IPTV content is required, for example due to receipt of a telephone call, a start time-shift command is sent to the IPTV-AS over the control channel. A start recording command is then sent from the IPTV-AS to a Network PVR system to initiate recording of the current multicast content. Subsequently, when the user is ready to resume viewing of the time-shifted content, a start chase-play command is sent to the IPTV-AS over the control channel to establish a unicast channel for playback of the time-shifted content; and a playback command is sent from the IPTV-AS to the Network PVR system to initiate playback of the time-shifted content over the unicast channel. Such a solution utilizes the standardized IMS communication system and its network architecture and a PVR residing in the Network to limit the traffic transmitted over the first mile connection to a home.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	36	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2016/10/06 10:40
L3	37	709/227.ccls. and (RTSP same SIP same (gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/10/06 10:40
L4	600	(RTSP and SIP and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/10/06 10:40
L5	416	L4 AND ((H04L65/1069 OR H04L65/1016 OR H04L65/80 OR H04L65/4084 OR H04L65/60 OR H04L65/608 OR H04L43/08 OR H04L47/14 OR H04L41/5009 OR H04L43/50 OR H04L47/20 OR H04L47/29 OR H04L65/1006 OR H04L65/4076 OR H04L65/4092 OR H04L65/602 OR H04L29/06027 OR H04L47/10 OR H04L63/0428 OR H04L63/0815 OR H04L63/166 OR H04L65/607 OR H04L67/025 OR H04L12/189 OR H04L12/5695 OR H04L41/00 OR H04L43/024 OR H04L43/04 OR H04L43/0864 OR H04L43/0876 OR H04L43/0888 OR H04L47/12 OR H04L47/22 OR H04L47/2433 OR H04L47/2458 OR H04L47/2483 OR H04L47/748 OR H04L47/808 OR H04L47/824 OR H04L51/38 OR H04L63/083 OR H04L63/0853 OR H04L63/102 OR H04L65/1043 OR H04L65/1083 OR H04L65/4007 OR H04L65/403 OR H04L65/4069 OR H04L67/02 OR H04L67/10 OR H04L67/14 OR H04L67/2823 OR H04L67/2842 OR H04L67/32 OR H04L69/08 OR H04L69/16 OR H04L69/161 OR H04L12/1407 OR H04L12/1435 OR H04L12/1492 OR H04L12/1818 OR H04L12/2896 OR H04L12/437 OR H04L12/6418 OR H04L12/66 OR H04L1/00 OR H04L2012/6486 OR H04L29/06 OR H04L29/06517 OR H04L29/08522 OR H04L29/12009 OR H04L29/12018 OR H04L29/12047 OR H04L41/0293 OR H04L41/046 OR H04L41/06 OR H04L41/0631 OR H04L41/0654 OR H04L41/142 OR H04L41/22 OR	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/10/06 10:40

		H04L41/5029 OR H04L41/5038 OR H04L41/5051 OR H04L41/5061 OR H04L41/509 OR H04L43/0811 OR H04L43/0829 OR H04L43/0852 OR H04L43/0858 OR H04L43/087 OR H04L43/0882 OR H04L43/10 OR H04L43/12 OR H04L43/16 OR H04L45/00 OR H04L45/02 OR H04L45/22 OR H04L45/308 OR H04L45/38 OR H04L45/44 OR H04L45/50 OR H04L47/2416 OR H04L47/245 OR H04L47/2475 OR H04L47/25 OR H04L47/263 OR H04L47/31 OR H04L49/3009 OR H04L5/0096 OR H04L61/10 OR H04L61/15 OR H04L61/1511 OR H04L61/2514 OR H04L63/02 OR H04L63/04 OR H04L63/08 OR H04L63/0884 OR H04L63/164 OR H04L63/205 OR H04L63/306 OR H04L65/00 OR H04L65/103 OR H04L65/104 OR H04L65/1046 OR H04L65/105 OR H04L65/1096 OR H04L65/4015 OR H04L65/601 OR H04L65/605 OR H04L67/1036 OR H04L67/104 OR H04L67/145 OR H04L67/146 OR H04L67/148 OR H04L67/22 OR H04L67/303 OR H04L67/306 OR H04L67/38 OR H04L67/42 OR H04L69/14 OR H04L9/3242).CPC.)				
S1	1	"20110010459".pn.	US-PGPUB	OR	OFF	2012/04/02 14:39
S2	1	("20060291472").PN.	US-PGPUB	OR	OFF	2012/04/02 15:03
S3	198	(Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)	US-PGPUB; USPAT	OR	OFF	2012/04/02 15:37
S4	49	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal)	US-PGPUB; USPAT	OR	OFF	2012/04/02 15:37
S5	10	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2012/04/02 15:37
S6	8	709/220.ccls. and (RTSP and SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/02 15:42
S7	4	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/02 15:55
S8	530	@ad<"20071221" and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 10:27
S9	47	@ad<"20071221" and (RTSP and SIP and gateway and IPTV)	US-PGPUB; USPAT; EPO; JPO; DERWENT;	OR	OFF	2012/04/03 10:27

			IBM_TDB			
S10	13	@ad<"20071221" and (RTSP and SIP and gateway and IPTV and bye)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 10:30
S11	15	@ad<"20071221" and (RTSP and SIP and gateway and IPTV and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 10:43
S12	13	@ad<"20071221" and (RTSP same SIP and gateway and IPTV and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:39
S13	715	@ad<"20071221" and (RTSP same SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:39
S14	168	@ad<"20071221" and (RTSP same SIP same (gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:40
S15	2	@ad<"20071221" and (RTSP same SIP same (gateway or proxy) same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:40
S16	36	@ad<"20071221" and (RTSP same SIP same (gateway or proxy) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:41
S17	789	(first adj protocol) and (second adj protocol) and (third adj protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:10
S18	615	@ad<"20071221" and (first adj protocol) and (second adj protocol) and (third adj protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:11
S19	0	@ad<"20071221" and ((first adj protocol) and (second adj protocol) and (third adj protocol) and SIP and RSTP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:11
S20	72	@ad<"20071221" and ((first adj protocol) and (second adj protocol) and (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:11
S21	26	SIP same RTSP same SMS	US-PGPUB; USPAT; EPO; JPO; DERWENT;	OR	OFF	2012/04/03 13:35

			IBM_TDB			
S22	62	709/227.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:37
S23	18	709/227.ccls. and (RTSP same SIP same (gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:39
S24	3	@ad<"20071221" and (RTSP same SIP same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:43
S25	33	@ad<"20071221" and (RTSP and SIP and gateway and ((peer adj peer) or P2P))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:39
S26	64	@ad<"20071221" and (((peer adj peer) or P2P) same (bi adj directional))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:40
S27	2	@ad<"20071221" and (((peer adj peer) or P2P) same (bi adj directional) same stream)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:40
S28	0	("2005/0135366").URPN.	USPAT	OR	OFF	2012/04/04 13:41
S29	12332	@ad<"20071221" and (interactive adj (television or TV))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:48
S30	140	@ad<"20071221" and ((interactive adj (television or TV)) same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:48
S31	4	@ad<"20071221" and ((interactive adj (television or TV)) same trigger same (bi adj directional))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:49
S32	328	@ad<"20071221" and ((interactive adj (television or TV)) same gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 14:58
S33	0	@ad<"20071221" and ((interactive adj (television or TV)) same gateway same resolv$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 14:59
S34	49	@ad<"20071221" and ((interactive adj	US-PGPUB;	OR	OFF	2012/04/04

		(television or TV)) same gateway and resolv$5)	USPAT; EPO; JPO; DERWENT; IBM_TDB			14:59
S35	125	@ad<"20071221" and (gateway same resolv$5 same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:00
S36	15	@ad<"20071221" and (gateway same resolv$5 same (identifier or ID) same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:00
S37	21	@ad<"20071221" and (gateway same resolv$5 same (identifier or ID) same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:02
S38	6784	@ad<"20071221" and ((bi adj directional) same buffer$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:23
S39	711	@ad<"20071221" and ((bi adj directional) same buffer$3 same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:23
S40	8	@ad<"20071221" and ((bi adj directional) same buffer$3 same (gateway or proxy) same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:24
S41	43	@ad<"20071221" and (("RTSP TEARDOWN") same server)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:36
S42	0	@ad<"20071221" and (("RTSP TEARDOWN") same peer)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:40
S43	0	@ad<"20071221" and (("RTSP TEARDOWN") same p2p)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:40
S44	7	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:27
S45	12	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2012/10/11 14:27
S46	3	@ad<"20071221" and (RTSP same SIP same trigger)	US-PGPUB; USPAT; EPO; JPO;	OR	OFF	2012/10/11 14:27

			DERWENT; IBM_TDB			
S47	126	@ad<"20071221" and (RTSP same SIP and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:27
S48	745	@ad<"20071221" and (RTSP same SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:35
S49	315	@ad<"20071221" and (RTSP same SIP same (server or gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:35
S50	3	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (SIP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:36
S51	90	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:33
S52	44	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy) same session)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:33
S53	27	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy) same session same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:33
S54	10	@ad<"20071221" and ((RTSP adj (server)) same (gateway or proxy) same session same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:35
S55	4	@ad<"20071221" and ((RTSP adj (server)) same (gateway or proxy) same (session adj initiation) same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:51
S56	2	@ad<"20071221" and ((RTSP adj (server)) same (gateway or proxy) same (session adj information) same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:51
S57	22	709/220.ccls. and (RTSP and SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/06/03 11:06
S58	12	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT;	OR	OFF	2013/06/03 11:06

			EPO; JPO; DERWENT; IBM_TDB			
S59	19	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2013/06/03 11:09
S64	1	"20140040350".pn.	US-PGPUB	OR	OFF	2014/12/08 15:02
S65	1	"8549151".pn.	USPAT	OR	OFF	2014/12/08 15:07
S66	31	("20090190603" | "20090217337" | "8027353" | "20060128376" | "20050135366" | "20090100147" | "20090307307" | "7286521" | "7804848" | "20080092178" | "20090180484" | "20090193469" | "7716310" | "8032589" | "20100005177" | "20100005501" | "7804848" | "20070177616" | "6895439" | "7043528" | "20060291472" | "20090235317" | "7792025" | "8046479" | "6895439" | "20060128376" | "7231658" | "7440440" | "7724691" | "7953867" | "7724691" | "20060291472" | "20070025301" | "20090313376" | "20110209188" | "7643411").PN.	US-PGPUB; USPAT	OR	OFF	2014/12/09 09:54
S67	744	(first adj protocol) same (second adj protocol) same (third adj protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:48
S68	407	@ad<"20071221" and (first adj protocol) same (second adj protocol) same (third adj protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:48
S69	29	@ad<"20071221" and (gateway same (first adj protocol) same (second adj protocol) same (third adj protocol))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:49
S70	0	@ad<"20071221" and (gateway same (first adj protocol) same (second adj protocol) same (third adj protocol) same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:52
S71	4	@ad<"20071221" and (gateway same (first adj protocol) same (second adj protocol) same (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:52
S72	4	@ad<"20071221" and (gateway same (first adj protocol) same (second adj protocol) same (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:09
S73	22	@ad<"20071221" and (gateway and (first adj protocol) same (second adj protocol) same (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:15

S74	48	@ad<"20071221" and ((first adj protocol) same (second adj protocol) same (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:16
S75	215	@ad<"20071221" and (gateway same trigger same media)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:25
S76	171	@ad<"20071221" and (gateway same trigger same SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:25
S77	3	@ad<"20071221" and (gateway same trigger same SIP same RTSP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:26
S78	1	chase adj play	EPO	OR	OFF	2015/07/06 16:34
S79	216	@ad<"20071221" and (gateway same trigger same media)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/07 09:02
S80	1	proxy adj higa	EPO	OR	OFF	2015/07/07 09:51
S81	16	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/02/11 14:55
S82	35	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2016/02/11 14:55
S83	554	(RTSP and SIP and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/02/11 14:55
S84	386	S83 AND ((H04L65/1069 OR H04L65/1016 OR H04L65/80 OR H04L65/4084 OR H04L65/60 OR H04L65/608 OR H04L43/08 OR H04L47/14 OR H04L41/5009 OR H04L43/50 OR H04L47/20 OR H04L47/29 OR H04L65/1006 OR H04L65/4076 OR H04L65/4092 OR H04L65/602 OR H04L29/06027 OR H04L47/10 OR H04L63/0428 OR H04L63/0815 OR H04L63/166 OR H04L65/607 OR H04L67/025 OR H04L12/189 OR H04L12/5695 OR H04L41/00 OR H04L43/024 OR H04L43/04 OR H04L43/0864 OR H04L43/0876 OR H04L43/0888 OR H04L47/12 OR H04L47/22 OR H04L47/2433 OR H04L47/2458 OR H04L47/2483 OR	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/02/11 14:56

		H04L47/748 OR H04L47/808 OR H04L47/824 OR H04L51/38 OR H04L63/083 OR H04L63/0853 OR H04L63/102 OR H04L65/1043 OR H04L65/1083 OR H04L65/4007 OR H04L65/403 OR H04L65/4069 OR H04L67/02 OR H04L67/10 OR H04L67/14 OR H04L67/2823 OR H04L67/2842 OR H04L67/32 OR H04L69/08 OR H04L69/16 OR H04L69/161 OR H04L12/1407 OR H04L12/1435 OR H04L12/1492 OR H04L12/1818 OR H04L12/2896 OR H04L12/437 OR H04L12/6418 OR H04L12/66 OR H04L1/00 OR H04L2012/6486 OR H04L29/06 OR H04L29/06517 OR H04L29/08522 OR H04L29/12009 OR H04L29/12018 OR H04L29/12047 OR H04L41/0293 OR H04L41/046 OR H04L41/06 OR H04L41/0631 OR H04L41/0654 OR H04L41/142 OR H04L41/22 OR H04L41/5029 OR H04L41/5038 OR H04L41/5051 OR H04L41/5061 OR H04L41/509 OR H04L43/0811 OR H04L43/0829 OR H04L43/0852 OR H04L43/0858 OR H04L43/087 OR H04L43/0882 OR H04L43/10 OR H04L43/12 OR H04L43/16 OR H04L45/00 OR H04L45/02 OR H04L45/22 OR H04L45/308 OR H04L45/38 OR H04L45/44 OR H04L45/50 OR H04L47/2416 OR H04L47/245 OR H04L47/2475 OR H04L47/25 OR H04L47/263 OR H04L47/31 OR H04L49/3009 OR H04L5/0096 OR H04L61/10 OR H04L61/15 OR H04L61/1511 OR H04L61/2514 OR H04L63/02 OR H04L63/04 OR H04L63/08 OR H04L63/0884 OR H04L63/164 OR H04L63/205 OR H04L63/306 OR H04L65/00 OR H04L65/103 OR H04L65/104 OR H04L65/1046 OR H04L65/105 OR H04L65/1096 OR H04L65/4015 OR H04L65/601 OR H04L65/605 OR H04L67/1036 OR H04L67/104 OR H04L67/145 OR H04L67/146 OR H04L67/148 OR H04L67/22 OR H04L67/303 OR H04L67/306 OR H04L67/38 OR H04L67/42 OR H04L69/14 OR H04L9/3242).CPC.)				
S85	35	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2016/02/23 09:47
S86	556	(RTSP and SIP and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/02/23 09:47
S87	388	S86 AND ((H04L65/1069 OR H04L65/1016 OR H04L65/80 OR H04L65/4084 OR H04L65/60 OR H04L65/608 OR H04L43/08 OR	US-PGPUB; USPAT; EPO; JPO; DERWENT;	OR	OFF	2016/02/23 09:47

		H04L47/14 OR H04L41/5009 OR H04L43/50 OR H04L47/20 OR H04L47/29 OR H04L65/1006 OR H04L65/4076 OR H04L65/4092 OR H04L65/602 OR H04L29/06027 OR H04L47/10 OR H04L63/0428 OR H04L63/0815 OR H04L63/166 OR H04L65/607 OR H04L67/025 OR H04L12/189 OR H04L12/5695 OR H04L41/00 OR H04L43/024 OR H04L43/04 OR H04L43/0864 OR H04L43/0876 OR H04L43/0888 OR H04L47/12 OR H04L47/22 OR H04L47/2433 OR H04L47/2458 OR H04L47/2483 OR H04L47/748 OR H04L47/808 OR H04L47/824 OR H04L51/38 OR H04L63/083 OR H04L63/0853 OR H04L63/102 OR H04L65/1043 OR H04L65/1083 OR H04L65/4007 OR H04L65/403 OR H04L65/4069 OR H04L67/02 OR H04L67/10 OR H04L67/14 OR H04L67/2823 OR H04L67/2842 OR H04L67/32 OR H04L69/08 OR H04L69/16 OR H04L69/161 OR H04L12/1407 OR H04L12/1435 OR H04L12/1492 OR H04L12/1818 OR H04L12/2896 OR H04L12/437 OR H04L12/6418 OR H04L12/66 OR H04L1/00 OR H04L2012/6486 OR H04L29/06 OR H04L29/06517 OR H04L29/08522 OR H04L29/12009 OR H04L29/12018 OR H04L29/12047 OR H04L41/0293 OR H04L41/046 OR H04L41/06 OR H04L41/0631 OR H04L41/0654 OR H04L41/142 OR H04L41/22 OR H04L41/5029 OR H04L41/5038 OR H04L41/5051 OR H04L41/5061 OR H04L41/509 OR H04L43/0811 OR H04L43/0829 OR H04L43/0852 OR H04L43/0858 OR H04L43/087 OR H04L43/0882 OR H04L43/10 OR H04L43/12 OR H04L43/16 OR H04L45/00 OR H04L45/02 OR H04L45/22 OR H04L45/308 OR H04L45/38 OR H04L45/44 OR H04L45/50 OR H04L47/2416 OR H04L47/245 OR H04L47/2475 OR H04L47/25 OR H04L47/263 OR H04L47/31 OR H04L49/3009 OR H04L5/0096 OR H04L61/10 OR H04L61/15 OR H04L61/1511 OR H04L61/2514 OR H04L63/02 OR H04L63/04 OR H04L63/08 OR H04L63/0884 OR H04L63/164 OR H04L63/205 OR H04L63/306 OR H04L65/00 OR H04L65/103 OR H04L65/104 OR H04L65/1046 OR H04L65/105 OR H04L65/1096 OR H04L65/4015 OR H04L65/601 OR H04L65/605 OR H04L67/1036 OR H04L67/104 OR H04L67/145 OR H04L67/146 OR H04L67/148 OR H04L67/22 OR H04L67/303 OR H04L67/306 OR H04L67/38 OR H04L67/42 OR H04L69/14 OR	IBM_TDB					

		H04L9/3242).CPC.)				
S88	16	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/02/23 09:47
S89	1	"20140040350".pn.	US-PGPUB	OR	ON	2016/04/26 15:24

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L6	262	(RTSP and SIP and gateway and IPTV)	US-PGPUB	OR	OFF	2016/10/06 10:40
L7	675	(first adj protocol) and (second adj protocol) and (third adj protocol)	US-PGPUB	OR	OFF	2016/10/06 10:41
L8	26262	(gateway and trigger and media)	US-PGPUB	OR	OFF	2016/10/06 10:41
S60	190	((first adj protocol) and (second adj protocol) and (third adj protocol)).clm.	USPAT	OR	OFF	2013/06/03 11:07
S61	0	((first adj protocol) and (second adj protocol) and (third adj protocol) and (RTSP adj (server))).clm.	USPAT	OR	OFF	2013/06/03 11:07
S62	25	((first adj protocol) and (second adj protocol) and (third adj protocol) and (gateway or proxy)).clm.	USPAT	OR	OFF	2013/06/03 11:07
S63	8	((first adj protocol) same (second adj protocol) same (third adj protocol) same (gateway or proxy)).clm.	USPAT	OR	OFF	2013/06/03 11:08

10/6/2016 10:42:06 AM
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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14015765	STOKKING ET AL.
	Examiner	Art Unit
	ALICIA BATURAY	2441

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
709	227	12/09/2014	AB
709	227	07/06/2015	AB
709	227	02/09/2016	AB
709	227	10/06/2016	AB

SEARCH NOTES		
Search Notes	Date	Examiner
Searched EAST (US-PGPUB, USPAT, EPO, JPO, DERWENT, IBM_TDB)	12/08/2014	AB
Conducted Inventor Name Search	12/08/2014	AB
Conducted Class/Subclass Search	12/08/2014	AB
Updated EAST Search (US-PGPUB, USPAT, EPO, JPO, DERWENT, IBM_TDB)	07/06/2015	AB
Updated Inventor Name Search	07/06/2015	AB
Updated Class/Subclass Search	07/06/2015	AB
Updated EAST Search (US-PGPUB, USPAT, EPO, JPO, DERWENT, IBM_TDB)	02/09/2016	AB
Updated Inventor Name Search	02/09/2016	AB
Updated Class/Subclass Search	02/09/2016	AB
Updated EAST Search (US-PGPUB, USPAT, EPO, JPO, DERWENT, IBM_TDB)	10/06/2016	AB
Updated Inventor Name Search	10/06/2016	AB
Updated Class/Subclass Search	10/06/2016	AB
Conducted Interference Search	10/06/2016	AB

INTERFERENCE SEARCH			
US Class/ CPC Symbol	**US Subclass / CPC Group**	**Date**	**Examiner**
PG-PUB	See Search History	10/06/2016	AB

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BIB DATA SHEET

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APPLICANTS
Koninkijke KPN N.V., The Hague, NETHERLANDS;

INVENTORS
Hans Maarten Stokking, The Hague, NETHERLANDS;
Mattijs Oskar Van Deventer, Leidschendam, NETHERLANDS;
Fabian Arthur Walraven, Groningen, NETHERLANDS;
Omar Aziz Niamut, Vlaardingen, NETHERLANDS;

**** CONTINUING DATA ***************************
This application is a CON of 12/808,665 06/16/2010 PAT 8549151
which is a 371 of PCT/EP08/11014 12/22/2008
which claims benefit of 61/008,644 12/21/2007

**** FOREIGN APPLICATIONS ***************************
EUROPEAN PATENT OFFICE (EPO) 08002517.4 02/12/2008

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ****
09/17/2013

Foreign Priority claimed ☑ Yes ☐ No 35 USC 119(a-d) conditions met ☑ Yes ☐ No Verified and Acknowledged /ALICIA BATURAY/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		NETHERLANDS	9	~~23~~ 22	3

ADDRESS

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606
UNITED STATES

TITLE

Method And System For Transmitting A Multimedia Stream

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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14015765	STOKKING ET AL.
	Examiner	**Art Unit**
	ALICIA BATURAY	2441

CPC						
Symbol					**Type**	**Version**
H04L		29	/	06517	F	2013-01-01
H04L		65	/	1006	I	2013-01-01
H04L		65	/	1016	A	2013-01-01
H04L		65	/	104	I	2013-01-01
H04L		65	/	4076	I	2013-01-01
H04L		65	/	1069	I	2013-01-01
H04L		65	/	608	A	2013-01-01
H04L		65	/	103	I	2013-01-01
H04L		69	/	08	I	2013-01-01
H04L		29	/	08522	I	2013-01-01
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CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
			/					
			/					

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 22	
/ALICIA BATURAY/ Primary Examiner.Art Unit 2441 (Primary Examiner)	10/06/2016 (Date)	O.G. Print Claim(s) 14	O.G. Print Figure 7

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14015765	STOKKING ET AL.
	Examiner	**Art Unit**
	ALICIA BATURAY	2441

US ORIGINAL CLASSIFICATION		INTERNATIONAL CLASSIFICATION										
CLASS	SUBCLASS	CLAIMED					NON-CLAIMED					
709	219	G	0	6	F	15 / 16 (2006.01.01)						

CROSS REFERENCE(S)					
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)				

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	22	
/ALICIA BATURAY/ Primary Examiner.Art Unit 2441	10/06/2016	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	14	7

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14015765	STOKKING ET AL.
	Examiner	**Art Unit**
	ALICIA BATURAY	2441

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☒ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1	4	17	19	33										
	2	5	18	20	34										
	3	6	19	21	35										
	4	7	20	22	36										
	5	8	21												
	6		22												
	7	9	23												
	8	10	24												
	9	11	25												
	10	12	26												
	11	13	27												
	12	14	28												
	13	15	29												
1	14	16	30												
2	15	17	31												
3	16	18	32												

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 22	
/ALICIA BATURAY/ Primary Examiner.Art Unit 2441 (Primary Examiner)	10/06/2016 (Date)	O.G. Print Claim(s) 14	O.G. Print Figure 7

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14015765	STOKKING ET AL.
	Examiner	**Art Unit**
	ALICIA BATURAY	2441

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☒ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	12/08/2014	07/06/2015	02/09/2016	10/06/2016					
	1	-	-	-	-					
	2	-	-	-	-					
	3	-	-	-	-					
	4	-	-	-	-					
	5	-	-	-	-					
	6	-	-	-	-					
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	11	-	-	-	-					
	12	-	-	-	-					
	13	-	-	-	-					
1	14	✓	✓	✓	=					
2	15	✓	✓	✓	=					
3	16	✓	✓	✓	=					
4	17	✓	✓	✓	=					
5	18	✓	✓	✓	=					
6	19	✓	✓	✓	=					
7	20	✓	✓	✓	=					
8	21	✓	✓	✓	=					
	22	✓	✓	✓	-					
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13	27	✓	✓	✓	=					
14	28	✓	✓	✓	=					
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16	30	✓	✓	✓	=					
17	31	✓	✓	✓	=					
18	32	✓	✓	✓	=					
19	33	✓	✓	✓	=					
20	34	O	O	O	=					
21	35	✓	✓	✓	=					
22	36	✓	✓	✓	=					

Doc Code: DIST.E.FILE Document Description: Electronic Terminal Disclaimer - Filed	PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce

Electronic Petition Request	**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT**
Application Number	14015765
Filing Date	30-Aug-2013
First Named Inventor	Hans Stokking
Attorney Docket Number	10-406-CON
Title of Invention	Method And System For Transmitting A Multimedia Stream

☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action

☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

Owner	Percent Interest
Koninklijke KPN N.V.	100%

The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)

8549151

as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:
- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

◯ Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.

◉ I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.	
THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES I certify, in accordance with 37 CFR 1.4(d)(4) that I am: ◉ An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application Registration Number 59208 ◯ A sole inventor ◯ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application ◯ A joint inventor; all of whom are signing this request	
Signature	/David A. Grabelsky/
Name	David A. Grabelsky

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Doc Code: DISQ.E.FILE
Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 14015765

Filing Date: 30-Aug-2013

Applicant/Patent under Reexamination: Stokking et al.

Electronic Terminal Disclaimer filed on September 20, 2016

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt

EFS ID:	26976766
Application Number:	14015765
International Application Number:	
Confirmation Number:	6519
Title of Invention:	Method And System For Transmitting A Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Customer Number:	20306
Filer:	David A. Grabelsky
Filer Authorized By:	
Attorney Docket Number:	10-406-CON
Receipt Date:	20-SEP-2016
Filing Date:	30-AUG-2013
Time Stamp:	13:19:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Electronic Terminal Disclaimer-Filed	eTerminal-Disclaimer.pdf	32021 72821631e9e94f569219e087a10ce6b8533d27c8	no	2

Warnings:

Information:	
Total Files Size (in bytes):	32021

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/015,765	08/30/2013	2441	1840	10-406-CON	23	3

CONFIRMATION NO. 6519

CORRECTED FILING RECEIPT

20306
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606



Date Mailed: 09/16/2016

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Hans Maarten Stokking, The Hague, NETHERLANDS;
Mattijs Oskar Van Deventer, Leidschendam, NETHERLANDS;
Fabian Arthur Walraven, Groningen, NETHERLANDS;
Omar Aziz Niamut, Vlaardingen, NETHERLANDS;

Applicant(s)

Koninkijke KPN N.V., The Hague, NETHERLANDS;

Assignment For Published Patent Application

Koninkijke KPN N.V., The Hague, NETHERLANDS

Power of Attorney: The patent practitioners associated with Customer Number 20306

Domestic Priority data as claimed by applicant

This application is a CON of 12/808,665 06/16/2010 PAT 8549151
which is a 371 of PCT/EP08/11014 12/22/2008
which claims benefit of 61/008,644 12/21/2007

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)
EUROPEAN PATENT OFFICE (EPO) 08002517.4 02/12/2008

Permission to Access Application via Priority Document Exchange: No

Permission to Access Search Results: No

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

Request to Retrieve - This application either claims priority to one or more applications filed in an intellectual property Office that participates in the Priority Document Exchange (PDX) program or contains a proper **Request to Retrieve Electronic Priority Application(s)** (PTO/SB/38 or its equivalent). Consequently, the USPTO will attempt to electronically retrieve these priority documents.

If Required, Foreign Filing License Granted: 09/17/2013

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/015,765**

Projected Publication Date: Not Applicable

Non-Publication Request: No

Early Publication Request: No

Title

Method And System For Transmitting A Multimedia Stream

Preliminary Class

709

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

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NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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Samsung Ex. 1012, Page 167 of 691

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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/015,765	08/30/2013	Hans Maarten Stokking	10-406-CON

CONFIRMATION NO. 6519

POA ACCEPTANCE LETTER

20306
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

OC000000085856433

Date Mailed: 09/16/2016

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 09/09/2016.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/tlulu/

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Case No. 10-406-CON)

In the Application of:	)	
	)	
Hans Maarten Stokking et al.	)	
	)	**Examiner: Alicia Baturay**
Serial No.: 14/015,765	)	
	)	**Group Art Unit: 2441**
Filing Date: August 30, 2013	)	
	)	**Confirmation No.: 6519**
For: Method and System for Transmitting a Multimedia Stream	)	

REQUEST FOR UPDATED FILING RECEIPT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attention: Application Processing Division
Customer Correction Branch

Dear Commissioner:

Attached is a copy of the official filing receipt received from the PTO in the above-referenced application which issuance of an updated filing receipt is respectfully requested.

Please update the Filing Receipt to reflect the Applicant and Assignee as follows:

Applicant(s):

KONINKLIJKE KPN N.V., The Hague, NL

Assignment for Published Application:

KONINKLIJKE KPN N.V., The Hague, NL

A Supplemental Application Data Sheet is being submitted herewith to reflect this information.

Respectfully submitted,

Date: September 9, 2016

By: /David A. Grabelsky/
David A. Grabelsky
Registration No. 59,208

McDonnell Boehnen Hulbert & Berghoff LLP
300 South Wacker Drive, 32nd Floor
Chicago, IL 60606
(312)913-0001

PTO/AIA/80 (07-12)
Approved for use through 11/30/2014. OMB 0651-0035
U.S. Patent and Trademark Office; U.S DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

■ Practitioners associated with Customer Number: 20306

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignments documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

■ The address associated with Customer Number: 20306

OR

☐	Firm or Individual Name			
	Address			
	City		State	Zip
	Country			
	Telephone		Email	

Assignee Name and Address: Koninklijke KPN N.V.
Maanplein 55
2516 CK, The Hague, Netherlands

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be Filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of The practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	23 November 2012
Name	K.M. Wuyts	Telephone	+31 70 3433955
Title	Chief Intellectual Property Office		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Koninklijke KPN N.V.

Application No./Patent No.: 14/015,765 Filed/Issue Date: August 30, 2013

Titled: Method and System for Transmitting a Multimedia Stream

Koninklijke KPN N.V., a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

B. ☑ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Hans Maarten Stokking et al. To: Koninklijke KPN N.V.; Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO

   The document was recorded in the United States Patent and Trademark Office at
   Reel 031143, Frame 0824, or for which a copy thereof is attached.

2. From: Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO To: Koninklijke KPN N.V.

   The document was recorded in the United States Patent and Trademark Office at
   Reel 039582, Frame 0478, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

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6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/David A. Grabelsky/	September 9, 2016
Signature	Date
David A. Grabelsky	59,208
Printed or Typed Name	Title or Registration Number

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	26873552
Application Number:	14015765
International Application Number:	
Confirmation Number:	6519
Title of Invention:	Method And System For Transmitting A Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Customer Number:	20306
Filer:	David A. Grabelsky
Filer Authorized By:	
Attorney Docket Number:	10-406-CON
Receipt Date:	09-SEP-2016
Filing Date:	30-AUG-2013
Time Stamp:	11:37:23
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Corrected Filing Receipt	10_406_CON_RequestCorrectFilingReceipt.pdf	74824 dbb6613fb7ac9da07d262d28f2cf0ec29e944469	no	1

Warnings:

Information:					
2	Request for Corrected Filing Receipt	10_406_CON_FilingReceipt.pdf	192952 6823542b9e014ffd459f084ae2a2642b094ecc0f	no	4
Warnings:					
Information:					
3	Application Data Sheet	10_406_CON_ADS.pdf	151301 eab971a16679dada08690e29f0282d6d93aa8d3a	no	8
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
4	Power of Attorney	10_406_CON_POA.pdf	145299 e2227f4d78b3da9d7f017beaf82c09543a37c7b7	no	1
Warnings:					
Information:					
5	Assignee showing of ownership per 37 CFR 3.73	10_406_CON_Statement.pdf	120234 c0a24acb00940be5ec383f17937d9d74f47a6bbc	no	3
Warnings:					
Information:					
		Total Files Size (in bytes):	684610		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/015,765	08/30/2013	2447	1840	10-406-CON	23	3

CONFIRMATION NO. 6519

UPDATED FILING RECEIPT

20306
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

OC000000064280326

Date Mailed: 10/28/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Hans Maarten Stokking, The Hague, NETHERLANDS;
Mattijs Oskar Van Deventer, Leidschendam, NETHERLANDS;
Fabian Arthur Walraven, Groningen, NETHERLANDS;
Omar Aziz Niamut, Vlaardingen, NETHERLANDS;

Applicant(s)

Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO, Delft, NETHERLANDS
Koninkijke KPN N.V., The Hague, NETHERLANDS

Assignment For Published Patent Application

Koninkijke KPN N.V., The Hague, NETHERLANDS
Nederlandse Organisatie Voor Toegepast-Natuurwetenschappelijk Onderzoek TNO, Delft, NETHERLANDS

Power of Attorney: The patent practitioners associated with Customer Number 20306

Domestic Priority data as claimed by applicant

This application is a CON of 12/808,665 06/16/2010 PAT 8549151
which is a 371 of PCT/EP08/11014 12/22/2008
which claims benefit of 61/008,644 12/21/2007

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)
EUROPEAN PATENT OFFICE (EPO) 08002517.4 02/12/2008

Samsung Ex. 1012, Page 176 of 691

Request to Retrieve - This application either claims priority to one or more applications filed in an intellectual property Office that participates in the Priority Document Exchange (PDX) program or contains a proper **Request to Retrieve Electronic Priority Application(s)** (PTO/SB/38 or its equivalent). Consequently, the USPTO will attempt to electronically retrieve these priority documents.

If Required, Foreign Filing License Granted: 09/17/2013

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/015,765**

Projected Publication Date: 02/06/2014

Non-Publication Request: No

Early Publication Request: No

Title

Method And System For Transmitting A Multimedia Stream

Preliminary Class

709

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop

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Supplemental **Application Data Sheet 37 CFR 1.76**	Attorney Docket Number	10-406-CON
	Application Number	14/015,765
Title of Invention	Method And System For Transmitting A Multimedia Stream	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Hans	Maarten	Stokking	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	The Hague	Country of Residence	NL

Mailing Address of Inventor:

Address 1	Leyweg 1298N		
Address 2			
City	The Hague	State/Province	
Postal Code	NL-2545 HK	Country	NL

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Mattijs	Oskar	Van Deventer	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Leidschendam	Country of Residence	NL

Mailing Address of Inventor:

Address 1	Hannie Schaftstraat 62		
Address 2			
City	Leidschendam	State/Province	
Postal Code	NL-2264 DL	Country	NL

Inventor 3 Remove

Legal Name

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Supplemental **Application Data Sheet 37 CFR 1.76**	Attorney Docket Number	10-406-CON
	Application Number	14/015,765
Title of Invention	Method And System For Transmitting A Multimedia Stream	

Prefix	Given Name	Middle Name	Family Name	Suffix
	Fabian	Arthur	Walraven	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Groningen	Country of Residence	NL

Mailing Address of Inventor:

Address 1	Kruitgracht 6B		
Address 2			
City	Groningen	State/Province	
Postal Code	NL-9711 VM	Country	NL

Inventor 4 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Omar	Aziz	Niamut	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Vlaardingen	Country of Residence	NL

Mailing Address of Inventor:

Address 1	Vaartweg 104b		
Address 2			
City	Vlaardingen	State/Province	
Postal Code	NL-3131 HV	Country	NL

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	20306		
Email Address	docketing@mbhb.com	Add Email	Remove Email

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Supplemental **Application Data Sheet 37 CFR 1.76**	Attorney Docket Number	10-406-CON
	Application Number	14/015,765
Title of Invention	Method And System For Transmitting A Multimedia Stream	

Application Information:

Title of the Invention	Method And System For Transmitting A Multimedia Stream		
Attorney Docket Number	10-406-CON	**Small Entity Status Claimed** ☐	
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	9	**Suggested Figure for Publication (if any)**	

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	20306		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	12/808665	2010-06-16
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
12/808665	a 371 of international	PCT/EP08/11014	2008-12-22
Prior Application Status	Expired		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
PCT/EP08/11014	non provisional of	61/008644	2007-12-21

Supplemental **Application Data Sheet 37 CFR 1.76**	Attorney Docket Number	10-406-CON
	Application Number	14/015,765
Title of Invention	Method And System For Transmitting A Multimedia Stream	

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)
08002517.4	EP	2008-02-12	

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☐ Authorization to Permit Access to the Instant Application by the Participating Offices

PTO/AIA/14 (03-13)
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Supplemental **Application Data Sheet 37 CFR 1.76**	Attorney Docket Number	10-406-CON
	Application Number	14/015,765
Title of Invention	Method And System For Transmitting A Multimedia Stream	

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date o f filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

◉ Assignee	○ Legal Representative under 35 U.S.C. 117	○ Joint Inventor
○ Person to whom the inventor is obligated to assign.	○ Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. ☒

Organization Name	Koninklijke KPN N.V.

Mailing Address Information For Applicant:

Address 1	Maanplein 55		
Address 2			
City	The Hague	**State/Province**	
Country	NL	Postal Code	2516 CK
Phone Number		Fax Number	

PTO/AIA/14 (03-13)
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Supplemental **Application Data Sheet 37 CFR 1.76**	Attorney Docket Number	10-406-CON
	Application Number	14/015,765
Title of Invention	Method And System For Transmitting A Multimedia Stream	

Email Address	

Additional Applicant Data may be generated within this form by selecting the Add button.

Applicant 2

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

◉ Assignee	○ Legal Representative under 35 U.S.C. 117	○ Joint Inventor
○ Person to whom the inventor is obligated to assign.	○ Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :	
If the Applicant is an Organization check here.	☒
Organization Name	Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO

Mailing Address Information For Applicant:

Address 1	Schoemakerstraat 97		
Address 2			
City	Delft	**State/Province**	
Country NL		Postal Code	2628 VK
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Non-Applicant Assignee Information:

Providing assignment information in this section does not subsitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

PTO/AIA/14 (03-13)
Approved for use through 01/31/2014. OMB 0651-0032
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Supplemental **Application Data Sheet 37 CFR 1.76**	Attorney Docket Number	10-406-CON
	Application Number	14/015,765
Title of Invention	Method And System For Transmitting A Multimedia Stream	

Assignee 1

Complete this section only if non-applicant assignee information is desired to be included on the patent application publication in accordance with 37 CFR 1.215(b). Do not include in this section an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest), as the patent application publication will include the name of the applicant(s).

If the Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information For Non-Applicant Assignee:

Address 1	
Address 2	

City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee Data may be generated within this form by selecting the Add button.

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Signature	/David A. Grabelsky/			Date (YYYY-MM-DD)	2016-09-09
First Name	David A.	Last Name	Grabelsky	Registration Number	59208

Additional Signature may be generated within this form by selecting the Add button.

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent C o o p eration Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/30EFS (07-14)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	14015765	Filing Date	2013-08-30	Docket Number (if applicable)	10-406-CON	Art Unit	2441
First Named Inventor	Hans Maarten Stokking			Examiner Name	Alicia Baturay		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, to any international application that does not comply with the requirements of 35 U.S.C. 371, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV.

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☒ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

☒ Other Supplemental After Final Response filed July 14, 2016

☐ Enclosed

☐ Amendment/Reply

☐ Information Disclosure Statement (IDS)

☐ Affidavit(s)/ Declaration(s)

☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____ (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 132490

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

Applicant Signature

PTO/SB/30EFS (07-14)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/David A. Grabelsky/	Date (YYYY-MM-DD)	2016-08-25
Name	David A. Grabelsky	Registration Number	59208

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

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8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	14015765
Filing Date:	30-Aug-2013
Title of Invention:	Method And System For Transmitting A Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Filer:	David A. Grabelsky
Attorney Docket Number:	10-406-CON

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
RCE- 1st Request	1801	1	1200	1200
		Total in USD ($)		**1200**

Electronic Acknowledgement Receipt

EFS ID:	26752210
Application Number:	14015765
International Application Number:	
Confirmation Number:	6519
Title of Invention:	Method And System For Transmitting A Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Customer Number:	20306
Filer:	David A. Grabelsky
Filer Authorized By:	
Attorney Docket Number:	10-406-CON
Receipt Date:	25-AUG-2016
Filing Date:	30-AUG-2013
Time Stamp:	17:18:36
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$1200
RAM confirmation Number	4086
Deposit Account	132490
Authorized User	GRABELSKY, DAVID ANDREW

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 CFR 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 CFR 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 CFR 1.19 (Document supply fees)

Charge any Additional Fees required under 37 CFR 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	10-406-CON_Request_for_Continued_Examination.pdf	1350095 cc7b8487e990734488d792278694aa01e6c09f9d	no	3
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30190 5db36f8b689690437e7f3d9664d6f22c66b5083a	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1380285		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/015,765	08/30/2013	Hans Maarten Stokking	10-406-CON	6519

20306 7590 08/15/2016

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

EXAMINER	
BATURAY, ALICIA	

ART UNIT	PAPER NUMBER
2441	

MAIL DATE	DELIVERY MODE
08/15/2016	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Applicant-Initiated Interview Summary	Application No.	Applicant(s)	
	14/015,765	STOKKING ET AL.	
	Examiner	Art Unit	
	Alicia Baturay	2441	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Alicia Baturay (USPTO)*. (3)_____.

(2) *David Grabelsky (Reg. #59,208)* . (4)_____.

Date of Interview: *11 July 2016*.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☐112 ☒102 ☐103 ☒Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: *14-36*.

Identification of prior art discussed: *Damola et al. (WO 2007/140834)*.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Applicants' Representative initiated the interview to clarify operation of the invention and advance prosecution. Applicants' Representative presented proposed claim amendments. The examiner stated that adding the proposed claim language to claims 30 and 31 and adding limitations from claims 17 and 22 into each independent claim (14, 30, and 31) would put the case into condition for allowance. Applicants' Representative agreed to make these changes and file a second after-final amendment.

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☒ Attachment

/Alicia Baturay/ Primary Examiner, Art Unit 2441	

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Docket No. 10-406-CON)

In re Application of:	)	
	)	
Hans Maarten Stokking et al.	)	
	)	**Examiner: Alicia Baturay**
Serial No.: 14/015,765	)	
	)	**Group Art Unit: 2441**
Filed: August 30, 2013	)	
	)	**Conf. No. 6519**
	)	
For: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM	)	

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

SUPPLEMENTAL RESPONSE TO FINAL OFFICE ACTION

MAILED FEBRUARY 25, 2016

This submission is a Supplemental Response to the Final Office Action mailed February 25, 2016. In addition, a Petition for Extension of Time under 37 C.F.R. § 1.136(a) (three-month) is enclosed, along with requisite fees.

Please enter the following remarks and amendments into the record for this application.

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 9 of this paper.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Amendments to the Claims

1-13. (Canceled)

14. (Currently amended) A method, wherein a gateway is capable of communicating with a first terminal and a second terminal, the method comprising:

the gateway or the first terminal using a first protocol to exchange first multimedia session information between the first terminal and the gateway, wherein the exchange of the first multimedia session information sets up a first media stream from the first terminal, and wherein the first multimedia session information includes a type of media;

the second terminal using a second protocol to receive a trigger provided by the gateway or first terminal, wherein the trigger is to initiate an exchange of second multimedia session information between the gateway and the second terminal, and wherein the trigger serves to inform the second terminal of availability of a new multimedia stream;

in response to receiving the trigger, the second terminal using a third protocol to initiate the exchange of the second multimedia session information between the gateway and the second terminal, wherein the exchange of the second multimedia session information sets up a second media stream to the second terminal in which the second terminal participates; and

the second terminal receiving the second media stream, wherein the second media stream is associated with the first media stream.

15. (Currently amended) The method according to claim 14, wherein the exchange of the first multimedia session information comprises:

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300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

the gateway providing to the first terminal at least part of the second multimedia session information.

16. (Currently amended) The method according to claim 14, wherein the exchange of the second multimedia session information comprises:

the gateway providing to the second terminal at least part of the first multimedia session information.

17. (Currently amended) The method according to claim 14, wherein the exchange of the first multimedia session information comprises:

the gateway receiving, from the first terminal, an identifier of the second terminal.

18. (Previously presented) The method according to claim 17, further comprising:

before using the second protocol to provide the trigger to the second terminal, the gateway resolving the identifier of the second terminal into a network address of the second terminal.

19. (Previously presented) The method according to claim 18, wherein providing the trigger to the second terminal comprises the gateway transmitting the trigger to the resolved network address of the second terminal.

20. (Previously presented) The method of claim 14, wherein the third protocol is different from the second protocol.

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CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

21. (Previously presented) The method of claim 14, wherein the first multimedia stream is the second multimedia stream.

22. (Canceled)

23. (Previously presented) The method of claim 14, wherein the first protocol is a peer-to-peer protocol.

24. (Previously presented) The method of claim 14, wherein the third protocol is a client-server protocol, and wherein the second receiving terminal has client capabilities of the third protocol and not server capabilities of the third protocol.

25. (Previously presented) The method of claim 14, wherein the trigger comprises a network address of the gateway.

26. (Previously presented) The method of claim 25, wherein the network address is a URI or a URI reference.

27. (Previously presented) The method of claim 14, wherein the first protocol and the second protocol are identical.

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28. (Previously presented) The method of claim 27, wherein the first protocol and the second protocol are the Session Initiation Protocol (SIP).

29. (Previously presented) The method of claim 14, wherein the gateway is configured to associate the first multimedia session information with the second multimedia session information.

30. (Currently amended) An article of manufacture including a non-transitory computer-readable medium, having stored thereon software instructions that, if executed by a computing device, cause the computing device to perform operations comprising:

using a first protocol to initiate an exchange of first multimedia session information between a first terminal and a gateway, wherein the exchange of the first multimedia session information sets up a first media stream from the first terminal, and wherein the first multimedia session information includes a type of media;

using a second protocol to provide a trigger to a second terminal, wherein the trigger is to initiate an exchange of second multimedia session information between the gateway and the second terminal, and wherein the trigger serves to inform the second terminal of availability of a new multimedia stream;

using a third protocol to conduct the exchange of the second multimedia session information between the gateway and the second terminal, wherein the exchange of the second multimedia session information sets up a second media stream to the second terminal in which the second terminal participates; and

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300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

using the first protocol to transmit a response to the first terminal, wherein the response causes the first terminal to begin transmission of the first media stream from the first terminal, wherein the second media stream to the second terminal is associated with the first media stream from the first terminal.

31. (Currently amended) A gateway comprising:

a communication interface; and

memory that stores software instructions that, when executed by the gateway, cause the gateway to:

(i) exchange first multimedia session information with a first terminal using a first protocol, wherein the exchange of the first multimedia session information sets up a first media stream from the first terminal, and wherein the first multimedia session information includes a type of media,

(ii) provide a trigger to a second terminal, wherein the trigger is provided using a second protocol, in response to which the second terminal is able to initiate ~~the~~ exchange of second multimedia session information with the gateway, and wherein the trigger serves to inform the second terminal of availability of a new multimedia stream, and

(iii) exchange second multimedia session information with the second terminal, using a third protocol, wherein the third protocol is different from the first protocol, wherein the exchange of the second multimedia session information sets up a second media stream to the second terminal in which the second terminal participates.

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32. (Previously presented) The gateway of claim 31, wherein the gateway is configured to connect to a first terminal supporting a first protocol and to a second terminal supporting a second protocol,

wherein the first protocol is Session Initiation Protocol (SIP) and the second protocol is Real Time Streaming Protocol (RTSP),

wherein the first terminal is an originating SIP client of a user at a user side,

wherein the gateway acts as a terminating SIP client,

wherein the gateway is configured to confirm that the gateway is able to receive a multimedia session from the user and to provide the first terminal with multimedia session information,

wherein the second terminal is an RTSP client,

wherein the gateway acts as an RTSP server on behalf of the user,

wherein the second terminal uses RTSP for session control, and

wherein the gateway is configured to inform the second terminal that an incoming session is pending and notify the RTSP client to connect to an RTSP server function of the gateway.

33. (Currently amended) The gateway of claim 31, wherein the gateway is configured to transmit a notification message to the second terminal in response to an invitation of the first terminal, in order to activate the second terminal to set up ~~the~~ a second multimedia session between the second terminal and the gateway.

34. (Previously presented) The gateway of claim 31, wherein the gateway is embedded in an IP Multi-Media Subsystem (IMS) network architecture, wherein the first

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protocol is Session Initiation Protocol (SIP), wherein the third protocol is Real Time Streaming Protocol (RTSP), the IMS network architecture comprising a service-control-function component and a media-function component, wherein the memory of the gateway is distributed in the IMS network architecture, such that:

exchanging the first multimedia session information is handled by the service-control-function component within the IMS network architecture;

triggering the second terminal is controlled by the service-control-function component within the IMS network architecture; and

exchanging second multimedia session information is handled by the media-function component within the IMS network architecture.

35. (Previously presented) The gateway of claim 31, wherein the gateway is configured to associate the first multimedia session information and the second multimedia session information with each other.

36. (Previously presented) The gateway of claim 31, wherein the gateway further comprises Session Initiation Protocol (SIP) client functionality and Real Time Streaming Protocol (RTSP) server functionality.

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HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Remarks

1. Summary of the Final Office Action and Present Supplemental After Final Response

In the Final Office Action mailed February 25, 2016 ("Current Final Office Action"), the Examiner rejected claims 14-20 and 22-36 on grounds of non-statutory double patenting over claims 1-7 and 9-23 of U.S. Patent No. 8,549,151. The Examiner rejected claim 30 under pre-AIA 35 U.S.C. § 102(e) as allegedly being anticipated by WO 2007/140834 (Damola). The Examiner rejected claims 14-16, 20, 21, 29, 31, 33, 35, and 36 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola in view of U.S. Patent No. 7,181,537 (Costa-Requena), and rejected claims 17-19 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola and Costa-Requena and further in view of U.S. Patent No. 7,804,848 (Mirtorabi). The Examiner also rejected claim 22 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola and Costa-Requena and further in view of U.S. Patent Pub. No. 2006/0128376 (Alexis), and rejected claims 23 and 24 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola and Costa-Requena and further in view of U.S. Patent Pub. No. 2006/0291472 (Guo). Finally, the Examiner rejected claims 25-28 and 32 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola and Costa-Requena and further in view of U.S. Patent No. 7,724,691 (Mela). The Examiner indicated that claim 34 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims.

Applicants filed an After Final Response on April 21, 2016 that included arguments, but no amendments. An Advisory Action was mailed May 2, 2016 in which the rejections of the Current Final Office Action were maintained. Applicants are filing the present Supplemental

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

After Final Response with amendments based on agreement reached with the Examiner during an interview on July 11, 2016 (summarized below).

2. Summary of Examiner Interview

Applicants' undersigned representative held a telephone interview with the Examiner on July 11, 2016 to discuss the rejections in the Current Office Action. During the interview, the Damola reference was discussed in connection with the anticipation rejection of claim 30 in the Current Office Action, with the understanding that the discussion applied as well to independent claims 14 and 31. Applicants' representative provided a proposed amendment to overcome the anticipation rejection of claim 30. The Examiner suggested further amendments. Agreement was reached regarding amendments that would place the application in condition for allowance.

Applicants thank the Examiner for her time and consideration during the interview.

3. Status of the Claims

Pending are claims 14-21 and 23-36, of which claims 14, 30 and 31 are independent and the remainder are dependent. Applicants have canceled claim 22 without prejudice, and have amended various claims as follows.

Applicants have amended each of independent claims 14, 30, and 30 to: (i) describe the "first multimedia session information" as including "a type of media," (ii) describe the "trigger" as serving "to inform the second terminal of availability of a new multimedia stream," and (iii) include clarifying language describing the "first media stream" as being from the "first terminal" and the "second media stream" being to the "second terminal." Applicants have also replaced all occurrences of the term "media session information" with "multimedia session information" in order to be consistent with the like terminology used throughout the specification. Support for

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HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
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these amendments can be found generally throughout the original application, and specifically at least at page 20, lines 29-31; page 1, lines 6-8; and original claim 22.

Applicants have amended each of claims 15, 16, 17, 29, and 33 to ensure consistency of antecedent basis with the respective base claims.

No new matter has been added by way of any of the above amendments.

4. Response to Rejections on grounds of nonstatutory double patenting

The Examiner rejected claims 14-20 and 22-36 on grounds of non-statutory double patenting over claims 1-7 and 9-23 of U.S. Patent No. 8,549,151. Applicants are filing a Terminal Disclaimer herewith to overcome the non-statutory double patenting rejection.

5. Response to Rejection under pre-AIA 35 U.S.C. § 102(e)

The Examiner rejected claim 30 under pre-AIA 35 U.S.C. § 102(e) as allegedly being anticipated by Damola. Applicants have amended claim 30, as described above, in a manner that the Examiner agreed during the Examiner Interview, summarized above, would make claim 30 allowable. Accordingly, Applicants submit that claim 30, as amended, is allowable.

6. Response to Rejections under 35 U.S.C. § 103(a)

a. Claims 14-16, 20, 21, 29, 31, 33, 35, and 36

The Examiner rejected claims 14-16, 20, 21, 29, 31, 33, 35, and 36 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola in view of Costa-Requena. Applicants have amended each of claims 14 and 31, as described above, in a manner that the Examiner agreed during the Examiner Interview, summarized above, would make each of these claims allowable allowable. Accordingly, Applicants submit that claims 14 and 31, as amended, are both allowable.

Each of claims 15-16, 20, 21, 29, 33, 35, and 36 depends from one or another of claims

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300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

14 or 31, both of which are allowable for at least the reasons above. Applicants submit that each of claims 15-16, 20, 21, 29, 33, 35, and 36 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to any of claims 15-16, 20, 21, 29, 33, 35, or 36.

b. Claims 17-19

The Examiner rejected claims 17-19 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola and Costa-Requena and further in view of Mirtorabi. Each of claims 17-19 depends from claim 14, which is allowable for at least the reasons above. Applicants submit that each of claims 17-19 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to any of claims 17-19.

c. Claim 22

The Examiner rejected claim 22 as being allegedly obvious over Damola and Costa-Requena and further in view of Alexis. Applicants have canceled claim 22 without prejudice. The rejection of claim 22 is therefore moot.

d. Claims 23 and 24

The Examiner rejected claims 23 and 24 as being allegedly obvious over Damola and Costa-Requena and further in view of Guo. Each of claims 23 and 24 depends from claim 14, which is allowable for at least the reasons above. Applicants submit that each of claims 23 and 24 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to either of claims 23 or 24.

e. Claims 25-28 and 32

The Examiner rejected claims 25-28 and 32 under pre-AIA 35 U.S.C. § 103(a) as

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

allegedly being obvious over Damola and Costa-Requena and further in view of Mela. Each of claims 25-28 and 32 depends from one or another of claims 14 or 31, both of which are allowable for at least the reasons above. Applicants submit that each of claims 25-28 and 32 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to any of claims 25-28 or 32.

7. Allowable subject matter

The Examiner indicated that claim 34 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Claim 34 depends from claim 31, which is allowable for at least the reasons above. Applicants submit that claim 34 is therefore allowable for at least the reason that it depends from an allowable claim.

8. Conclusion

For the foregoing reasons, Applicants submit that claims are allowable. Therefore, Applicants request favorable reconsideration and allowance of the claims.

Applicants do not acquiesce in any assertion in the office action that is not expressly addressed by these remarks.

Should the Examiner wish to discuss this case with the undersigned, the Examiner is invited to call the undersigned at (312) 913-3353.

Respectfully submitted,

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP

Date: July 14, 2016

By: /David A. Grabelsky/
David A. Grabelsky
Reg. No. 59,208

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

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TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	Docket Number (Optional) 10-406-CON

In re Application of: Hans Maarten Stokking et al.

Application No.: 14/015,765

Filed: August 30, 2013

For: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM

The owner*, Koninklijke KPN N.V., of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **prior patent** No. 8,549,151 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

expires for failure to pay a maintenance fee;
is held unenforceable;
is found invalid by a court of competent jurisdiction;
is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
has all claims canceled by a reexamination certificate;
is reissued; or
is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☑ The undersigned is an attorney or agent of record. Reg. No. 59,208

/David A. Grabelsky/ — Signature
July 14, 2016 — Date

David A. Grabelsky — Typed or printed name

312-913-3353 — Telephone Number

☑ Terminal disclaimer fee under 37 CFR 1.20(d) included.

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This collection of information is required by 37 CFR 1.321. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
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4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

Docket Number (Optional): 10-406-CON

Application Number: 14/015,765

Filed: August 30, 2013

For: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM

Art Unit: 2441

Examiner: Alicia Baturay

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	Micro Entity Fee	
☐ One month (37 CFR 1.17(a)(1))	$200	$100	$50	$
☐ Two months (37 CFR 1.17(a)(2))	$600	$300	$150	$
☑ Three months (37 CFR 1.17(a)(3))	$1,400	$700	$350	$ 1,400
☐ Four months (37 CFR 1.17(a)(4))	$2,200	$1,100	$550	$
☐ Five months (37 CFR 1.17(a)(5))	$3,000	$1,500	$750	$

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 132490.

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I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71. 37 CFR 3.73(b) statement is enclosed (Form PTO/SB/96).

☑ attorney or agent of record. Registration number 59208.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/David A. Grabelsky/ — Signature

July 14, 2016 — Date

David A. Grabelsky — Typed or printed name

312-913-3353 — Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☑ * Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	14015765
Filing Date:	30-Aug-2013
Title of Invention:	Method And System For Transmitting A Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Filer:	David A. Grabelsky
Attorney Docket Number:	10-406-CON

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 3 months with $0 paid	1253	1	1400	1400
Miscellaneous:				
Statutory or Terminal Disclaimer	1814	1	160	160
		Total in USD ($)		**1560**

Electronic Acknowledgement Receipt

EFS ID:	26350773
Application Number:	14015765
International Application Number:	
Confirmation Number:	6519
Title of Invention:	Method And System For Transmitting A Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Customer Number:	20306
Filer:	David A. Grabelsky
Filer Authorized By:	
Attorney Docket Number:	10-406-CON
Receipt Date:	14-JUL-2016
Filing Date:	30-AUG-2013
Time Stamp:	14:28:31
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$1560
RAM confirmation Number	726
Deposit Account	132490
Authorized User	GRABELSKY, DAVID ANDREW

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 CFR 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 CFR 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 CFR 1.19 (Document supply fees)

Charge any Additional Fees required under 37 CFR 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Supplemental Response or Supplemental Amendment	10-406-CON_Supplemental_Response_25Feb16_FOA.pdf	119679 ebb523f84b54204f760fed81e8557ec49cd3bf79	no	13
Warnings:					
Information:					
2	Terminal Disclaimer Filed	10-406-CON_Terminal_Disclaimer.pdf	374420 caa280559efac808e2ac22f6dca14b2911386ea6	no	2
Warnings:					
Information:					
3	Extension of Time	10-406-CON_Petition_for_three-month_Extension_of_Time.pdf	188288 bc8ef5ec210d0c8ba463092f67116690e2a94880	no	2
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	32151 2ad8635059c1f1675f2fd7d44d27a20aaecc8ec0	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	714538		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination	
	14/015,765	STOKKING ET AL.	

Document Code - DISQ	Internal Document – DO NOT MAIL

TERMINAL DISCLAIMER	☐ APPROVED	☒ DISAPPROVED
Date Filed : 14 July, 2016	**This patent is subject to a Terminal Disclaimer**	

Approved/Disapproved by:

/CHARRISSA BROWN/

Technology Center: PLRC

Telephone: (571)272-1558

The terminal disclaimer identifies a party who is not the applicant (only for applications filed on or after September 16, 2012; See FP 14.26.10):

For cases filed on/after 9/16/12, 37 CFR 1.321 specifies that only the applicant can disclaim, and the terminal disclaimer must specify the extent of the applicant's ownership.

Below is what needs to be done to correct the defects:

A request under 37 CFR 1.46(c) to change the applicant needs to be filed, which is (1) a request, signed by a 1.33(b) party, (2) a corrected ADS (37 CFR 1.76(c)) that identifies the "new" applicant in the applicant information, and is underlined since it is new, and (3) a 3.73(c) statement showing chain of title to the new applicant. Along with the § 1.46(c) request we need a POA that gives power to the attorney who is signing the TD, along with another copy of the TD, or a TD that is signed by the applicant.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/015,765	Filing Date 08/30/2013	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **07/14/2016**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 21	Minus	** 23	= 0	X $80 =	0
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $420 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
MINNIE JACKSON

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/015,765	08/30/2013	Hans Maarten Stokking	10-406-CON	6519

20306 7590 05/02/2016

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

EXAMINER
BATURAY, ALICIA

ART UNIT	PAPER NUMBER
2441	

MAIL DATE	DELIVERY MODE
05/02/2016	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Advisory Action Before the Filing of an Appeal Brief	**Application No.** 14/015,765	**Applicant(s)** STOKKING ET AL.	
	Examiner Alicia Baturay	**Art Unit** 2441	**AIA (First Inventor to File) Status** No

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 21 April 2016 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

NO NOTICE OF APPEAL FILED

1. ☒ The reply was filed after a final rejection. No Notice of Appeal has been filed. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance;

(2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114 if this is a utility or plant application. Note that RCEs are not permitted in design applications. The reply must be filed within one of the following time periods:

a) ☐ The period for reply expires _____months from the mailing date of the final rejection.

b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action; or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

c) ☐ A prior Advisory Action was mailed more than 3 months after the mailing date of the final rejection in response to a first after-final reply filed within 2 months of the mailing date of the final rejection. The current period for reply expires months from the mailing date of *the prior Advisory Action* or SIX MONTHS from the mailing date of the final rejection, whichever is earlier.

Examiner Note: If box 1 is checked, check either box (a), (b) or (c). ONLY CHECK BOX (b) WHEN THIS ADVISORY ACTION IS THE FIRST RESPONSE TO APPLICANT'S FIRST AFTER-FINAL REPLY WHICH WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. ONLY CHECK BOX (c) IN THE LIMITED SITUATION SET FORTH UNDER BOX (c). See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) or (c) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendments filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   b) ☐ They raise the issue of new matter (see NOTE below);
   c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): _____.

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☒ For purposes of appeal, the proposed amendment(s): (a) ☐ will not be entered, or (b) ☒ will be entered, and an explanation of how the new or amended claims would be rejected is provided below or appended.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

9. ☐ The affidavit or other evidence filed after final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

10. ☐ The affidavit or other evidence filed after the date of filing the Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

11. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

12. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.

13. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____

14. ☐ Other: _____.

STATUS OF CLAIMS

15. The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: NONE.
Claim(s) objected to: 34.
Claim(s) rejected: 14-33,35 and 36.
Claim(s) withdrawn from consideration: NONE.

/Alicia Baturay/
Primary Examiner, Art Unit 2441

Continuation of 12. does NOT place the application in condition for allowance because:

Applicant Argues: It is evident that Damola makes a clear distinction between the "terminal devices T1, T2, … Tn … TN" and the "server IMS-S." Not once does Damola suggest that the "server IMS-S" is a "terminal device." There is no question that a "terminal device" in Damola is not the same as the "server IMS-S."

In Response: The examiner respectfully submits that the language of claim 30 does not define explicitly what a terminal consists of, only what its duties are (e.g., receiving a trigger that initiates an exchange of media session information between the gateway and it, and conducting the actual media stream in which the second terminal participates).

The Specification states "the system at the studio may for example be a media server comprising the second terminal, wherein the second terminal comprises a RTSP client for multimedia stream retrieval. Alternatively, the second terminal may be located in a mixer or a transcoder and configured for multimedia stream adaptation. In a further variant, the second terminal may be part of device, that is located at another (home) location, and may be used for user-to-user multimedia stream transmission. The device comprising the second terminal may be a dedicated Set-Top Box (STB), a personal computer or mobile phone containing media player software…the second terminal may be regarded as a functional unit in a device, or a device capable of managing (initiating, negotiating, monitoring and controlling) the receipt of a multimedia stream (page 20, line 31 - page 21, line 8 and 12-15)."

The Authoritative Dictionary of IEEE Standards Terms, Seventh Edition defines the phrase 'terminal device' as "a point in a system or communication network at which data can either enter or leave." Specifically in relation to networks, "a point at which any element may be directly connected to one or more other elements."

USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim should not be read into the claim. E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily). In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550- 551 (CCPA 1969). See also In re Zletz, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow.... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed.... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process."). See MPEP 2106 (II)C.

Therefore, because Applicants do not explicitly define what a "terminal" is in the claim language or how it is distinguished over Damola's teaching of an IMS-S Server, claim 30 does not preclude mapping the functionality of Damola's IMS-S Server to that of the "second terminal" recited in claim 30. This renders the rejection proper, and thus the rejection stands.

Applicant Argues: Damola does not teach "wherein the response causes the first terminal to begin transmission of the first media stream."

In Response: The examiner respectfully submits that Damola teaches wherein the response (the return message 2CD2 = ACK. This could be a trigger for an event, such as the start of a commercial. The purpose of the event trigger is to bring about the invocation of a particular action in the set-top-box STB (T2 - see Damola, page 5, lines 30-31) - see Damola, Fig. 2c, elements T2 and 2CD2 = ACK; page 22, lines 15-16 and page 34, lines 1-6) causes the first terminal (terminal device T2 - see Damola, Fig. 2c, element T2; page 22, lines 26-32) to begin transmission of the first media stream (the basic function of an event trigger is to bring about the invocation of a particular action in the STB (T2), to inform the STB (T2) to start a media session - see Damola, page 34, lines 1-14 and 30-32). This renders the rejection proper, and thus the rejection stands.

ENTER

/A.B./
04/27/2016

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Docket No. 10-406-CON)

In re Application of:	)	
	)	
Hans Maarten Stokking et al.	)	
	)	**Examiner: Alicia Baturay**
Serial No.: 14/015,765	)	
	)	**Group Art Unit: 2441**
Filed: August 30, 2013	)	
	)	**Conf. No. 6519**
	)	
For: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM	)	

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Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

RESPONSE TO FINAL OFFICE ACTION MAILED FEBRUARY 25, 2016

This submission is made in response to the Final Office Action mailed February 25, 2016. Applicants believe no fees are due, however, the Patent Office is authorized and requested to charge all fees to deposit account 13-2490.

Please enter the following remarks and amendments into the record for this application.

Listing of the Claims begins on page 2 of this paper.

Remarks begin on page 9 of this paper.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Docket No. 10-406-CON)

In re Application of:	)	
	)	
Hans Maarten Stokking et al.	)	
	)	**Examiner: Alicia Baturay**
Serial No.: 14/015,765	)	
	)	**Group Art Unit: 2441**
Filed: August 30, 2013	)	
	)	**Conf. No. 6519**
	)	
For: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM	)	

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

RESPONSE TO FINAL OFFICE ACTION MAILED FEBRUARY 25, 2016

This submission is made in response to the Final Office Action mailed February 25, 2016. Applicants believe no fees are due, however, the Patent Office is authorized and requested to charge all fees to deposit account 13-2490.

Please enter the following remarks and amendments into the record for this application.

Listing of the Claims begins on page 2 of this paper.

Remarks begin on page 9 of this paper.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Listing of the Claims

1-13. (Canceled)

14. (Previously presented) A method, wherein a gateway is capable of communicating with a first terminal and a second terminal, the method comprising:

the gateway or the first terminal using a first protocol to exchange first media session information between the first terminal and the gateway, wherein the exchange of the first media session information sets up a first media stream from the first terminal;

the second terminal using a second protocol to receive a trigger provided by the gateway or first terminal, wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal;

in response to receiving the trigger, the second terminal using a third protocol to initiate the exchange of the second media session information between the gateway and the second terminal, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates; and

the second terminal receiving the second media stream, wherein the second media stream is associated with the first media stream.

15. (Previously presented) The method according to claim 14, wherein the exchange of the first media session information comprises:

the gateway providing to the first terminal at least part of the second media session information.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

16. (Previously presented) The method according to claim 14, wherein the exchange of the second media session information comprises:

the gateway providing to the second terminal at least part of the first media session information.

17. (Previously presented) The method according to claim 14, wherein the exchange of the first media session information comprises:

the gateway receiving, from the first terminal, an identifier of the second terminal.

18. (Previously presented) The method according to claim 17, further comprising:

before using the second protocol to provide the trigger to the second terminal, the gateway resolving the identifier of the second terminal into a network address of the second terminal.

19. (Previously presented) The method according to claim 18, wherein providing the trigger to the second terminal comprises the gateway transmitting the trigger to the resolved network address of the second terminal.

20. (Previously presented) The method of claim 14, wherein the third protocol is different from the second protocol.

21. (Previously presented) The method of claim 14, wherein the first multimedia stream is the second multimedia stream.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

22. (Previously presented) The method of claim 14, wherein the trigger serves to inform the second terminal of availability of a new multimedia stream.

23. (Previously presented) The method of claim 14, wherein the first protocol is a peer-to-peer protocol.

24. (Previously presented) The method of claim 14, wherein the third protocol is a client-server protocol, and wherein the second receiving terminal has client capabilities of the third protocol and not server capabilities of the third protocol.

25. (Previously presented) The method of claim 14, wherein the trigger comprises a network address of the gateway.

26. (Previously presented) The method of claim 25, wherein the network address is a URI or a URI reference.

27. (Previously presented) The method of claim 14, wherein the first protocol and the second protocol are identical.

28. (Previously presented) The method of claim 27, wherein the first protocol and the second protocol are the Session Initiation Protocol (SIP).

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

29. (Previously presented) The method of claim 14, wherein the gateway is configured to associate the first multimedia session information with the second multimedia session information.

30. (Previously presented) An article of manufacture including a non-transitory computer-readable medium, having stored thereon software instructions that, if executed by a computing device, cause the computing device to perform operations comprising:

using a first protocol to initiate an exchange of first media session information between a first terminal and a gateway, wherein the exchange of the first media session information sets up a first media stream from the first terminal;

using a second protocol to provide a trigger to a second terminal, wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal;

using a third protocol to conduct the exchange of the second media session information between the gateway and the second terminal, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates; and

using the first protocol to transmit a response to the first terminal, wherein the response causes the first terminal to begin transmission of the first media stream.

31. (Previously presented) A gateway comprising:

a communication interface; and

memory that stores software instructions that, when executed by the gateway, cause the gateway to:

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HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

(i) exchange first multimedia session information with a first terminal using a first protocol, wherein the exchange of the first media session information sets up a first media stream from the first terminal,

(ii) provide a trigger to a second terminal, wherein the trigger is provided using a second protocol, in response to which the second terminal is able to initiate the exchange of second multimedia session information with the gateway, and

(iii) exchange second multimedia session information with the second terminal, using a third protocol, wherein the third protocol is different from the first protocol, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates.

32. (Previously presented) The gateway of claim 31, wherein the gateway is configured to connect to a first terminal supporting a first protocol and to a second terminal supporting a second protocol,

wherein the first protocol is Session Initiation Protocol (SIP) and the second protocol is Real Time Streaming Protocol (RTSP),

wherein the first terminal is an originating SIP client of a user at a user side,

wherein the gateway acts as a terminating SIP client,

wherein the gateway is configured to confirm that the gateway is able to receive a multimedia session from the user and to provide the first terminal with multimedia session information,

wherein the second terminal is an RTSP client,

wherein the gateway acts as an RTSP server on behalf of the user,

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

wherein the second terminal uses RTSP for session control, and

wherein the gateway is configured to inform the second terminal that an incoming session is pending and notify the RTSP client to connect to an RTSP server function of the gateway.

33. (Previously presented) The gateway of claim 31, wherein the gateway is configured to transmit a notification message to the second terminal in response to an invitation of the first terminal, in order to activate the second terminal to set up the second multimedia session between the second terminal and the gateway.

34. (Previously presented) The gateway of claim 31, wherein the gateway is embedded in an IP Multi-Media Subsystem (IMS) network architecture, wherein the first protocol is Session Initiation Protocol (SIP), wherein the third protocol is Real Time Streaming Protocol (RTSP), the IMS network architecture comprising a service-control-function component and a media-function component, wherein the memory of the gateway is distributed in the IMS network architecture, such that:

exchanging the first multimedia session information is handled by the service-control-function component within the IMS network architecture;

triggering the second terminal is controlled by the service-control-function component within the IMS network architecture; and

exchanging second multimedia session information is handled by the media-function component within the IMS network architecture.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

35. (Previously presented) The gateway of claim 31, wherein the gateway is configured to associate the first multimedia session information and the second multimedia session information with each other.

36. (Previously presented) The gateway of claim 31, wherein the gateway further comprises Session Initiation Protocol (SIP) client functionality and Real Time Streaming Protocol (RTSP) server functionality.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Remarks

1. Summary of the Office Action

In the Final Office Action mailed February 25, 2016 ("Current Final Office Action"), the Examiner rejected claims 14-20 and 22-36 on grounds of non-statutory double patenting over claims 1-7 and 9-23 of U.S. Patent No. 8,549,151. The Examiner rejected claim 30 under pre-AIA 35 U.S.C. § 102(e) as allegedly being anticipated by WO 2007/140834 (Damola). The Examiner rejected claims 14-16, 20, 21, 29, 31, 33, 35, and 36 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola in view of U.S. Patent No. 7,181,537 (Costa-Requena), and rejected claims 17-19 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola and Costa-Requena and further in view of U.S. Patent No. 7,804,848 (Mirtorabi). The Examiner also rejected claim 22 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola and Costa-Requena and further in view of U.S. Patent Pub. No. 2006/0128376 (Alexis), and rejected claims 23 and 24 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola and Costa-Requena and further in view of U.S. Patent Pub. No. 2006/0291472 (Guo). Finally, the Examiner rejected claims 25-28 and 32 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola and Costa-Requena and further in view of U.S. Patent No. 7,724,691 (Mela). The Examiner indicated that claim 34 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims.

2. Status of the Claims

Pending are claims 14-36, of which claims 14, 30 and 31 are independent and the remainder are dependent.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

3. Response to Rejections on grounds of nonstatutory double patenting

The Examiner rejected claims 14-20 and 22-36 on grounds of non-statutory double patenting over claims 1-7 and 9-23 of U.S. Patent No. 8,549,151. Without acquiescing to the Examiner's assertions regarding the rejection of claims 14-20 and 22-36 on grounds of nonstatutory double patenting, Applicants will consider filing a Terminal Disclaimer at such time when the current nonstatutory double patenting rejection remains the only impediment to allowability of the pending claims of the instant application.

4. Response to Rejection under pre-AIA 35 U.S.C. § 102(e)

The Examiner rejected claim 30 under pre-AIA 35 U.S.C. § 102(e) as allegedly being anticipated by Damola. Applicants submit that Damola does not teach each and every element set forth in claim 30, and that claim 30 is therefore allowable.

The Examiner cited to Figure 2c and various explanations of Figure 2c in Damola to argue that Damola teaches the limitations of claim 30. In particular, a "Response to Arguments" section of the Current Final Office Action (pages 2-6) includes the Examiner's response to various of Applicants' arguments in their previous response filed December 14, 2015 ("Previous Response"). On page 3 in the "Response to Arguments" section, the Examiner definitively identified: (i) the "terminal device T2" of Damola with the "first terminal" recited in claim 30; (ii) the "gateway apparatus HiGA" of Damola with the "gateway" recited in claim 30; and (iii) the "server IMS-S" of Damola with the "second terminal" recited in claim 30. All of the Examiner's remaining reasoning in the Current Final Office Action as to how Damola allegedly anticipates claim 30 rests on these identifications made by the Examiner. Applicants respectfully submit, however, the Examiner's identification of the "server IMS-S" of Damola with the "second terminal" recited in claim 30" is directly contradicted by the express teachings of

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Damola, and is therefore factually incorrect.

Specifically, Damola teaches (page 13, lines 15-19) "a communication system SYS in accordance with the invention" in which the "communication system" comprises:

> a gateway apparatus HiGA, a plurality of terminal devices T1, T2, ... Tn ... TN and a service providing *server IMS-S for providing services SERM to said terminal devices T1, T2, ... Tn ... TN* through an access network AC. (Emphasis added.)

It is evident that Damola makes a clear distinction between the "terminal devices T1, T2, ... Tn ... TN" and the "server IMS-S." Indeed, Damola mentions the "server IMS-S" more than 80 times, distinguishing it from the "terminal devices" at least at page 13, lines 16-19; page 13, lines 21-24; page 15, lines 32-34; page 19, lines 4-11; and in claims 1, 18 and 35. Not once does Damola suggest that the "server IMS-S" is a "terminal device." There is no question that a "terminal device" in Damola is not the same as the "server IMS-S."

Applicants respectfully submit that the Examiner's identification of the "terminal device T2" of Damola with the "first terminal" recited in claim 30, and the "server IMS-S" of Damola with the "second terminal" recited in claim 30 presupposes that the "terminal device T2" and the "server IMS-S" are both "terminal devices." But Damola makes it clear that they are not.

The Examiner's further arguments as to how Damola allegedly anticipates claim 30 rest on the above identifications, which Applicants submit are factually incorrect for at least the reasons just discussed. Specifically, the Examiner asserted that various communications taught by Damola between the "first terminal device" and the "gateway apparatus HiGA," and between the "server IMS-S" and the "gateway apparatus HiGA" are analogous to one or another of exchanges of information between the "first terminal" and the "gateway," and between the "second terminal" and the "gateway" described, *inter alia*, in claim 30. Without acquiescing to

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

the Examiner's assertion that Damola teaches an information flow analogous to that in claim 30, Applicants submit that Damola simply does not teach *any* two "terminal devices" engage in the allegedly analogous communications with the "gateway apparatus HiGA."

Also in the "Response to Arguments" section (page 4), the Examiner cited to page 34, lines 1-14 and 30-32 of Damola as allegedly teaching the "first terminal" beginning "transmission of the first media stream," as in claim 30. More particularly, the Examiner cited these portions of Damola in answer to Applicants' arguments in their Previous Response (pages 11-12) that Damola teaches "video streaming" either from the "server IMS-S" or the "access network AC, but not from the "terminal device T2." Applicants respectfully submit that Damola does not teach what the Examiner has attributed to Damola.

In every example scenario and/or embodiment disclosed in Damola, the only source of video streaming is either the "server IMS-S" or the "access network AC." On page 34, lines 1-14 and 30-32 cited by the Examiner, Damola teaches (in connection with Figure 4e) sending a "trigger event" to a "set-top-box" ("STB"), which then initiates establishment of a media session in which a "commercial" other type of "personalized content" is streamed to the "STB" from a "media server." Damola also teaches the "STB" is an example of the "terminal device T2," which, as noted above, the Examiner identified with the "first terminal" of claim 30. At page 34, lines 31-32, Damola mentions that "personalized content, such as advertisements, could be pre-cached in the CPN (Customer Premises Network), e.g. in the STB itself or in a NAS (Network Attached Storage) controlled by the operator." As such, this is the only example in Damola in which content bound for the "STB" (or the "terminal device T2") is "pre-cached" instead of actively streamed from either the "server IMS-S" or the "access network AC."

However, Damola does *not* teach that the "terminal device T2" begins "transmission" of

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HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

the "pre-cached" content. Only that pre-caching content at the "STB" may replace the need for streaming that same content from the "server IMS-S" or the "access network AC" to the "STB" when "delivering personalized content may be too expensive from the point of view of network resources in the access transport network AC." Accordingly, Applicants submit that Damola does not teach "wherein the response causes the first terminal to begin transmission of the first media stream."

Applicants note that they amended claim 30 in the Previous Response to recite "using a *third* protocol…" The "third protocol" was not addressed in the anticipation rejection of claim 30 in the Current Final Office Action. The "third protocol" is also recited, *inter alia*, in independent claims 14 and 31, both of which have been rejected under pre-AIA 35 U.S.C. § 103(a) as noted above and discussed below. While Applicants submit the current rejection of claim 30 is not proper for having overlooked the amendment made in the Previous Response, Applicants recognize the Examiner's assertion in connection with the rejection of claims 14 and 31 that Costa-Requena teaches a "third protocol." Applicants do not, however, concede that Costa-Requena could be applied to a rejection of claim 30 under pre-AIA 35 U.S.C. § 103(a).

For at least the reasons above, Applicants submit that Damola does not anticipate claim 30, and that claim 30 is allowable.

5. Response to Rejections under 35 U.S.C. § 103(a)

a. Claims 14-16, 20, 21, 29, 31, 33, 35, and 36

The Examiner rejected claims 14-16, 20, 21, 29, 31, 33, 35, and 36 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola in view of Costa-Requena. Applicants submit that modifying the teachings of Damola with those of Costa-Requena does not logically or reasonably lead to any of claims 14-16, 20, 21, 29, 31, 33, 35, and 36. Applicants

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

first address claim 14, then subsequently address claims 15-16, 20, 21, 29, 31, 33, 35, and 36.

The Examiner conceded that Damola does not teach "a third protocol," but instead asserted that Costa-Requena does teach this limitation. However, Applicants submit that regardless of whether or not Costa-Requena teaches what the Examiner acknowledged is missing from Damola, the failure of the Damola to anticipate claim 30, as discussed above, undermines support for the Examiner's reliance on Damola in the rejection of claim 14.

Specifically, claim 14 includes, *inter alia*, limitations similar to those of claim 30 that, as Applicants discussed above, distinguish over Damola. Thus, Damola also fails to teach these similar limitations of claim 14. As such, Damola does not teach what the Examiner attributed to Damola in the rejection of claim 14. And Costa-Requena does not teach these limitations either. Accordingly, modifying the teachings of Damola with those of Costa-Requena does not logically or reasonably lead to claim 14.

For at least the reasons above, Applicants submit that claim 14 is therefore allowable.

Claim 31 includes, *inter alia*, limitations similar to those discussed above in connection with claim 14. Applicants therefore submit that claim 31 is allowable for at least the reasons that claim 14 is allowable.

Each of claims 15-16, 20, 21, 29, 33, 35, and 36 depends from one or another of claims 14 or 31, both of which are allowable for at least the reasons above. Applicants submit that each of claims 15-16, 20, 21, 29, 33, 35, and 36 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to any of claims 15-16, 20, 21, 29, 33, 35, or 36.

b. Claims 17-19

The Examiner rejected claims 17-19 under pre-AIA 35 U.S.C. § 103(a) as allegedly

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

being obvious over Damola and Costa-Requena and further in view of Mirtorabi. Each of claims 17-19 depends from claim 14, which is allowable for at least the reasons above. Applicants submit that each of claims 17-19 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to any of claims 17-19.

c. Claim 22

The Examiner rejected claim 22 as being allegedly obvious over Damola and Costa-Requena and further in view of Alexis. Claim 22 depends from claim 14, which is allowable for at least the reasons above. Applicants submit that claim 22 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to claim 22.

d. Claims 23 and 24

The Examiner rejected claims 23 and 24 as being allegedly obvious over Damola and Costa-Requena and further in view of Guo. Each of claims 23 and 24 depends from claim 14, which is allowable for at least the reasons above. Applicants submit that each of claims 23 and 24 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to either of claims 23 or 24.

e. Claims 25-28 and 32

The Examiner rejected claims 25-28 and 32 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola and Costa-Requena and further in view of Mela. Each of claims 25-28 and 32 depends from one or another of claims 14 or 31, both of which are allowable for at least the reasons above. Applicants submit that each of claims 25-28 and 32 is

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to any of claims 25-28 or 32.

6. Allowable subject matter

The Examiner indicated that claim 34 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Claim 34 depends from claim 31, which is allowable for at least the reasons above. Applicants submit that claim 34 is therefore allowable for at least the reason that it depends from an allowable claim.

7. Conclusion

For the foregoing reasons, Applicants submit that claims are allowable. Therefore, Applicants request favorable reconsideration and allowance of the claims.

Applicants do not acquiesce in any assertion in the office action that is not expressly addressed by these remarks.

Should the Examiner wish to discuss this case with the undersigned, the Examiner is invited to call the undersigned at (312) 913-3353.

Respectfully submitted,

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP

Date: May 21, 2016

By: /David A. Grabelsky/
David A. Grabelsky
Reg. No. 59,208

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Electronic Acknowledgement Receipt

EFS ID:	25557269
Application Number:	14015765
International Application Number:	
Confirmation Number:	6519
Title of Invention:	Method And System For Transmitting A Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Customer Number:	20306
Filer:	David A. Grabelsky
Filer Authorized By:	
Attorney Docket Number:	10-406-CON
Receipt Date:	21-APR-2016
Filing Date:	30-AUG-2013
Time Stamp:	13:18:47
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Response After Final Action	10-406-CON_Response_25Feb16_FOA.pdf	145514 f132d364fb386d5bb38e31af520aefbf98e6b76d	no	16

Warnings:	
Information:	

Total Files Size (in bytes):	145514

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/015,765	Filing Date 08/30/2013	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 04/21/2016

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 23	Minus	** 23	= 0	X $80 =	0
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $420 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/DARLENE BROWN/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/015,765	08/30/2013	Hans Maarten Stokking	10-406-CON	6519

20306 7590 02/25/2016

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

EXAMINER	
BATURAY, ALICIA	

ART UNIT	PAPER NUMBER
2441	

MAIL DATE	DELIVERY MODE
02/25/2016	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 14/015,765	Applicant(s) STOKKING ET AL.	
	Examiner Alicia Baturay	Art Unit 2441	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2015*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *14-36* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *14-33,35 and 36* is/are rejected.

8)☒ Claim(s) *34* is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *30 August 2013* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☒ All b)☐ Some** c)☐ None of the:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

DETAILED ACTION

1. The present application is being examined under the pre-AIA first to invent provisions.

2. This Office Action is in response to the amendment filed 14 December 2015.

3. Claim 30 was amended.

4. Claims 1-13 were cancelled.

5. Claims 14-36 are pending in this Office Action.

Response to Amendment

6. The rejection is respectfully maintained as set forth in the last Office Action mailed on 13 July 2015. Applicant's arguments with respect to claims 14-36 have been fully considered but they are not persuasive and the old rejection maintained.

Response to Arguments

7. Applicant's arguments filed 14 December 2015 have been fully considered, but they are not persuasive for the reasons set forth below.

8. ***Applicant Argues:*** Applicants respectfully submit that the "element IMS-S" of Figure 2c cannot be identified with both the "first terminal" and the "second terminal" recited in claim 30. Similarly, the elements "T2" and "IMS-S" cannot both be identified with the "first terminal" recited in claim 30.

In Response: The examiner respectfully submits that Damola teaches a first terminal (terminal device T2 – see Damola, Fig. 2c, element T2; page 22, lines 26-32); a gateway (gateway apparatus HiGA (Home IMS GAteway) – see Damola, Fig. 2c, element HiGA; page 25, lines 7-10); and a second terminal (server IMS-S – see Damola, Fig. 2c, element IMS-S; page 22, line 25) as set forth in the Office Action dated 13 July 2015 on pages 4-5, paragraph 10, lines 6-8 and 12-13. This renders the rejection proper, and thus the rejection stands.

9. ***Applicant Argues:*** Specifically, assuming first, for the sake of argument, that the elements "T2," "IMS-S," and "HiGA" of Damola are identified respectively with the "first terminal," the "second terminal," and the "gateway" recited in claim 30, then, at the very least, Damola's teaching that the "IMS-S" is the media streaming **source** would require that the "second terminal" transmits the recited "first media stream." But claim 30 recites, *inter alia*, "wherein the response causes the *first* terminal to begin transmission of the first media stream. This is clearly *not* what Damola teaches under the first assumption.

In Response: The examiner respectfully submits that Damola teaches wherein the response (the return message $2CD_2$ = ACK. This could be a trigger for an event, such as the start of a commercial. The purpose of the event trigger is to bring about the invocation of a particular action in the set-top-box STB (T2 – see Damola, page 5, lines 30-31) – see Damola, Fig. 2c, elements T2 and $2CD_2$ = ACK; page 22, lines 15-16 and page 34, lines 1-6) causes the first terminal (terminal device T2 – see Damola, Fig. 2c, element T2; page 22, lines 26-32) to begin

transmission of the first media stream (the basic function of an event trigger is to bring about the invocation of a particular action in the STB (T2), to inform the STB (T2) to start a media session – which is a commercial; and personalized content, such as advertisements, could be pre-cached in the STB itself – see Damola, page 34, lines 1-14 and 30-32). This renders the rejection proper, and thus the rejection stands.

10. ***Applicant Argues:*** Even further assuming, again for the sake of argument, that SIP were identified with the "first protocol" and that RSTP were identified with the "second protocol," the signaling flow of Damola would still be contrary to what is recited, *inter alia*, in claim 30. Specifically, Damola teaches that the media session is initiated by the RSTP request, which by further assumption is identified with the "second protocol." However, claim 30 recites, *inter alia*, "using a second protocol to provide a trigger *to* a second terminal, wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal." But since the RSTP request taught by Damola is directed from "T2" to the "HiGA," it *cannot* in any case be considered a trigger provided *to* the "second terminal."

Damola does not teach any "trigger." More particularly, as noted, claim 30 recites, *inter alia*, "the trigger is to *initiate an exchange* of second media session information between the gateway and the second terminal." As such, the "trigger" is not itself a part of the "exchange." The Examiner identified the "SIP Request" in Damola as "using a second protocol to provide a trigger to a second terminal." However, as is known, a SIP Request is *part* of an exchange that

can establish a media session, for example. It therefore cannot be a "trigger" that initiates the exchange.

In Response: The examiner respectfully submits that regarding the word "trigger," USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim should not be read into the claim. *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily). *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550- 551 (CCPA 1969). See also *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow.... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed.... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process."). See MPEP § 2106 (II)C.

The examiner respectfully submits that Damola teaches the use of a trigger. Damola details that the control data or control information may simply be a trigger to run a specific service (Damola, page 14, lines 8-10). The HiGA exchanges control messages 1CD between the server side IMS-S and the gateway apparatus HiGA (Damola, page 19, lines 24-26).

Therefore, Damola teaches using a second protocol (SIP – see Damola, Fig. 2c, $1CD_1$ = SIP Request; page 22, lines 10-11) to provide a trigger ($1CD_1$ = SIP Request – see Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-20) to a second terminal (server IMS-S – see Damola, Fig. 2c, element IMS-S; page 22, line 25), wherein the trigger is to initiate an exchange of a second media session information between the gateway and the second terminal (the RTSP proxy application (shown in Fig. 2c as running on the HiGA – see Damola, Fig. 2c, AS-A(RTSP); page 23, lines 9-11) can then initiate an enquiry/request message $1CD_1$ to the server IMS-S to enquiry whether there are sufficient resources in the access network AS to provide the requested service (video stream) – see Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26). This renders the rejection proper, and thus the rejection stands.

Double Patenting

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the claims at issue are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686

F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the reference application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO internet Web site contains terminal disclaimer forms which may be used. Please visit http://www.uspto.gov/forms/. The filing date of the application will determine what form should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to http://www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

12. Claims 14-20 and 22-36 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-7 and 9-23 of U.S. Patent No. 8,549,151. Although the claims at issue are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter.

Claim Rejections - 35 USC § 102

13. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

14. The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

15. Claim 30 is rejected under pre-AIA 35 U.S.C. 102(e) as being anticipated by Damola et al. (WO 2007/140834).

16. With respect to claim 30, Damola teaches an article of manufacture including a non-transitory computer-readable medium, having stored thereon software instructions that, if executed by a computing device, cause the computing device to perform operations comprising: using a first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10) to initiate an exchange of a first media session information (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) between a first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32) and a gateway (Damola, Fig. 2c, element HiGA; page 25, lines

7-10), wherein the exchange of the first media session information sets up a first media stream (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) from the first terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20); using a second protocol (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 22, lines 10-11) to provide a trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-20) to a second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25), wherein the trigger is to initiate an exchange of a second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); using the second protocol to conduct the exchange of the second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-28),wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); and using the first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10) to transmit a response to (Damola, Fig. 2c, elements T2 and $2CD_2$ = ACK; page 22, lines 15-16) the first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32), wherein the response causes the first terminal to begin transmission of the first media stream (Damola, page 22, lines 1-21).

Claim Rejections - 35 USC § 103

17. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the

statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

18. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. Claims 14-16, 20, 21, 29, 31, 33, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damola in view of Costa-Requena et al. (U.S. 7,181,537).

20. With respect to claim 14, Damola teaches a method, wherein a gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) is capable of communicating with a first terminal (Damola, Fig. 2c, elements T2 and $2CD_2$ = ACK; page 22, lines 15-16) and a second terminal (Damola, Fig. 2c, elements IMS-S and $1CD_1$ = SIP Request; page 22, lines 10-11), the method comprising: the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) or the first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32) using a first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10) to exchange first media session information between the first terminal and the gateway (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16), wherein the exchange of the first media session information sets up a first media stream (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) from the first terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20); the

second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25) using a second protocol (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 22, lines 10-11) to receive a trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-20) provided by the gateway or first terminal (Damola, Fig. 2c, element HiGA; page 24, lines 16-20), wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); in response to receiving the trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-26), the second terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20) using a protocol (Damola, Fig. 2c, $1CD_2$ = ACK; page 24, lines 24-26) to initiate the exchange of the second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-28), wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); and the second terminal receiving the second media stream (Damola, Fig. 2c, element T2 and SP; page 22, lines 1-4), wherein the second media stream is associated with the first media stream (Damola, Fig. 2c; page 24, line 13 – page 25, line 10).

Damola does not explicitly teach using a third protocol.

However, Costa-Requena teaches using a third protocol (Costa-Requena, Fig. 1, elements 11a, 12a, 14, and 14a; col. 2, lines 37-59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Damola in view of Costa-Requena in order to enable the use of a third protocol. One would be motivated to do so in order to enable the use of a new user URI parameter that provides a way to have a message that has a WV address, but is otherwise a SIP

message, routed through an IMS network to an intended WV client, whether or not the IMS network allows such messages (Costa-Requena, col. 4, line 61 – col. 5, line 3).

21. With respect to claim 15, the combination of Damola and Costa-Requena teaches the invention described in claim 14, including the method wherein the exchange of the first media session information comprises: the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) providing to the first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32) at least part of the second media session information (Damola, Fig. 2c; page 22, lines 13-17).

22. With respect to claim 16, the combination of Damola and Costa-Requena teaches the invention described in claim 14, including the method wherein the exchange of the second media session information comprises: the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) providing to the second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25) at least part of the first media session information (Damola, Fig. 2c, page 22, lines 12-13).

23. With respect to claim 20, the combination of Damola and Costa-Requena teaches the invention described in claim 14, including the method wherein the third protocol is different from the second protocol (Costa-Requena, col. 2, lines 37-59).

24. With respect to claim 21, the combination of Damola and Costa-Requena teaches the invention described in claim 14, including the method wherein the first multimedia stream is the second multimedia stream (Damola, page 22, lines 1-21).

25. With respect to claim 29, the combination of Damola and Costa-Requena teaches the invention described in claim 14, including the method wherein the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) is configured to associate the first multimedia session information and the second multimedia session information (Damola, page 22, lines 1-21).

26. With respect to claim 31, Damola teaches a gateway comprising: a communication interface; and memory that stores software instructions that, when executed by the gateway, cause the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) to: (i) exchange first multimedia session information (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) with a first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32) using a first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10), wherein the exchange of the first media session information sets up a first media stream (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) from the first terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20), (ii) provide a trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-20) to a second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25), wherein the trigger is provided using a second protocol (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 22, lines 10-11), in response to which the second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25) is able to initiate the exchange of second multimedia session information with the gateway (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26), and (iii) exchange second multimedia session information with the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-28), wherein the

exchange of the second media session information sets up a second media stream in which the second terminal participates (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26).

Damola does not explicitly teach using a third protocol, wherein the third protocol is different from the first protocol.

However, Costa-Requena teaches using a third protocol, wherein the third protocol is different from the first protocol (Costa-Requena, Fig. 1, elements 11a, 12a, 14, and 14a; col. 2, lines 37-59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Damola in view of Costa-Requena in order to enable the use of using a third protocol, wherein the third protocol is different from the first protocol. One would be motivated to do so in order to enable the use of a new user URI parameter that provides a way to have a message that has a WV address, but is otherwise a SIP message, routed through an IMS network to an intended WV client, whether or not the IMS network allows such messages (Costa-Requena, col. 4, line 61 – col. 5, line 3).

27. With respect to claim 33, the combination of the combination of Damola and Costa-Requena teaches the invention described in claim 31, including the gateway wherein the gateway is configured to transmit a notification message to the second terminal in response to an invitation of the first terminal, in order to activate the second terminal to set up the second multimedia session between the second terminal and the gateway (Damola, page 22, lines 1-21).

28. With respect to claim 35, the combination of the combination of Damola and Costa-Requena teaches the invention described in claim 31, including the gateway wherein the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) is further configured to associate the first multimedia session and the second multimedia session information with each other (Damola, page 22, lines 1-21).

29. With respect to claim 36, the combination of the combination of Damola and Costa-Requena teaches the invention described in claim 31, including the gateway wherein the gateway further comprises Session Initiation Protocol (SIP) client functionality and Real Time Streaming Protocol (RTSP) server functionality (Damola, page 22, lines 6-11).

30. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damola and Costa-Requena and further in view of Mirtorabi et al. (U.S. 7,804,848).

31. With respect to claim 17, Damola teaches the invention described in claim 14, including a method, wherein a gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) is capable of communicating with a first terminal (Damola, Fig. 2c, elements T2 and $2CD_2$ = ACK; page 22, lines 15-16) and a second terminal (Damola, Fig. 2c, elements IMS-S and $1CD_1$ = SIP Request; page 22, lines 10-11), the method comprising: the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) or the first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32) using a first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10) to

exchange first media session information between the first terminal and the gateway (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16), wherein the exchange of the first media session information sets up a first media stream (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) from the first terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20); the second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25) using a second protocol (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 22, lines 10-11) to receive a trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-20) provided by the gateway or first terminal (Damola, Fig. 2c, element HiGA; page 24, lines 16-20), wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); in response to receiving the trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-26), the second terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20) using a protocol (Damola, Fig. 2c, $1CD_2$ = ACK; page 24, lines 24-26) to initiate the exchange of the second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-28), wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); and the second terminal receiving the second media stream (Damola, Fig. 2c, element T2 and SP; page 22, lines 1-4), wherein the second media stream is associated with the first media stream (Damola, Fig. 2c; page 24, line 13 – page 25, line 10).

Damola does not explicitly teach using a third protocol.

However, Costa-Requena teaches using a third protocol (Costa-Requena, Fig. 1, elements 11a, 12a, 14, and 14a; col. 2, lines 37-59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Damola in view of Costa-Requena in order to enable the use of a third protocol. One would be motivated to do so in order to enable the use of a new user URI parameter that provides a way to have a message that has a WV address, but is otherwise a SIP message, routed through an IMS network to an intended WV client, whether or not the IMS network allows such messages (Costa-Requena, col. 4, line 61 – col. 5, line 3).

The combination of Damola and Costa-Requena does not explicitly teach the method wherein the exchange of the first media session information comprises: the gateway receiving, from the first terminal, an identifier of the second terminal.

However, Mirtorabi teaches the method wherein the exchange of the first media session information comprises: the gateway receiving, from the first terminal, an identifier of the second terminal (Mirtorabi, col. 9, lines 13-47).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Damola and Costa-Requena in view of Mirtorabi in order to enable the method wherein the exchange of the first media session information comprises: the gateway receiving, from the first terminal, an identifier of the second terminal. One would be motivated to do so in order to set a forwarding address in an IPv6 domain at a boundary with a domain using a different routing protocol (Mirtorabi, col 2, lines 32-34).

32. With respect to claim 18, the combination of Damola, Costa-Requena, and Mirtorabi teaches the invention described in claim 17, including the method further comprising: before using the second protocol to provide the trigger to the second terminal, the gateway resolving the identifier of the second terminal into a network address of the second terminal (Mirtorabi, col. 9, lines 13-47).

33. With respect to claim 19, the combination of Damola, Costa-Requena, and Mirtorabi teaches the invention described in claim 18, including the method wherein providing the trigger to the second terminal comprises the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) transmitting the trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-26) to the resolved network address of the second terminal (Mirtorabi, col. 9, lines 13-47).

34. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Damola and Costa-Requena and further in view of Alexis (U.S. 2006/0128376).

35. With respect to claim 22, Damola teaches the invention described in claim 14, including a method, wherein a gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) is capable of communicating with a first terminal (Damola, Fig. 2c, elements T2 and $2CD_2$ = ACK; page 22, lines 15-16) and a second terminal (Damola, Fig. 2c, elements IMS-S and $1CD_1$ = SIP Request; page 22, lines 10-11), the method comprising: the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) or the first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32)

using a first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10) to exchange first media session information between the first terminal and the gateway (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16), wherein the exchange of the first media session information sets up a first media stream (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) from the first terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20); the second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25) using a second protocol (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 22, lines 10-11) to receive a trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-20) provided by the gateway or first terminal (Damola, Fig. 2c, element HiGA; page 24, lines 16-20), wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); in response to receiving the trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-26), the second terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20) using a protocol (Damola, Fig. 2c, $1CD_2$ = ACK; page 24, lines 24-26) to initiate the exchange of the second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-28), wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); and the second terminal receiving the second media stream (Damola, Fig. 2c, element T2 and SP; page 22, lines 1-4), wherein the second media stream is associated with the first media stream (Damola, Fig. 2c; page 24, line 13 – page 25, line 10).

Damola does not explicitly teach using a third protocol.

However, Costa-Requena teaches using a third protocol (Costa-Requena, Fig. 1, elements 11a, 12a, 14, and 14a; col. 2, lines 37-59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Damola in view of Costa-Requena in order to enable the use of a third protocol. One would be motivated to do so in order to enable the use of a new user URI parameter that provides a way to have a message that has a WV address, but is otherwise a SIP message, routed through an IMS network to an intended WV client, whether or not the IMS network allows such messages (Costa-Requena, col. 4, line 61 – col. 5, line 3).

The combination of Damola and Costa-Requena does not explicitly teach the method wherein the trigger servers to inform the second terminal of availability of a new multimedia stream.

However, Alexis teaches the method wherein the trigger servers to inform the second terminal of availability of a new multimedia stream (Alexis, page 15, paragraph 276).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Damola and Costa-Requena in view of Alexis in order to enable the method wherein the trigger servers to inform the second terminal of availability of a new multimedia stream. One would be motivated to do so in order to provide additional functionalities and capabilities for mobile telephones (Alexis, page 1, paragraph 6).

36. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damola and Costa-Requena and further in view of Guo et al. (U.S. 2006/0291472).

37. With respect to claim 23, Damola teaches the invention described in claim 14, including a method, wherein a gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) is capable of communicating with a first terminal (Damola, Fig. 2c, elements T2 and $2CD_2$ = ACK; page 22, lines 15-16) and a second terminal (Damola, Fig. 2c, elements IMS-S and $1CD_1$ = SIP Request; page 22, lines 10-11), the method comprising: the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) or the first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32) using a first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10) to exchange first media session information between the first terminal and the gateway (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16), wherein the exchange of the first media session information sets up a first media stream (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) from the first terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20); the second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25) using a second protocol (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 22, lines 10-11) to receive a trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-20) provided by the gateway or first terminal (Damola, Fig. 2c, element HiGA; page 24, lines 16-20), wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); in response to receiving the trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-26), the second terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20) using a protocol (Damola, Fig. 2c, $1CD_2$ = ACK; page 24, lines 24-26) to initiate the exchange of the second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-28), wherein the exchange of the

second media session information sets up a second media stream in which the second terminal participates (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); and the second terminal receiving the second media stream (Damola, Fig. 2c, element T2 and SP; page 22, lines 1-4), wherein the second media stream is associated with the first media stream (Damola, Fig. 2c; page 24, line 13 – page 25, line 10).

Damola does not explicitly teach using a third protocol.

However, Costa-Requena teaches using a third protocol (Costa-Requena, Fig. 1, elements 11a, 12a, 14, and 14a; col. 2, lines 37-59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Damola in view of Costa-Requena in order to enable the use of a third protocol. One would be motivated to do so in order to enable the use of a new user URI parameter that provides a way to have a message that has a WV address, but is otherwise a SIP message, routed through an IMS network to an intended WV client, whether or not the IMS network allows such messages (Costa-Requena, col. 4, line 61 – col. 5, line 3).

The combination of Damola and Costa-Requena does not explicitly teach the method wherein the first protocol is a peer-to-peer protocol.

However, Guo teaches the method wherein the first protocol is a peer-to-peer protocol (Guo, pages 2 and 3, paragraph 25, lines 3 and 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Damola and Costa-Requena in view of Guo in order to enable the method wherein the first protocol is a peer-to-peer protocol. One would be motivated to do so in order to obviate the need for client-side device upgrades and server-side device

upgrades in order to utilize network services by rendering the companion protocol transparent to the service endpoints (Guo, pages 1-2, paragraph 16).

38. With respect to claim 24, the combination of Damola, Costa-Requena, and Guo teaches the invention described in claim 14, including the method wherein the third protocol is a client-server protocol, and wherein the second receiving terminal has client capabilities of the third protocol and not server capabilities of the third protocol (Guo, pages 2 and 3, paragraph 25, lines 3 and 4).

39. Claims 25-28 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damola and Costa-Requena and further in view of Mela et al. (U.S. 7,724,691).

40. With respect to claim 25, Damola teaches the invention described in claim 14, wherein a method, wherein a gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) is capable of communicating with a first terminal (Damola, Fig. 2c, elements T2 and $2CD_2$ = ACK; page 22, lines 15-16) and a second terminal (Damola, Fig. 2c, elements IMS-S and $1CD_1$ = SIP Request; page 22, lines 10-11), the method comprising: the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) or the first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32) using a first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10) to exchange first media session information between the first terminal and the gateway (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16), wherein the

exchange of the first media session information sets up a first media stream (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) from the first terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20); the second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25) using a second protocol (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 22, lines 10-11) to receive a trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-20) provided by the gateway or first terminal (Damola, Fig. 2c, element HiGA; page 24, lines 16-20), wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); in response to receiving the trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-26), the second terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20) using a protocol (Damola, Fig. 2c, $1CD_2$ = ACK; page 24, lines 24-26) to initiate the exchange of the second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-28), wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); and the second terminal receiving the second media stream (Damola, Fig. 2c, element T2 and SP; page 22, lines 1-4), wherein the second media stream is associated with the first media stream (Damola, Fig. 2c; page 24, line 13 – page 25, line 10).

Damola does not explicitly teach using a third protocol.

However, Costa-Requena teaches using a third protocol (Costa-Requena, Fig. 1, elements 11a, 12a, 14, and 14a; col. 2, lines 37-59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Damola in view of Costa-Requena in order to enable the use of a third protocol. One would be motivated to do so in order to enable the use of a new user URI parameter that provides a way to have a message that has a WV address, but is otherwise a SIP message, routed through an IMS network to an intended WV client, whether or not the IMS network allows such messages (Costa-Requena, col. 4, line 61 – col. 5, line 3).

The combination of Damola and Costa-Requena does not explicitly teach the trigger comprises a network address of the gateway.

However, Mela teaches the trigger comprises a network address of the gateway (Mela, col. 20, lines 28-43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Damola and Costa-Requena in view of Mela in order to enable the trigger comprises a network address of the gateway. One would be motivated to do so in order to enable using different protocols for controlling and setting up multimedia streaming on the Internet (Mela, col. 1, lines 32-54).

41. With respect to claim 26, the combination of Damola, Costa-Requena, and Mela teaches the invention described in claim 25, wherein the network address is a URI or a URI reference (Mela, col. 4, lines 1-36).

42. With respect to claim 27, the combination of Damola, Costa-Requena, and Mela teaches the invention described in claim 14, wherein the first protocol and the second protocol are identical (Mela, Fig. 1; col. 3, lines 32-37).

43. With respect to claim 28, the combination of Damola, Costa-Requena, and Mela teaches the invention described in claim 27, wherein the first protocol and the second protocol are Session Initiation Protocol (SIP) (Mela, Fig. 1; col. 3, lines 32-37).

44. With respect to claim 32, the combination of the combination of Damola, Costa-Requena, and Mela teaches the invention described in claim 31, including the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) wherein the gateway is configured to connect to a first terminal (Damola, Fig. 2c, elements T2 and $2CD_2$ = ACK; page 22, lines 15-16) supporting a first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10) and to a second terminal (Damola, Fig. 2c, elements IMS-S; page 22, lines 10-11) supporting a second protocol (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 22, lines 10-11), wherein the first protocol is Session Initiation Protocol (SIP) (SIP – see Mela, col. 3, line 50) and the second protocol is Real Time Streaming Protocol (RTSP) (RTSP – see Mela, col. 3, lines 41-43), wherein the first terminal is an originating SIP client of a user at a user side (Mela, Fig. 2, element B20; col. 3, lines 38-50), wherein the gateway acts as a terminating SIP client, wherein the gateway is configured to confirm that the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) is able to receive a multimedia session from the user and to provide the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) with multimedia session information (the client starts streaming

the movie – Mela, col. 7, lines 51-52), wherein the second terminal is an RTSP client (Mela, Fig. 2, element B10; col. 3, lines 38-50), wherein the gateway acts as an RTSP server on behalf of the user (Mela, Fig. 2, element B40; col. 3, lines 38-50), wherein the second terminal uses RTSP for session control (RTSP is a standard protocol for controlling multimedia streaming on Internet – see Mela, col. 1, lines 32-33), and wherein the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) is configured to inform the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) that an incoming session is pending and notify the RTSP client to connect to an RTSP server function of the gateway (Mela, col. 3, lines 38-50).

Allowable Subject Matter

45. Claim 34 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Baturay whose telephone number is (571) 272-3981. The examiner can normally be reached at 7am - 4:30pm, Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571) 272-7493. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Alicia Baturay/
Primary Examiner, Art Unit 2441

February 9, 2016

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14015765	STOKKING ET AL.
	Examiner	**Art Unit**
	ALICIA BATURAY	2441

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	12/08/2014	07/06/2015	02/09/2016						
	1	-	-	-						
	2	-	-	-						
	3	-	-	-						
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	7	-	-	-						
	8	-	-	-						
	9	-	-	-						
	10	-	-	-						
	11	-	-	-						
	12	-	-	-						
	13	-	-	-						
	14	✓	✓	✓						
	15	✓	✓	✓						
	16	✓	✓	✓						
	17	✓	✓	✓						
	18	✓	✓	✓						
	19	✓	✓	✓						
	20	✓	✓	✓						
	21	✓	✓	✓						
	22	✓	✓	✓						
	23	✓	✓	✓						
	24	✓	✓	✓						
	25	✓	✓	✓						
	26	✓	✓	✓						
	27	✓	✓	✓						
	28	✓	✓	✓						
	29	✓	✓	✓						
	30	✓	✓	✓						
	31	✓	✓	✓						
	32	✓	✓	✓						
	33	✓	✓	✓						
	34	O	O	O						
	35	✓	✓	✓						
	36	✓	✓	✓						

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14015765	STOKKING ET AL.
	Examiner	Art Unit
	ALICIA BATURAY	2441

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
709	227	12/09/2014	AB
709	227	07/06/2015	AB
709	227	02/09/2016	AB

SEARCH NOTES		
Search Notes	Date	Examiner
Searched EAST (US-PGPUB, USPAT, EPO, JPO, DERWENT, IBM_TDB)	12/08/2014	AB
Conducted Inventor Name Search	12/08/2014	AB
Conducted Class/Subclass Search	12/08/2014	AB
Updated EAST Search (US-PGPUB, USPAT, EPO, JPO, DERWENT, IBM_TDB)	07/06/2015	AB
Updated Inventor Name Search	07/06/2015	AB
Updated Class/Subclass Search	07/06/2015	AB
Updated EAST Search (US-PGPUB, USPAT, EPO, JPO, DERWENT, IBM_TDB)	02/09/2016	AB
Updated Inventor Name Search	02/09/2016	AB
Updated Class/Subclass Search	02/09/2016	AB

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	35	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2016/02/23 09:47
L2	556	(RTSP and SIP and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/02/23 09:47
L3	388	L2 AND ((H04L65/1069 OR H04L65/1016 OR H04L65/80 OR H04L65/4084 OR H04L65/60 OR H04L65/608 OR H04L43/08 OR H04L47/14 OR H04L41/5009 OR H04L43/50 OR H04L47/20 OR H04L47/29 OR H04L65/1006 OR H04L65/4076 OR H04L65/4092 OR H04L65/602 OR H04L29/06027 OR H04L47/10 OR H04L63/0428 OR H04L63/0815 OR H04L63/166 OR H04L65/607 OR H04L67/025 OR H04L12/189 OR H04L12/5695 OR H04L41/00 OR H04L43/024 OR H04L43/04 OR H04L43/0864 OR H04L43/0876 OR H04L43/0888 OR H04L47/12 OR H04L47/22 OR H04L47/2433 OR H04L47/2458 OR H04L47/2483 OR H04L47/748 OR H04L47/808 OR H04L47/824 OR H04L51/38 OR H04L63/083 OR H04L63/0853 OR H04L63/102 OR H04L65/1043 OR H04L65/1083 OR H04L65/4007 OR H04L65/403 OR H04L65/4069 OR H04L67/02 OR H04L67/10 OR H04L67/14 OR H04L67/2823 OR H04L67/2842 OR H04L67/32 OR H04L69/08 OR H04L69/16 OR H04L69/161 OR H04L12/1407 OR H04L12/1435 OR H04L12/1492 OR H04L12/1818 OR H04L12/2896 OR H04L12/437 OR H04L12/6418 OR H04L12/66 OR H04L1/00 OR H04L2012/6486 OR H04L29/06 OR H04L29/06517 OR H04L29/08522 OR H04L29/12009 OR H04L29/12018 OR H04L29/12047 OR H04L41/0293 OR H04L41/046 OR H04L41/06 OR H04L41/0631 OR H04L41/0654 OR H04L41/142 OR H04L41/22 OR H04L41/5029 OR H04L41/5038 OR H04L41/5051 OR H04L41/5061 OR H04L41/509 OR H04L43/0811 OR H04L43/0829 OR H04L43/0852 OR H04L43/0858 OR H04L43/087 OR	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/02/23 09:47

		H04L43/0882 OR H04L43/10 OR H04L43/12 OR H04L43/16 OR H04L45/00 OR H04L45/02 OR H04L45/22 OR H04L45/308 OR H04L45/38 OR H04L45/44 OR H04L45/50 OR H04L47/2416 OR H04L47/245 OR H04L47/2475 OR H04L47/25 OR H04L47/263 OR H04L47/31 OR H04L49/3009 OR H04L5/0096 OR H04L61/10 OR H04L61/15 OR H04L61/1511 OR H04L61/2514 OR H04L63/02 OR H04L63/04 OR H04L63/08 OR H04L63/0884 OR H04L63/164 OR H04L63/205 OR H04L63/306 OR H04L65/00 OR H04L65/103 OR H04L65/104 OR H04L65/1046 OR H04L65/105 OR H04L65/1096 OR H04L65/4015 OR H04L65/601 OR H04L65/605 OR H04L67/1036 OR H04L67/104 OR H04L67/145 OR H04L67/146 OR H04L67/148 OR H04L67/22 OR H04L67/303 OR H04L67/306 OR H04L67/38 OR H04L67/42 OR H04L69/14 OR H04L9/3242).CPC.)				
L4	16	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/02/23 09:47
S1	1	"20110010459".pn.	US-PGPUB	OR	OFF	2012/04/02 14:39
S2	1	("20060291472").PN.	US-PGPUB	OR	OFF	2012/04/02 15:03
S3	198	(Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)	US-PGPUB; USPAT	OR	OFF	2012/04/02 15:37
S4	49	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal)	US-PGPUB; USPAT	OR	OFF	2012/04/02 15:37
S5	10	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2012/04/02 15:37
S6	8	709/220.ccls. and (RTSP and SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/02 15:42
S7	4	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/02 15:55
S8	530	@ad<"20071221" and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 10:27
S9	47	@ad<"20071221" and (RTSP and SIP and gateway and IPTV)	US-PGPUB; USPAT; EPO; JPO;	OR	OFF	2012/04/03 10:27

			DERWENT; IBM_TDB			
S10	13	@ad<"20071221" and (RTSP and SIP and gateway and IPTV and bye)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 10:30
S11	15	@ad<"20071221" and (RTSP and SIP and gateway and IPTV and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 10:43
S12	13	@ad<"20071221" and (RTSP same SIP and gateway and IPTV and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:39
S13	715	@ad<"20071221" and (RTSP same SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:39
S14	168	@ad<"20071221" and (RTSP same SIP same (gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:40
S15	2	@ad<"20071221" and (RTSP same SIP same (gateway or proxy) same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:40
S16	36	@ad<"20071221" and (RTSP same SIP same (gateway or proxy) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:41
S17	789	(first adj protocol) and (second adj protocol) and (third adj protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:10
S18	615	@ad<"20071221" and (first adj protocol) and (second adj protocol) and (third adj protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:11
S19	0	@ad<"20071221" and ((first adj protocol) and (second adj protocol) and (third adj protocol) and SIP and RSTP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:11
S20	72	@ad<"20071221" and ((first adj protocol) and (second adj protocol) and (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:11
S21	26	SIP same RTSP same SMS	US-PGPUB; USPAT; EPO; JPO;	OR	OFF	2012/04/03 13:35

			DERWENT; IBM_TDB			
S22	62	709/227.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:37
S23	18	709/227.ccls. and (RTSP same SIP same (gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:39
S24	3	@ad<"20071221" and (RTSP same SIP same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:43
S25	33	@ad<"20071221" and (RTSP and SIP and gateway and ((peer adj peer) or P2P))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:39
S26	64	@ad<"20071221" and (((peer adj peer) or P2P) same (bi adj directional))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:40
S27	2	@ad<"20071221" and (((peer adj peer) or P2P) same (bi adj directional) same stream)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:40
S28	0	("2005/0135366").URPN.	USPAT	OR	OFF	2012/04/04 13:41
S29	12332	@ad<"20071221" and (interactive adj (television or TV))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:48
S30	140	@ad<"20071221" and ((interactive adj (television or TV)) same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:48
S31	4	@ad<"20071221" and ((interactive adj (television or TV)) same trigger same (bi adj directional))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:49
S32	328	@ad<"20071221" and ((interactive adj (television or TV)) same gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 14:58
S33	0	@ad<"20071221" and ((interactive adj (television or TV)) same gateway same resolv$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 14:59

S34	49	@ad<"20071221" and ((interactive adj (television or TV)) same gateway and resolv$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 14:59
S35	125	@ad<"20071221" and (gateway same resolv$5 same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:00
S36	15	@ad<"20071221" and (gateway same resolv$5 same (identifier or ID) same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:00
S37	21	@ad<"20071221" and (gateway same resolv$5 same (identifier or ID) same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:02
S38	6784	@ad<"20071221" and ((bi adj directional) same buffer$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:23
S39	711	@ad<"20071221" and ((bi adj directional) same buffer$3 same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:23
S40	8	@ad<"20071221" and ((bi adj directional) same buffer$3 same (gateway or proxy) same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:24
S41	43	@ad<"20071221" and (("RTSP TEARDOWN") same server)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:36
S42	0	@ad<"20071221" and (("RTSP TEARDOWN") same peer)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:40
S43	0	@ad<"20071221" and (("RTSP TEARDOWN") same p2p)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:40
S44	7	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:27
S45	12	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2012/10/11 14:27
S46	3	@ad<"20071221" and (RTSP same SIP same trigger)	US-PGPUB; USPAT;	OR	OFF	2012/10/11 14:27

			EPO; JPO; DERWENT; IBM_TDB			
S47	126	@ad<"20071221" and (RTSP same SIP and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:27
S48	745	@ad<"20071221" and (RTSP same SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:35
S49	315	@ad<"20071221" and (RTSP same SIP same (server or gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:35
S50	3	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (SIP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:36
S51	90	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:33
S52	44	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy) same session)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:33
S53	27	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy) same session same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:33
S54	10	@ad<"20071221" and ((RTSP adj (server)) same (gateway or proxy) same session same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:35
S55	4	@ad<"20071221" and ((RTSP adj (server)) same (gateway or proxy) same (session adj initiation) same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:51
S56	2	@ad<"20071221" and ((RTSP adj (server)) same (gateway or proxy) same (session adj information) same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:51
S57	22	709/220.ccls. and (RTSP and SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/06/03 11:06
S58	12	709/220.ccls. and (RTSP and SIP and	US-PGPUB;	OR	OFF	2013/06/03

		gateway)	USPAT; EPO; JPO; DERWENT; IBM_TDB			11:06
S59	19	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2013/06/03 11:09
S64	1	"20140040350".pn.	US-PGPUB	OR	OFF	2014/12/08 15:02
S65	1	"8549151".pn.	USPAT	OR	OFF	2014/12/08 15:07
S66	31	("20090190603" | "20090217337" | "8027353" | "20060128376" | "20050135366" | "20090100147" | "20090307307" | "7286521" | "7804848" | "20080092178" | "20090180484" | "20090193469" | "7716310" | "8032589" | "20100005177" | "20100005501" | "7804848" | "20070177616" | "6895439" | "7043528" | "20060291472" | "20090235317" | "7792025" | "8046479" | "6895439" | "20060128376" | "7231658" | "7440440" | "7724691" | "7953867" | "7724691" | "20060291472" | "20070025301" | "20090313376" | "20110209188" | "7643411").PN.	US-PGPUB; USPAT	OR	OFF	2014/12/09 09:54
S67	744	(first adj protocol) same (second adj protocol) same (third adj protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:48
S68	407	@ad<"20071221" and (first adj protocol) same (second adj protocol) same (third adj protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:48
S69	29	@ad<"20071221" and (gateway same (first adj protocol) same (second adj protocol) same (third adj protocol))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:49
S70	0	@ad<"20071221" and (gateway same (first adj protocol) same (second adj protocol) same (third adj protocol) same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:52
S71	4	@ad<"20071221" and (gateway same (first adj protocol) same (second adj protocol) same (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:52
S72	4	@ad<"20071221" and (gateway same (first adj protocol) same (second adj protocol) same (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:09
S73	22	@ad<"20071221" and (gateway and (first adj protocol) same (second adj protocol) same (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT;	OR	OFF	2015/07/06 16:15

			IBM_TDB			
S74	48	@ad<"20071221" and ((first adj protocol) same (second adj protocol) same (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:16
S75	215	@ad<"20071221" and (gateway same trigger same media)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:25
S76	171	@ad<"20071221" and (gateway same trigger same SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:25
S77	3	@ad<"20071221" and (gateway same trigger same SIP same RTSP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:26
S78	1	chase adj play	EPO	OR	OFF	2015/07/06 16:34
S79	216	@ad<"20071221" and (gateway same trigger same media)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/07 09:02
S80	1	proxy adj higa	EPO	OR	OFF	2015/07/07 09:51
S81	16	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/02/11 14:55
S82	35	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2016/02/11 14:55
S83	554	(RTSP and SIP and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/02/11 14:55
S84	386	S83 AND ((H04L65/1069 OR H04L65/1016 OR H04L65/80 OR H04L65/4084 OR H04L65/60 OR H04L65/608 OR H04L43/08 OR H04L47/14 OR H04L41/5009 OR H04L43/50 OR H04L47/20 OR H04L47/29 OR H04L65/1006 OR H04L65/4076 OR H04L65/4092 OR H04L65/602 OR H04L29/06027 OR H04L47/10 OR H04L63/0428 OR H04L63/0815 OR H04L63/166 OR H04L65/607 OR H04L67/025 OR H04L12/189 OR H04L12/5695 OR H04L41/00 OR H04L43/024 OR H04L43/04 OR H04L43/0864 OR H04L43/0876 OR H04L43/0888 OR H04L47/12 OR H04L47/22 OR H04L47/2433 OR	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/02/11 14:56

		H04L47/2458 OR H04L47/2483 OR H04L47/748 OR H04L47/808 OR H04L47/824 OR H04L51/38 OR H04L63/083 OR H04L63/0853 OR H04L63/102 OR H04L65/1043 OR H04L65/1083 OR H04L65/4007 OR H04L65/403 OR H04L65/4069 OR H04L67/02 OR H04L67/10 OR H04L67/14 OR H04L67/2823 OR H04L67/2842 OR H04L67/32 OR H04L69/08 OR H04L69/16 OR H04L69/161 OR H04L12/1407 OR H04L12/1435 OR H04L12/1492 OR H04L12/1818 OR H04L12/2896 OR H04L12/437 OR H04L12/6418 OR H04L12/66 OR H04L1/00 OR H04L2012/6486 OR H04L29/06 OR H04L29/06517 OR H04L29/08522 OR H04L29/12009 OR H04L29/12018 OR H04L29/12047 OR H04L41/0293 OR H04L41/046 OR H04L41/06 OR H04L41/0631 OR H04L41/0654 OR H04L41/142 OR H04L41/22 OR H04L41/5029 OR H04L41/5038 OR H04L41/5051 OR H04L41/5061 OR H04L41/509 OR H04L43/0811 OR H04L43/0829 OR H04L43/0852 OR H04L43/0858 OR H04L43/087 OR H04L43/0882 OR H04L43/10 OR H04L43/12 OR H04L43/16 OR H04L45/00 OR H04L45/02 OR H04L45/22 OR H04L45/308 OR H04L45/38 OR H04L45/44 OR H04L45/50 OR H04L47/2416 OR H04L47/245 OR H04L47/2475 OR H04L47/25 OR H04L47/263 OR H04L47/31 OR H04L49/3009 OR H04L5/0096 OR H04L61/10 OR H04L61/15 OR H04L61/1511 OR H04L61/2514 OR H04L63/02 OR H04L63/04 OR H04L63/08 OR H04L63/0884 OR H04L63/164 OR H04L63/205 OR H04L63/306 OR H04L65/00 OR H04L65/103 OR H04L65/104 OR H04L65/1046 OR H04L65/105 OR H04L65/1096 OR H04L65/4015 OR H04L65/601 OR H04L65/605 OR H04L67/1036 OR H04L67/104 OR H04L67/145 OR H04L67/146 OR H04L67/148 OR H04L67/22 OR H04L67/303 OR H04L67/306 OR H04L67/38 OR H04L67/42 OR H04L69/14 OR H04L9/3242).CPC.)				

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S60	190	((first adj protocol) and (second adj protocol) and (third adj protocol)).clm.	USPAT	OR	OFF	2013/06/03 11:07
S61	0	((first adj protocol) and (second adj protocol) and (third adj protocol) and (RTSP adj (server))).clm.	USPAT	OR	OFF	2013/06/03 11:07
S62	25	((first adj protocol) and (second adj protocol)	USPAT	OR	OFF	2013/06/03

		and (third adj protocol) and (gateway or proxy)).clm.				11:07
S63	8	((first adj protocol) same (second adj protocol) same (third adj protocol) same (gateway or proxy)).clm.	USPAT	OR	OFF	2013/06/03 11:08

2/23/2016 9:47:38 AM
C:\Users\abaturay\Alicia's Documents\EAST Searches\14015765-TransmittingAMultimediaStreamCON.wsp

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Docket No. 10-406-CON)

In re Application of:	)	
	)	
Hans Maarten Stokking et al.	)	
	)	**Examiner: Alicia Baturay**
Serial No.: 14/015,765	)	
	)	**Group Art Unit: 2441**
Filed: August 30, 2013	)	
	)	**Conf. No. 6519**
	)	
For: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM	)	

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

RESPONSE TO OFFICE ACTION MAILED JULY 13, 2015

This paper is submitted in response to the Office Action mailed July 13, 2015. In addition, a Petition for Extension of Time under 37 C.F.R. § 1.136(a) (two-month) is enclosed, along with requisite fees.

Please enter the following remarks and amendments into the record for this application.

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 9 of this paper.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Amendments to the Claims

1-13. (Canceled)

14. (Previously presented) A method, wherein a gateway is capable of communicating with a first terminal and a second terminal, the method comprising:

the gateway or the first terminal using a first protocol to exchange first media session information between the first terminal and the gateway, wherein the exchange of the first media session information sets up a first media stream from the first terminal;

the second terminal using a second protocol to receive a trigger provided by the gateway or first terminal, wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal;

in response to receiving the trigger, the second terminal using a third protocol to initiate the exchange of the second media session information between the gateway and the second terminal, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates; and

the second terminal receiving the second media stream, wherein the second media stream is associated with the first media stream.

15. (Previously presented) The method according to claim 14, wherein the exchange of the first media session information comprises:

the gateway providing to the first terminal at least part of the second media session information.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

16. (Previously presented) The method according to claim 14, wherein the exchange of the second media session information comprises:

the gateway providing to the second terminal at least part of the first media session information.

17. (Previously presented) The method according to claim 14, wherein the exchange of the first media session information comprises:

the gateway receiving, from the first terminal, an identifier of the second terminal.

18. (Previously presented) The method according to claim 17, further comprising:

before using the second protocol to provide the trigger to the second terminal, the gateway resolving the identifier of the second terminal into a network address of the second terminal.

19. (Previously presented) The method according to claim 18, wherein providing the trigger to the second terminal comprises the gateway transmitting the trigger to the resolved network address of the second terminal.

20. (Previously presented) The method of claim 14, wherein the third protocol is different from the second protocol.

21. (Previously presented) The method of claim 14, wherein the first multimedia stream is the second multimedia stream.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

22. (Previously presented) The method of claim 14, wherein the trigger serves to inform the second terminal of availability of a new multimedia stream.

23. (Previously presented) The method of claim 14, wherein the first protocol is a peer-to-peer protocol.

24. (Previously presented) The method of claim 14, wherein the third protocol is a client-server protocol, and wherein the second receiving terminal has client capabilities of the third protocol and not server capabilities of the third protocol.

25. (Previously presented) The method of claim 14, wherein the trigger comprises a network address of the gateway.

26. (Previously presented) The method of claim 25, wherein the network address is a URI or a URI reference.

27. (Previously presented) The method of claim 14, wherein the first protocol and the second protocol are identical.

28. (Previously presented) The method of claim 27, wherein the first protocol and the second protocol are the Session Initiation Protocol (SIP).

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

29. (Previously presented) The method of claim 14, wherein the gateway is configured to associate the first multimedia session information with the second multimedia session information.

30. (Currently amended) An article of manufacture including a non-transitory computer-readable medium, having stored thereon software instructions that, if executed by a computing device, cause the computing device to perform operations comprising:

using a first protocol to initiate an exchange of first media session information between a first terminal and a gateway, wherein the exchange of the first media session information sets up a first media stream from the first terminal;

using a second protocol to provide a trigger to a second terminal, wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal;

using ~~the second~~ a third protocol to conduct the exchange of the second media session information between the gateway and the second terminal, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates; and

using the first protocol to transmit a response to the first terminal, wherein the response causes the first terminal to begin transmission of the first media stream.

31. (Previously presented) A gateway comprising:

a communication interface; and

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

memory that stores software instructions that, when executed by the gateway, cause the gateway to:

(i) exchange first multimedia session information with a first terminal using a first protocol, wherein the exchange of the first media session information sets up a first media stream from the first terminal,

(ii) provide a trigger to a second terminal, wherein the trigger is provided using a second protocol, in response to which the second terminal is able to initiate the exchange of second multimedia session information with the gateway, and

(iii) exchange second multimedia session information with the second terminal, using a third protocol, wherein the third protocol is different from the first protocol, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates.

32. (Previously presented) The gateway of claim 31, wherein the gateway is configured to connect to a first terminal supporting a first protocol and to a second terminal supporting a second protocol,

wherein the first protocol is Session Initiation Protocol (SIP) and the second protocol is Real Time Streaming Protocol (RTSP),

wherein the first terminal is an originating SIP client of a user at a user side,

wherein the gateway acts as a terminating SIP client,

wherein the gateway is configured to confirm that the gateway is able to receive a multimedia session from the user and to provide the first terminal with multimedia session information,

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

wherein the second terminal is an RTSP client,

wherein the gateway acts as an RTSP server on behalf of the user,

wherein the second terminal uses RTSP for session control, and

wherein the gateway is configured to inform the second terminal that an incoming session is pending and notify the RTSP client to connect to an RTSP server function of the gateway.

33. (Previously presented) The gateway of claim 31, wherein the gateway is configured to transmit a notification message to the second terminal in response to an invitation of the first terminal, in order to activate the second terminal to set up the second multimedia session between the second terminal and the gateway.

34. (Previously presented) The gateway of claim 31, wherein the gateway is embedded in an IP Multi-Media Subsystem (IMS) network architecture, wherein the first protocol is Session Initiation Protocol (SIP), wherein the third protocol is Real Time Streaming Protocol (RTSP), the IMS network architecture comprising a service-control-function component and a media-function component, wherein the memory of the gateway is distributed in the IMS network architecture, such that:

exchanging the first multimedia session information is handled by the service-control-function component within the IMS network architecture;

triggering the second terminal is controlled by the service-control-function component within the IMS network architecture; and

exchanging second multimedia session information is handled by the media-function component within the IMS network architecture.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

35. (Previously presented) The gateway of claim 31, wherein the gateway is configured to associate the first multimedia session information and the second multimedia session information with each other.

36. (Previously presented) The gateway of claim 31, wherein the gateway further comprises Session Initiation Protocol (SIP) client functionality and Real Time Streaming Protocol (RTSP) server functionality.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Remarks

1. Summary of the Office Action

In the Office Action mailed July 13, 2015 ("Current Office Action"), the Examiner rejected claims 14-20 and 22-36 on grounds of non-statutory double patenting over claims 1-7 and 9-23 of U.S. Patent No. 8,549,151. The Examiner rejected claim 30 under pre-AIA 35 U.S.C. § 102(e) as allegedly being anticipated by WO 2007/140834 (Damola). The Examiner rejected claims 14-16, 20, 21, 29, 31, 33, 35, and 36 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola in view of U.S. Patent No. 7,181,537 (Costa-Requena), and rejected claims 17-19 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola and Costa-Requena and further in view of U.S. Patent No. 7,804,848 (Mirtorabi). The Examiner also rejected claim 22 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola and Costa-Requena and further in view of U.S. Patent Pub. No. 2006/0128376 (Alexis), and rejected claims 23 and 24 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola and Costa-Requena and further in view of U.S. Patent Pub. No. 2006/0291472 (Guo). Finally, the Examiner rejected claims 25-28 and 32 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola and Costa-Requena and further in view of U.S. Patent No. 7,724,691 (Mela). The Examiner indicated that claim 34 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims.

2. Status of the Claims

Pending are claims 14-36, of which claims 14, 30 and 31 are independent and the remainder are dependent.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Applicants have amended claim 30 to specify the recited "protocol to conduct the exchange of the second media session information between the gateway and the second terminal" as being "a third" protocol. Support for this amendment can be found generally throughout the original application, and specifically at least at page 4, lines 10-15, for example.

No new matter has been introduced by way of the above amendment.

3. Response to Rejections on grounds of nonstatutory double patenting

The Examiner rejected claims 14-20 and 22-36 on grounds of non-statutory double patenting over claims 1-7 and 9-23 of U.S. Patent No. 8,549,151. Without acquiescing to the Examiner's assertions regarding the rejection of claims 14-20 and 22-36 on grounds of nonstatutory double patenting, Applicants will consider filing a Terminal Disclaimer at such time when the current nonstatutory double patenting rejection remains the only impediment to allowability of the pending claims of the instant application.

4. Response to Rejection under pre-AIA 35 U.S.C. § 102(e)

The Examiner rejected claim 30 under pre-AIA 35 U.S.C. § 102(e) as allegedly being anticipated by Damola. Applicants submit that Damola does not teach each and every element set forth in claim 30, and that claim 30 is therefore allowable.

The Examiner has cited to Figure 2c and various explanations of Figure 2c in Damola to argue that Damola teaches the limitations of claim 30. In particular, on page 4 of the Current Office Action, the Examiner appears to have identified "element T2" of Figure 2c with the "first terminal" recited in claim 30, and "element HiGA" of Figure 2c with the "gateway" recited in claim 30. Further, on pages 4 and 5 of the Current Office Action, the Examiner appears to have identified "RSTP" with the "first protocol" recited in claim 30, and "SIP" with the "second protocol" recited in claim 30.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

But on page 5 of the Current Office Action, referring to "a first media stream from the first terminal" recited in claim 30, the Examiner appears to have instead identified the "element IMS-S" of Figure 2c with the "first terminal" recited in claim 30. And then, referring to "a trigger" provided to "a second terminal" recited in claim 30, and referring to "exchange of second media session information between the gateway and the second terminal" recited in claim 30, the Examiner appears to have identified the "element IMS-S" of Figure 2c with the "second terminal" recited in claim 30.

Applicants respectfully submit that the "element IMS-S" of Figure 2c cannot be identified with both the "first terminal" and the "second terminal" recited in claim 30. Similarly, the elements "T2" and "IMS-S" cannot both be identified with the "first terminal" recited in claim 30. Accordingly, on the basis at least of this apparent inconsistency, the Examiner's interpretation of Damola fails to support an argument that Damola anticipates claim 30. However, Applicants further submit that even assuming, for the sake of argument, a consistent identification of elements disclosed in Damola with the "first terminal," the "second terminal," and the "gateway" recited in claim 30, Damola nevertheless fails to anticipate claim 30.

Specifically, assuming first, for the sake of argument, that the elements "T2," "IMS-S," and "HiGA" of Damola are identified respectively with the "first terminal," the "second terminal," and the "gateway" recited in claim 30, then, at the very least, Damola's teaching that the "IMS-S" is the media streaming source would require that the "second terminal" transmits the recited "first media stream." That is, Damola teaches (page 22, lines 23-34; Figure 2c) that the "IMS-S" provides "video streaming" to "T2." Taking the first assumption that "T2" is identified with the "first terminal" and that the "IMS-S" is identified with the "second terminal," this would require the "second terminal" to provide media streaming to the "first terminal."

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

But claim 30 recites, *inter alia*, "wherein the response causes the *first* terminal to begin transmission of the first media stream" (emphasis added). This is clearly *not* what Damola teaches under the first assumption.

Assuming secondly, again for the sake of argument, that the elements "T2," "IMS-S," and "HiGA" of Damola are identified respectively with, instead, the "second terminal," the "first terminal," and the "gateway" recited in claim 30, then, at the very least, the protocol signaling taught by Damola would be contrary to the use of protocols recited in claim 30. Specifically, taking the second assumption that the "IMS-S" is identified with the "first terminal" and that "T1" is identified with the "second terminal," then the "first terminal" would provide media streaming to the "second terminal." But Damola also teaches that the "media session" is initiated by an RSTP request (identified by the Examiner as the "first protocol") to the "HiGA," which translates it to a SIP request (identified by the Examiner as the "second protocol") to the "IMS-S."

However, claim 30 recites, *inter alia*, "using a first protocol to initiate an exchange of *first* media session information between a first terminal and a gateway" and "using a second protocol to provide a trigger to a second terminal, wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal." (Emphasis added). Thus, taking the second assumption would require the "first terminal" to use the "second protocol" and the "second terminal" to use the "first protocol." This is clearly at odds with what is recited, *inter alia*, in claim 30. Under the second assumption, then, claim 30 again distinguishes over Damola.

Even further assuming, again for the sake of argument, that SIP were identified with the "first protocol" and that RSTP were identified with the "second protocol," the signaling flow of

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Damola would still be contrary to what is recited, *inter alia*, in claim 30. Specifically, Damola teaches that the media session is initiated by the RSTP request, which by further assumption is identified with the "second protocol." However, claim 30 recites, *inter alia*, "using a second protocol to provide a trigger *to* a second terminal, wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal" (emphasis added). But since the RSTP request taught by Damola is directed *from* "T2" to the "HiGA," it *cannot* in any case be considered a trigger provided *to* the "second terminal." Thus, once more, Damola teaches away from claim 30.

Beyond the lack of any consistent identification of elements taught in Damola with counterparts in claim 30 in a manner that supports an interpretation that Damola teaches each and every limitation of claim 30, Applicants further submit that Damola does not teach any "trigger." More particularly, as noted, claim 30 recites, *inter alia*, "the trigger is to *initiate an exchange* of second media session information between the gateway and the second terminal" (emphasis added). As such, the "trigger" is not itself part of the "exchange." The Examiner identified the "SIP Request" in Damola as "using a second protocol to provide a trigger to a second terminal." However, as is known, a SIP Request is *part* of an exchange that can establish a media session, for example. It therefore cannot be a "trigger" that initiates the exchange.

For at least the reasons above, Applicants submit that Damola does not anticipate claim 30, and that claim 30 is allowable.

5. Response to Rejections under 35 U.S.C. § 103(a)

a. Claims 14-16, 20, 21, 29, 31, 33, 35, and 36

The Examiner rejected claims 14-16, 20, 21, 29, 31, 33, 35, and 36 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola in view of Costa-Requena.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Applicants submit that modifying the teachings of Damola with those of Costa-Requena does not logically or reasonably lead to any of claims 14-16, 20, 21, 29, 31, 33, 35, and 36. Applicants first address claim 14, then subsequently address claims 15-16, 20, 21, 29, 31, 33, 35, and 36.

The Examiner conceded that Damola does not teach "a third protocol," but instead asserted that Costa-Requena does teach this limitation. However, Applicants submit that regardless of whether or not Costa-Requena teaches what the Examiner acknowledged is missing from Damola, the failure of the Damola to anticipate claim 30, as discussed above, undermines support for the Examiner's reliance on Damola in the rejection of claim 14.

Specifically, claim 14 includes, *inter alia*, limitations similar to those of claim 30 that, as Applicants discussed above, distinguish over Damola. Thus, Damola also fails to teach these similar limitations of claim 14. As such, Damola does not teach what the Examiner attributed to Damola in the rejection of claim 14. And Costa-Requena does not teach these limitations either. Accordingly, modifying the teachings of Damola with those of Costa-Requena does not logically or reasonably lead to claim 14.

For at least the reasons above, Applicants submit that claim 14 is therefore allowable.

Claim 31 includes, *inter alia*, limitations similar to those discussed above in connection with claim 14. Applicants therefore submit that claim 31 is allowable for at least the reasons that claim 14 is allowable.

Each of claims 15-16, 20, 21, 29, 33, 35, and 36 depends from one or another of claims 14 or 31, both of which are allowable for at least the reasons above. Applicants submit that each of claims 15-16, 20, 21, 29, 33, 35, and 36 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to any of claims 15-16, 20, 21, 29, 33, 35, or 36.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

b. Claims 17-19

The Examiner rejected claims 17-19 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola and Costa-Requena and further in view of Mirtorabi. Each of claims 17-19 depends from claim 14, which is allowable for at least the reasons above. Applicants submit that each of claims 17-19 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to any of claims 17-19.

c. Claim 22

The Examiner rejected claim 22 as being allegedly obvious over Damola and Costa-Requena and further in view of Alexis. Claim 22 depends from claim 14, which is allowable for at least the reasons above. Applicants submit that claim 22 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to claim 22.

d. Claims 23 and 24

The Examiner rejected claims 23 and 24 as being allegedly obvious over Damola and Costa-Requena and further in view of Guo. Each of claims 23 and 24 depends from claim 14, which is allowable for at least the reasons above. Applicants submit that each of claims 23 and 24 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to either of claims 23 or 24.

e. Claims 25-28 and 32

The Examiner rejected claims 25-28 and 32 under pre-AIA 35 U.S.C. § 103(a) as allegedly being obvious over Damola and Costa-Requena and further in view of Mela. Each of

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

claims 25-28 and 32 depends from one or another of claims 14 or 31, both of which are allowable for at least the reasons above. Applicants submit that each of claims 25-28 and 32 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to any of claims 25-28 or 32.

6. Allowable subject matter

The Examiner indicated that claim 34 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Claim 34 depends from claim 31, which is allowable for at least the reasons above. Applicants submit that claim 31 is therefore allowable for at least the reason that each depends from an allowable claim.

7. Conclusion

For the foregoing reasons, Applicants submit that claims are allowable. Therefore, Applicants request favorable reconsideration and allowance of the claims.

Applicants do not acquiesce in any assertion in the office action that is not expressly addressed by these remarks.

Should the Examiner wish to discuss this case with the undersigned, the Examiner is invited to call the undersigned at (312) 913-3350.

Respectfully submitted,

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP

Date: December 14, 2015

By: /David A. Grabelsky/
David A. Grabelsky
Reg. No. 59,208

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

Docket Number (Optional): 10-406-CON

Application Number: 14/015,765

Filed: August 30, 2013

For: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM

Art Unit: 2441

Examiner: Alicia Baturay

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

		Fee	Small Entity Fee	Micro Entity Fee	
☐	One month (37 CFR 1.17(a)(1))	$200	$100	$50	$
☑	Two months (37 CFR 1.17(a)(2))	$600	$300	$150	$ 600
☐	Three months (37 CFR 1.17(a)(3))	$1,400	$700	$350	$
☐	Four months (37 CFR 1.17(a)(4))	$2,200	$1,100	$550	$
☐	Five months (37 CFR 1.17(a)(5))	$3,000	$1,500	$750	$

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 132490.

☐ Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71. 37 CFR 3.73(b) statement is enclosed (Form PTO/SB/96).

☑ attorney or agent of record. Registration number 59208.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/David A. Grabelsky/ — Signature

December 14, 2015 — Date

David A. Grabelsky — Typed or printed name

312-913-3353 — Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☑ * Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	14015765
Filing Date:	30-Aug-2013
Title of Invention:	Method And System For Transmitting A Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Filer:	David A. Grabelsky
Attorney Docket Number:	10-406-CON

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 2 months with $0 paid	1252	1	600	600
Miscellaneous:				
			Total in USD ($)	**600**

Electronic Acknowledgement Receipt

EFS ID:	24346517
Application Number:	14015765
International Application Number:	
Confirmation Number:	6519
Title of Invention:	Method And System For Transmitting A Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Customer Number:	20306
Filer:	David A. Grabelsky
Filer Authorized By:	
Attorney Docket Number:	10-406-CON
Receipt Date:	14-DEC-2015
Filing Date:	30-AUG-2013
Time Stamp:	11:08:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$600
RAM confirmation Number	8893
Deposit Account	132490
Authorized User	GRABELSKY, DAVID ANDREW

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	10-406-CON_Response_13Jul15_OA.pdf	140673 ee84a7688c38efcab51a85c9bd298cc902aacc90	no	16
Warnings:					
Information:					
2	Extension of Time	10-406-CON_Petition_for_two-month_Extension_of_Time.pdf	187690 4d05a003de7d741a072c394e74470a9bb52621db	no	2
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30396 b1988fad0765f092c4da5c3aeb6d6725115db8dd	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	358759		

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/015,765	Filing Date 08/30/2013	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **12/14/2015**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 23	Minus	** 23	= 0	X $80 =	0
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $420 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/LAJUAN HICKSON/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 14/015,765	Applicant(s) STOKKING ET AL.	
	Examiner Alicia Baturay	Art Unit 2441	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 June 2015*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *14-36* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *14-33,35 and 36* is/are rejected.

8)☒ Claim(s) *34* is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *30 August 2013* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☒ All b)☐ Some** c)☐ None of the:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

DETAILED ACTION

1. The present application is being examined under the pre-AIA first to invent provisions.

2. This Office Action is in response to the amendment filed 09 June 2015.

3. Claims 14-36 are pending in this Office Action.

Response to Amendment

4. Applicant's amendments and arguments with respect to claims 14-36 filed on 09 June 2015 have been fully considered but they are deemed to be moot in view of the new grounds of rejection.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the claims at issue are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686

F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the reference application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO internet Web site contains terminal disclaimer forms which may be used. Please visit http://www.uspto.gov/forms/. The filing date of the application will determine what form should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to http://www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

6. Claims 14-20 and 22-36 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-7 and 9-23 of U.S. Patent No. 8,549,151. Although the claims at issue are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter.

Claim Rejections - 35 USC § 102

7. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

8. The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claim 30 is rejected under pre-AIA 35 U.S.C. 102(e) as being anticipated by Damola et al. (WO 2007/140834).

10. With respect to claim 30, Damola teaches an article of manufacture including a non-transitory computer-readable medium, having stored thereon software instructions that, if executed by a computing device, cause the computing device to perform operations comprising: using a first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10) to initiate an exchange of a first media session information (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) between a first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32) and a gateway (Damola, Fig. 2c, element HiGA; page 25, lines

7-10), wherein the exchange of the first media session information sets up a first media stream (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) from the first terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20); using a second protocol (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 22, lines 10-11) to provide a trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-20) to a second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25), wherein the trigger is to initiate an exchange of a second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); using the second protocol to conduct the exchange of the second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-28),wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); and using the first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10) to transmit a response to (Damola, Fig. 2c, elements T2 and $2CD_2$ = ACK; page 22, lines 15-16) the first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32), wherein the response causes the first terminal to begin transmission of the first media stream (Damola, page 22, lines 1-21).

Claim Rejections - 35 USC § 103

11. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the

statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

12. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claims 14-16, 20, 21, 29, 31, 33, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damola in view of Costa-Requena et al. (U.S. 7,181,537).

14. With respect to claim 14, Damola teaches a method, wherein a gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) is capable of communicating with a first terminal (Damola, Fig. 2c, elements T2 and $2CD_2$ = ACK; page 22, lines 15-16) and a second terminal (Damola, Fig. 2c, elements IMS-S and $1CD_1$ = SIP Request; page 22, lines 10-11), the method comprising: the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) or the first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32) using a first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10) to exchange first media session information between the first terminal and the gateway (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16), wherein the exchange of the first media session information sets up a first media stream (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) from the first terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20); the

second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25) using a second protocol (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 22, lines 10-11) to receive a trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-20) provided by the gateway or first terminal (Damola, Fig. 2c, element HiGA; page 24, lines 16-20), wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); in response to receiving the trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-26), the second terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20) using a protocol (Damola, Fig. 2c, $1CD_2$ = ACK; page 24, lines 24-26) to initiate the exchange of the second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-28), wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); and the second terminal receiving the second media stream (Damola, Fig. 2c, element T2 and SP; page 22, lines 1-4), wherein the second media stream is associated with the first media stream (Damola, Fig. 2c; page 24, line 13 – page 25, line 10).

Damola does not explicitly teach using a third protocol.

However, Costa-Requena teaches using a third protocol (Costa-Requena, Fig. 1, elements 11a, 12a, 14, and 14a; col. 2, lines 37-59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Damola in view of Costa-Requena in order to enable the use of a third protocol. One would be motivated to do so in order to enable the use of a new user URI parameter that provides a way to have a message that has a WV address, but is otherwise a SIP

message, routed through an IMS network to an intended WV client, whether or not the IMS network allows such messages (Costa-Requena, col. 4, line 61 – col. 5, line 3).

15. With respect to claim 15, the combination of Damola and Costa-Requena teaches the invention described in claim 14, including the method wherein the exchange of the first media session information comprises: the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) providing to the first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32) at least part of the second media session information (Damola, Fig. 2c; page 22, lines 13-17).

16. With respect to claim 16, the combination of Damola and Costa-Requena teaches the invention described in claim 14, including the method wherein the exchange of the second media session information comprises: the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) providing to the second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25) at least part of the first media session information (Damola, Fig. 2c, page 22, lines 12-13).

17. With respect to claim 20, the combination of Damola and Costa-Requena teaches the invention described in claim 14, including the method wherein the third protocol is different from the second protocol (Costa-Requena, col. 2, lines 37-59).

18. With respect to claim 21, the combination of Damola and Costa-Requena teaches the invention described in claim 14, including the method wherein the first multimedia stream is the second multimedia stream (Damola, page 22, lines 1-21).

19. With respect to claim 29, the combination of Damola and Costa-Requena teaches the invention described in claim 14, including the method wherein the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) is configured to associate the first multimedia session information and the second multimedia session information (Damola, page 22, lines 1-21).

20. With respect to claim 31, Damola teaches a gateway comprising: a communication interface; and memory that stores software instructions that, when executed by the gateway, cause the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) to: (i) exchange first multimedia session information (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) with a first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32) using a first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10), wherein the exchange of the first media session information sets up a first media stream (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) from the first terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20), (ii) provide a trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-20) to a second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25), wherein the trigger is provided using a second protocol (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 22, lines 10-11), in response to which the second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25) is able to initiate the exchange of second multimedia session information with the gateway (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26), and (iii) exchange second multimedia session information with the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-28), wherein the

exchange of the second media session information sets up a second media stream in which the second terminal participates (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26).

Damola does not explicitly teach using a third protocol, wherein the third protocol is different from the first protocol.

However, Costa-Requena teaches using a third protocol, wherein the third protocol is different from the first protocol (Costa-Requena, Fig. 1, elements 11a, 12a, 14, and 14a; col. 2, lines 37-59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Damola in view of Costa-Requena in order to enable the use of using a third protocol, wherein the third protocol is different from the first protocol. One would be motivated to do so in order to enable the use of a new user URI parameter that provides a way to have a message that has a WV address, but is otherwise a SIP message, routed through an IMS network to an intended WV client, whether or not the IMS network allows such messages (Costa-Requena, col. 4, line 61 – col. 5, line 3).

21. With respect to claim 33, the combination of the combination of Damola and Costa-Requena teaches the invention described in claim 31, including the gateway wherein the gateway is configured to transmit a notification message to the second terminal in response to an invitation of the first terminal, in order to activate the second terminal to set up the second multimedia session between the second terminal and the gateway (Damola, page 22, lines 1-21).

22. With respect to claim 35, the combination of the combination of Damola and Costa-Requena teaches the invention described in claim 31, including the gateway wherein the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) is further configured to associate the first multimedia session and the second multimedia session information with each other (Damola, page 22, lines 1-21).

23. With respect to claim 36, the combination of the combination of Damola and Costa-Requena teaches the invention described in claim 31, including the gateway wherein the gateway further comprises Session Initiation Protocol (SIP) client functionality and Real Time Streaming Protocol (RTSP) server functionality (Damola, page 22, lines 6-11).

24. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damola and Costa-Requena and further in view of Mirtorabi et al. (U.S. 7,804,848).

25. With respect to claim 17, Damola teaches the invention described in claim 14, including a method, wherein a gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) is capable of communicating with a first terminal (Damola, Fig. 2c, elements T2 and $2CD_2$ = ACK; page 22, lines 15-16) and a second terminal (Damola, Fig. 2c, elements IMS-S and $1CD_1$ = SIP Request; page 22, lines 10-11), the method comprising: the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) or the first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32) using a first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10) to

exchange first media session information between the first terminal and the gateway (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16), wherein the exchange of the first media session information sets up a first media stream (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) from the first terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20); the second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25) using a second protocol (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 22, lines 10-11) to receive a trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-20) provided by the gateway or first terminal (Damola, Fig. 2c, element HiGA; page 24, lines 16-20), wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); in response to receiving the trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-26), the second terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20) using a protocol (Damola, Fig. 2c, $1CD_2$ = ACK; page 24, lines 24-26) to initiate the exchange of the second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-28), wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); and the second terminal receiving the second media stream (Damola, Fig. 2c, element T2 and SP; page 22, lines 1-4), wherein the second media stream is associated with the first media stream (Damola, Fig. 2c; page 24, line 13 – page 25, line 10).

Damola does not explicitly teach using a third protocol.

However, Costa-Requena teaches using a third protocol (Costa-Requena, Fig. 1, elements 11a, 12a, 14, and 14a; col. 2, lines 37-59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Damola in view of Costa-Requena in order to enable the use of a third protocol. One would be motivated to do so in order to enable the use of a new user URI parameter that provides a way to have a message that has a WV address, but is otherwise a SIP message, routed through an IMS network to an intended WV client, whether or not the IMS network allows such messages (Costa-Requena, col. 4, line 61 – col. 5, line 3).

The combination of Damola and Costa-Requena does not explicitly teach the method wherein the exchange of the first media session information comprises: the gateway receiving, from the first terminal, an identifier of the second terminal.

However, Mirtorabi teaches the method wherein the exchange of the first media session information comprises: the gateway receiving, from the first terminal, an identifier of the second terminal (Mirtorabi, col. 9, lines 13-47).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Damola and Costa-Requena in view of Mirtorabi in order to enable the method wherein the exchange of the first media session information comprises: the gateway receiving, from the first terminal, an identifier of the second terminal. One would be motivated to do so in order to set a forwarding address in an IPv6 domain at a boundary with a domain using a different routing protocol (Mirtorabi, col 2, lines 32-34).

26. With respect to claim 18, the combination of Damola, Costa-Requena, and Mirtorabi teaches the invention described in claim 17, including the method further comprising: before using the second protocol to provide the trigger to the second terminal, the gateway resolving the identifier of the second terminal into a network address of the second terminal (Mirtorabi, col. 9, lines 13-47).

27. With respect to claim 19, the combination of Damola, Costa-Requena, and Mirtorabi teaches the invention described in claim 18, including the method wherein providing the trigger to the second terminal comprises the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) transmitting the trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-26) to the resolved network address of the second terminal (Mirtorabi, col. 9, lines 13-47).

28. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Damola and Costa-Requena and further in view of Alexis (U.S. 2006/0128376).

29. With respect to claim 22, Damola teaches the invention described in claim 14, including a method, wherein a gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) is capable of communicating with a first terminal (Damola, Fig. 2c, elements T2 and $2CD_2$ = ACK; page 22, lines 15-16) and a second terminal (Damola, Fig. 2c, elements IMS-S and $1CD_1$ = SIP Request; page 22, lines 10-11), the method comprising: the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) or the first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32)

using a first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10) to exchange first media session information between the first terminal and the gateway (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16), wherein the exchange of the first media session information sets up a first media stream (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) from the first terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20); the second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25) using a second protocol (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 22, lines 10-11) to receive a trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-20) provided by the gateway or first terminal (Damola, Fig. 2c, element HiGA; page 24, lines 16-20), wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); in response to receiving the trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-26), the second terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20) using a protocol (Damola, Fig. 2c, $1CD_2$ = ACK; page 24, lines 24-26) to initiate the exchange of the second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-28), wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); and the second terminal receiving the second media stream (Damola, Fig. 2c, element T2 and SP; page 22, lines 1-4), wherein the second media stream is associated with the first media stream (Damola, Fig. 2c; page 24, line 13 – page 25, line 10).

Damola does not explicitly teach using a third protocol.

However, Costa-Requena teaches using a third protocol (Costa-Requena, Fig. 1, elements 11a, 12a, 14, and 14a; col. 2, lines 37-59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Damola in view of Costa-Requena in order to enable the use of a third protocol. One would be motivated to do so in order to enable the use of a new user URI parameter that provides a way to have a message that has a WV address, but is otherwise a SIP message, routed through an IMS network to an intended WV client, whether or not the IMS network allows such messages (Costa-Requena, col. 4, line 61 – col. 5, line 3).

The combination of Damola and Costa-Requena does not explicitly teach the method wherein the trigger servers to inform the second terminal of availability of a new multimedia stream.

However, Alexis teaches the method wherein the trigger servers to inform the second terminal of availability of a new multimedia stream (Alexis, page 15, paragraph 276).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Damola and Costa-Requena in view of Alexis in order to enable the method wherein the trigger servers to inform the second terminal of availability of a new multimedia stream. One would be motivated to do so in order to provide additional functionalities and capabilities for mobile telephones (Alexis, page 1, paragraph 6).

30. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damola and Costa-Requena and further in view of Guo et al. (U.S. 2006/0291472).

31. With respect to claim 23, Damola teaches the invention described in claim 14, including a method, wherein a gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) is capable of communicating with a first terminal (Damola, Fig. 2c, elements T2 and $2CD_2$ = ACK; page 22, lines 15-16) and a second terminal (Damola, Fig. 2c, elements IMS-S and $1CD_1$ = SIP Request; page 22, lines 10-11), the method comprising: the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) or the first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32) using a first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10) to exchange first media session information between the first terminal and the gateway (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16), wherein the exchange of the first media session information sets up a first media stream (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) from the first terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20); the second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25) using a second protocol (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 22, lines 10-11) to receive a trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-20) provided by the gateway or first terminal (Damola, Fig. 2c, element HiGA; page 24, lines 16-20), wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); in response to receiving the trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-26), the second terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20) using a protocol (Damola, Fig. 2c, $1CD_2$ = ACK; page 24, lines 24-26) to initiate the exchange of the second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-28), wherein the exchange of the

second media session information sets up a second media stream in which the second terminal participates (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); and the second terminal receiving the second media stream (Damola, Fig. 2c, element T2 and SP; page 22, lines 1-4), wherein the second media stream is associated with the first media stream (Damola, Fig. 2c; page 24, line 13 – page 25, line 10).

Damola does not explicitly teach using a third protocol.

However, Costa-Requena teaches using a third protocol (Costa-Requena, Fig. 1, elements 11a, 12a, 14, and 14a; col. 2, lines 37-59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Damola in view of Costa-Requena in order to enable the use of a third protocol. One would be motivated to do so in order to enable the use of a new user URI parameter that provides a way to have a message that has a WV address, but is otherwise a SIP message, routed through an IMS network to an intended WV client, whether or not the IMS network allows such messages (Costa-Requena, col. 4, line 61 – col. 5, line 3).

The combination of Damola and Costa-Requena does not explicitly teach the method wherein the first protocol is a peer-to-peer protocol.

However, Guo teaches the method wherein the first protocol is a peer-to-peer protocol (Guo, pages 2 and 3, paragraph 25, lines 3 and 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Damola and Costa-Requena in view of Guo in order to enable the method wherein the first protocol is a peer-to-peer protocol. One would be motivated to do so in order to obviate the need for client-side device upgrades and server-side device

upgrades in order to utilize network services by rendering the companion protocol transparent to the service endpoints (Guo, pages 1-2, paragraph 16).

32. With respect to claim 24, the combination of Damola, Costa-Requena, and Guo teaches the invention described in claim 14, including the method wherein the third protocol is a client-server protocol, and wherein the second receiving terminal has client capabilities of the third protocol and not server capabilities of the third protocol (Guo, pages 2 and 3, paragraph 25, lines 3 and 4).

33. Claims 25-28 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damola and Costa-Requena and further in view of Mela et al. (U.S. 7,724,691).

34. With respect to claim 25, Damola teaches the invention described in claim 14, wherein a method, wherein a gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) is capable of communicating with a first terminal (Damola, Fig. 2c, elements T2 and $2CD_2$ = ACK; page 22, lines 15-16) and a second terminal (Damola, Fig. 2c, elements IMS-S and $1CD_1$ = SIP Request; page 22, lines 10-11), the method comprising: the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) or the first terminal (Damola, Fig. 2c, element T2; page 22, lines 26-32) using a first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10) to exchange first media session information between the first terminal and the gateway (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16), wherein the

exchange of the first media session information sets up a first media stream (Damola, Fig. 2c, elements T2 and HiGA; page 22, lines 26-32 and page 24, lines 13-16) from the first terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20); the second terminal (Damola, Fig. 2c, element IMS-S; page 22, line 25) using a second protocol (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 22, lines 10-11) to receive a trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-20) provided by the gateway or first terminal (Damola, Fig. 2c, element HiGA; page 24, lines 16-20), wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); in response to receiving the trigger (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 24, lines 16-26), the second terminal (Damola, Fig. 2c, element IMS-S; page 24, lines 16-20) using a protocol (Damola, Fig. 2c, $1CD_2$ = ACK; page 24, lines 24-26) to initiate the exchange of the second media session information between the gateway and the second terminal (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-28), wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates (Damola, Fig. 2c, elements HiGA and IMS-S; page 24, lines 16-26); and the second terminal receiving the second media stream (Damola, Fig. 2c, element T2 and SP; page 22, lines 1-4), wherein the second media stream is associated with the first media stream (Damola, Fig. 2c; page 24, line 13 – page 25, line 10).

Damola does not explicitly teach using a third protocol.

However, Costa-Requena teaches using a third protocol (Costa-Requena, Fig. 1, elements 11a, 12a, 14, and 14a; col. 2, lines 37-59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Damola in view of Costa-Requena in order to enable the use of a third protocol. One would be motivated to do so in order to enable the use of a new user URI parameter that provides a way to have a message that has a WV address, but is otherwise a SIP message, routed through an IMS network to an intended WV client, whether or not the IMS network allows such messages (Costa-Requena, col. 4, line 61 – col. 5, line 3).

The combination of Damola and Costa-Requena does not explicitly teach the trigger comprises a network address of the gateway.

However, Mela teaches the trigger comprises a network address of the gateway (Mela, col. 20, lines 28-43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Damola and Costa-Requena in view of Mela in order to enable the trigger comprises a network address of the gateway. One would be motivated to do so in order to enable using different protocols for controlling and setting up multimedia streaming on the Internet (Mela, col. 1, lines 32-54).

35. With respect to claim 26, the combination of Damola, Costa-Requena, and Mela teaches the invention described in claim 25, wherein the network address is a URI or a URI reference (Mela, col. 4, lines 1-36).

36. With respect to claim 27, the combination of Damola, Costa-Requena, and Mela teaches the invention described in claim 14, wherein the first protocol and the second protocol are identical (Mela, Fig. 1; col. 3, lines 32-37).

37. With respect to claim 28, the combination of Damola, Costa-Requena, and Mela teaches the invention described in claim 27, wherein the first protocol and the second protocol are Session Initiation Protocol (SIP) (Mela, Fig. 1; col. 3, lines 32-37).

38. With respect to claim 32, the combination of the combination of Damola, Costa-Requena, and Mela teaches the invention described in claim 31, including the gateway (Damola, Fig. 2c, element HiGA; page 25, lines 7-10) wherein the gateway is configured to connect to a first terminal (Damola, Fig. 2c, elements T2 and $2CD_2$ = ACK; page 22, lines 15-16) supporting a first protocol (Damola, Fig. 2c, element $2CD_1$ = RTSP Request; page 22, lines 8-10) and to a second terminal (Damola, Fig. 2c, elements IMS-S; page 22, lines 10-11) supporting a second protocol (Damola, Fig. 2c, $1CD_1$ = SIP Request; page 22, lines 10-11), wherein the first protocol is Session Initiation Protocol (SIP) (SIP – see Mela, col. 3, line 50) and the second protocol is Real Time Streaming Protocol (RTSP) (RTSP – see Mela, col. 3, lines 41-43), wherein the first terminal is an originating SIP client of a user at a user side (Mela, Fig. 2, element B20; col. 3, lines 38-50), wherein the gateway acts as a terminating SIP client, wherein the gateway is configured to confirm that the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) is able to receive a multimedia session from the user and to provide the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) with multimedia session information (the client starts streaming

the movie – Mela, col. 7, lines 51-52), wherein the second terminal is an RTSP client (Mela, Fig. 2, element B10; col. 3, lines 38-50), wherein the gateway acts as an RTSP server on behalf of the user (Mela, Fig. 2, element B40; col. 3, lines 38-50), wherein the second terminal uses RTSP for session control (RTSP is a standard protocol for controlling multimedia streaming on Internet – see Mela, col. 1, lines 32-33), and wherein the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) is configured to inform the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) that an incoming session is pending and notify the RTSP client to connect to an RTSP server function of the gateway (Mela, col. 3, lines 38-50).

Allowable Subject Matter – Dependent Claim

39. Claim 34 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Baturay whose telephone number is (571) 272-3981. The examiner can normally be reached at M-Th 7am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571) 272-7493. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Alicia Baturay/
Primary Examiner, Art Unit 2441

July 6, 2015

Notice of References Cited	Application/Control No. 14/015,765	Applicant(s)/Patent Under Reexamination STOKKING ET AL.	
	Examiner Alicia Baturay	Art Unit 2441	Page 1 of 1

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	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

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	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
*	U	
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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
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(71) Applicant *(for all designated States except US)*: **TELEFONAKTIEBOLAGET L M ERICSSON (publ)** [SE/SE]; S-164 83 Stockholm (SE).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **DAMOLA, Ayodele** [RU/SE]; Kista Alléväg 44A:5, S-164 55 Kista (SE). **HALÉN, Joacim** [SE/SE]; Anhaltsvägen 8, S-191 40 Sollentuna (SE).

(74) Agents: **HOFFMANN . EITLE** et al.; Arabellastrasse 4, 81925 München (DE).

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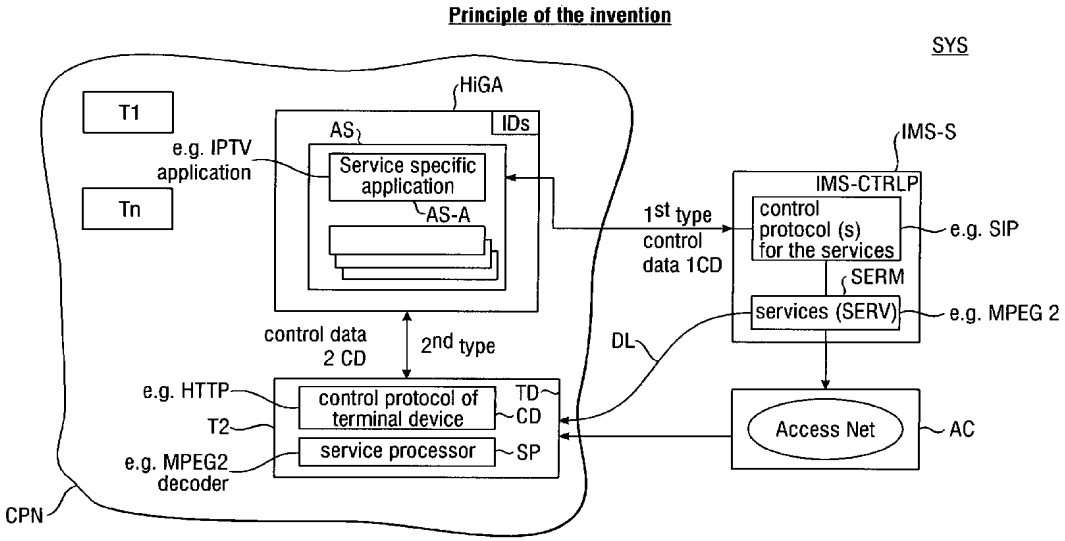
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Declaration under Rule 4.17:
— *of inventorship (Rule 4.17(iv))*

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: IMS SERVICE PROXY IN HIGA



(57) Abstract: The present invention relates to a communication system (SYS), a gateway apparatus (HiGA) and a method for allowing services of a first type provided by a communication server (IMS-S) to be provided to terminal devices (T1, T2, ... Tn ... TN) of a home network (CPN) independent of the fact whether the terminal devices are of a first type or a second type (IMS-based or non-IMS-based). The gateway apparatus (HiGA) comprises one or more service-specific mapping applications (AS) for adapting the control plane (SIP) used between the second type terminal devices (T2) to the control plane (HTTP) used between the gateway apparatus (HiGA) and the communication sever (IMS-S).

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IMS SERVICE PROXY IN HiGA

TECHNICAL FIELD

The present invention relates to a communication system, a communication method and a gateway apparatus which allow terminal devices of the communication system to access and use services provided by a service providing server of the communication system.

In particular, the present invention relates to a situation in which the service providing server provides services having application-specific attributes which cannot be resolved by standard terminal devices. That is, the invention relates to a situation in which the service providing server is of a first type and the communication system may comprise first type terminal devices as well as second type terminal devices. The first type terminal devices will understand and resolve control data associated with services provided by the first type service providing server. However, there are also second type terminal devices which will not be able to understand and resolve the first type control data associated with the services having application-specific attributes (service-specific features) provided by the first type service providing server.

BACKGROUND

Fig. 1a shows a communication system SYS for illustrating the background and the problems to be solved by the invention. In

Fig. 1a a home network (Customer Premises Network) CPN comprises a number of terminal devices T1, T2, ... Tn ... TN. The home network CPN may be connected to a service network which is denoted with IMS-N in Fig. 1a. In the home network CPN or the connected service network IMS-N there is arranged a service providing server IMS-S which provides specific services to the terminal devices T1, T2, ... Tn ... TN, e.g. in an IMS type communication system VoIP, video conferencing and IPTV.

The access procedure and delivery procedure is provided by a gateway apparatus which is denoted with HiGA in Fig. 1a. In response to an access message AC from a terminal device, e.g. T1, to the gateway apparatus HiGA, the service providing server IMS-S will deliver the requested service by means of a delivery message DL forwarded by the gateway apparatus HiGA. Normally, if the service providing server IMS-S and the terminal devices T1, T2, ... Tn ... TN are of the same "type", then there will be no problems in the accessing and provision (delivery) of the services of the service providing server IMS-S, even if the services also have application-specific attributes associated with them. However, if the service providing server IMS-S is of a first type and the terminal device is of a second type incapable to understand the specific first type control data (application-specific attributes) associated with the services, then only the services provided by the service providing server IMS-S can be delivered to the second type terminal device but there is no possibility that first type control data associated with the service is decoded and used in the second type terminal device. Hereinafter, to further illustrate this aspect, a more specific example relating to IMS services will be explained also to Fig. 1b, 1c.

The examples in Fig. 1c, 1b, 1c are for a case in which the gateway apparatus is formed by a HiGA (Home IMS GAteway) and the terminal device T1 (first type terminal device) is a SIP

device (SIP: Session Initiation Protocol), and the terminal device T2 (second type terminal device) is a non-SIP device. As explained before, the HiGA is a functional block (gateway) residing in the home network CPN which thus enables SIP and non-SIP terminal devices to access IMS-based services provided from by the service providing server IMS-S. IMS-based services may include communication services such as VoIP (Voice over IP) and video conferencing, as well as other multimedia services, such as IPTV, as also indicated in Fig. 1a.

One of the characteristics of for example IPTV offered as an IMS service is that it allows a personalisation of TV content delivered to end users, for example the delivery of personalized advertisements based on user identity and preference. For this purpose, the HiGA maintains a user profile in a user profile memory UP-MEM shown in Fig. 1b. Such a user profile may for example be stored in the exchange portion EX of the gateway device HiGA shown in Fig. 1c. A user profile is maintained for every subscription which is linked to an IMS service identity. For example, as shown in Fig. 1b, each user identity (USER-ID) is associated with a specific preference (control information) and service identification IMS-ID. For example, different TV programs may be available to each individual user in their EPG (Electronic Program Guide) such as, as shown in Fig. 1b, ID1="dad"/control info="sports"; ID2="son"/control info="movies and kids programs" and IDn="mother"/control info="advertisements". IF such specific preferences (control info) are indicated, the HiGA will make sure that the requested service is delivered to the user (terminal device) in a personalised way by means of the control information.

For example, if a first type terminal device T1 sends a service delivery request including a user-ID=ID2, then HiGA will know that a personalized electronic program guide EPG2 is to be retrieved from the service providing server IMS-S

and HiGA will send a request for EPG2 to the server IMS-S. Alternatively, if the server IMS-S includes a user-specific preference mapping table mapping between user identity ID and control information IMS-CTRL, as shown in Fig. 1c, it may be sufficient if the first type terminal device T1 merely sends its user-ID ID1 (first tape control information) to the server IMS-S through the HiGA and the server IMS-S will return the first type control information (control data) to the first type terminal device T1 which is capable of decoding and using the provided first type (personalized, i.e. user and service-specific) control information EPG1 In this way, personalised content can be delivered to a specific subscription and hence to a specific user, provided that the terminal device and the server run the same (first type) control protocol. Typically, in a communication system having an IMS server IMS-S, both the terminal device T1 and the server IMS-S run the same SIP control protocol and can therefore "talk" to each other using this protocol.

Whilst HiGA provides essentially an IMS-SIP proxy (exchange) functionality for providing IMS communication services to both SIP and non-SIP (e.g. UPnP (Universal Plug and Play)) home devices, the IMS system, i.e. the application server IMS-S in the home network CPN or in the interconnected services network IMS-N, provides a multitude of multimedia services, as shown in Fig. 1a, including IPTV, VoIP, video conferencing etc. and typically such IMS services could have application (service)-specific attributes (control information) which cannot be used and understood by standard terminal device T2 running a different second control protocol, as indicated in Fig. 1a. For example, the IPTV service might have application-specific attributes such as EPG (Electronic Program Guide) and service triggers. A voice over IP service may have specific attributes in terms of specific adverts or music. If the end terminal device is also an IMS-based terminal device, then of course there is no problem to deliver the application (service)-specific

attributes associated with this service to a (first type SIP) terminal device T1. However, there is a problem if the terminal device is of a different type (second type), i.e. non-IMS-based, because in this case the application-specific attributes (control information) associated with this IMS-based service cannot be "understood" by the control protocol of a non-IMS-based first type terminal device T2. This problem does not only relate to the more sophisticated provision of personalized content from the server IMS-S but even to a simple request scenario.

For example, the first terminal device T1 may be capable of decoding a delivered MPEG2 stream by means of a service processor SP (MPEG2 decoder). However, it may use a HTTP (first type) control protocol for requesting this MPEG2 service from the server IMS-S. If the server IMS-S runs a second control protocol, for example SIP, then the first terminal device T1, not supporting IMS SIP, can not access media at the server IMS-S with the HTTP request. Another example is if the first terminal device T1 requests a service, e.g. a video streaming, requiring a certain bandwidth (certain resources) in the access network and the access network is incapable to provide the required resources. Since the first and second control protocols are different, the terminal device will not be capable e.g. to negotiate with the server IMS-S that a certain lower bandwidth is acceptable for a video streaming with e.g. lower quality.

Many off-the-shelf terminal devices T2, such as for example a simple standard Set-Top-Box STB, running simple request messages without having assigned to them specific user-IDs, are only capable to decode or run the service, but they are not capable to provide any user-specific features, i.e. they are "blind" and simply run the service in a user-unrelated fashion.

SUMMARY

As explained above, there is a problem in that some second type terminal devices T2 are incapable to exchange with the server IMS-S first type control information (control data) associated with a service to be provided because the control protocols of the server IMS and the second type terminal devices T2 are different.

Therefore, the object of the present invention is to provide a communication system, a communication method and a gateway apparatus for allowing second type terminal devices running a second type control protocol to execute services in association with first type control information provided by a first type service providing server.

This object is solved by a communication system, comprising a gateway apparatus, a plurality of terminal devices and a service providing server for providing services to said terminal devices through an access network, wherein said service providing server comprises a service memory for storing one or more services to be provided to said terminal devices, and at least one control protocol device of a first type providing first type control data in association with said one or more services to said gateway device; wherein said terminal devices each comprise a service processor for processing the service provided by said service providing server through said access network and a control protocol device of a second type, different to said first type and providing second type control data in association with the execution of the service by said service processor to said gateway device; and wherein said gateway apparatus comprises one or more service-specific mapping devices for exchanging first type control data with said service providing server and second type control data with said terminal devices wherein said service-specific mapping devices provide to said service providing server first type control data on the basis

of second type control data received from said terminal devices and receive first type control data from said first type control protocol device of the service providing server; and said service-specific mapping devices provide to said terminal devices second type control data on the basis of said first type control data received from said service providing server and receive said second type control data from said second type control protocol device of said terminal devices.

Furthermore, this object is solved by a gateway apparatus of a communication system including a plurality of terminal devices and a service providing server for providing services to said terminal devices through an access network, wherein said service providing server comprises a service memory for storing one or more services to be provided to said terminal devices, and at least one control protocol device of a first type providing first type control data in association with said one or more services to said gateway device, wherein said terminal devices each comprise a service processor for processing the service provided by said service providing server through said access network and a control protocol device of a second type, different to said first type and providing second type control data in association with the execution of the service by said service processor to said gateway device, comprising one or more service-specific mapping devices for exchanging first type control data with said service providing server and second type control data with said second type terminal devices, wherein said service-specific mapping devices provide to said service providing server first type control data on the basis of second type control data received from said terminal devices and receive first type control data from said first type control protocol device of the service providing server; and said service-specific mapping devices provide to said terminal devices second type control data on the basis of said first type control data received from said service providing server and

receive said second type control data from said second type control protocol device of said terminal devices.

Furthermore, this object is solved by a communication method between a gateway apparatus, a plurality of terminal devices and a service providing server of a communication system for providing services to said terminal devices through an access network, wherein said service providing server comprises a service memory for storing one or more services to be provided to said terminal devices, and at least one control protocol device of a first type providing first type control data in association with said one or more services to said gateway device, wherein said terminal devices each comprise a service processor for processing the service provided by said service providing server through said access network and a control protocol device of a second type, different to said first type, and including second type control data in association with the execution of the service by said service processor, and wherein said gateway apparatus comprises one or more service-specific mapping devices for exchanging first type control data (1CD) with said service providing server and second type control data with said terminal devices, comprising the following steps of providing from at least one of said terminal devices to said gateway apparatus second type control data, providing from said service-specific mapping devices of said gateway apparatus to said service providing server first type control data on the basis of said second type control data provided from said terminal device; providing first type control data from said first type control protocol device of said service providing server to said gateway apparatus, and providing from said service-specific mapping devices to said terminal device second type control data on the basis of said first type control data provided from said service providing server.

According to the invention, there is the special advantage that there are service-specific features in e.g. the HiGA

gateway device for providing the necessary gateway functionality between e.g. IMS-based application (communication) servers and non-IMS terminal (home) devices. Hence, standard terminal devices can also be provided with some kind of personalized control information.

Preferably, said service-specific mapping devices comprise at least one service-specific mapping device running an IPTV proxy application.

Further preferably, said second type control data constitute a second type service request and said service specific mapping device sends as first type control data a first type enquiry request enquiring the service providing server whether said access network has enough resources to provide said service to the terminal device; wherein said service providing server sends as first type control data an acknowledgement message indicating that there are enough resources for the service provision if the service providing service establishes that there enough resources, and sends as first type control data a negative acknowledgement message indicating that there are not enough resources for the service provision if the service providing server establishes that there not enough resources.

Further preferably, said terminal device comprises a Set-Top-Box including as service processor an MPEG2 decoder, said service providing server comprises in said service memory as service a VoD (Video on Demand) service, said service-specific mapping devices comprise at least one service-specific mapping device running a RTSP proxy application and said control protocol is RTSP, and said resources are the bandwidth of lines in said access network.

Further preferably, said gateway apparatus and said terminal devices are part of a customer premises network.

Further preferably, said gateway apparatus is located in a residential gateway of said customer premises network.

Further preferably, said gateway apparatus receives as said second type first control data from said terminal device an EPG download request and said second type control data provided by said gateway apparatus comprises a personalized EPG (Electronic Program Guide).

Further preferably, said gateway apparatus comprises in a memory said user identity.

Further preferably, said user identity is stored on a plug-in inserted into said gateway apparatus or on an UICC card inserted into a memory of said gateway apparatus.

Further preferably, said terminal device is one or more selected from the group comprising a set-top-box, a controller of a heating system, a surveillance system in the home, a camera or a central home controller of an intelligent house.

Further preferably, said first type of said control data is SIP (Session Initiation Protocol) and said second type of said control data is one of HTTP or UPnP.

Further preferably, said gateway apparatus receives from said service providing device as first type control data said downloaded EPG of first type and converts a format of said received EPG into a format supported by said terminal device.

Further preferably, said gateway apparatus invokes a media session establishment between the terminal device and said service providing device.

Further preferably, said media session establishment is a unicast media session establishment.

Further preferably, said media session establishment is a multicast media session establishment.

Further preferably, said gateway apparatus receives as first type control data an EPG update message.

Further preferably, said gateway apparatus receives as first type control data an event trigger message and sends as second type control data a media session establishment message to said terminal device on the basis of said event trigger message.

Further advantageous embodiments and improvements of the invention are listed in the dependent claims. However, it should be noted that the invention also comprises features and steps which have been separately described in the claims, the drawings and the description. Therefore, the invention also comprises embodiments which are based on combinations of such features and steps.

Hereinafter, the invention will be explained with reference to the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

Fig. 1a is an overview of a communication system SYS in accordance with the prior art;

Fig. 1b shows a user profile in a user profile memory UP-MEM which lists specific preferences for specific required services in connection with a specific user ID, in accordance with the prior art;

Fig. 1c shows a request scenario if a first type terminal device T1 requests personalized content in the form of a personalized electric program guide EPG1 from the server IMS-S, in accordance with the prior art;

Fig. 2a shows a block diagram of a communication system SYS in accordance with the invention;

Fig. 2b shows a first specific service provision example for the provision of IPTV in connection with a personalized electric program guide EPG;

Fig. 2c shows a second specific service provision example for the provision of an MPEG2 stream in case that the requesting control protocol of the second terminal device T2 and the control protocol of the server IMS-S are different, in particular also the negotiation of resources RES for the access network AC;

Fig. 2d shows a block diagram of a communication system SYS and a gateway device HiGA for the specific case of an IMS server and an IPTV service provision;

Fig. 3 shows a flowchart of the communication method of the invention;

Fig. 4 shows an embodiment and examples of the invention for the special case of a HiGA with an application space for IPTV, as shown in Fig. 2d, wherein

Fig. 4a shows an example flow chart of the media session initialisation in the STB in connection with the IPTV service;

Fig. 4b shows an example flow chart of a unicast session establishment in connection with the IPTV service;

Fig. 4c shows an example flow chart of a multicast session establishment in connection with the IPTV service;

Fig. 4d shows an example flow chart for EPG updates in connection with the IPTV service; and

Fig. 4e shows example triggers for personalised content in connection with the IPTV service.

DETAILED DESCRIPTION

Hereinafter, first the principle of the invention will be described with reference to Fig. 2a which is a block diagram of a communication system SYS in accordance with the invention. It comprises a gateway apparatus HiGA, a plurality of terminal devices T1, T2, ... Tn ... TN and a service providing server IMS-S for providing services SERM to said terminal devices T1, T2, ... Tn ... TN through an access network AC.

As shown in Fig. 2a, the service providing server IMS-S comprises a service memory SERM for storing one or more services SER1, SER2, SER3 to be provided to said terminal devices T1, T2, ... Tn ... TN. Although the server IMS-S is shown in Fig. 2a to be simply connected to the HiGA, the server IMS-S may also be located in a separate service provision network IMS-N, as shown in Fig. 1a. The service providing server IMS-S runs a control protocol IMS-CTRLP which is provided by a control protocol device. An example for the control protocol is SIP. This type of protocol will be referred to as the "first type" protocol which provides first type SIP control data CS "in association" with one or more services SERV. Each service in the service memory SERM may have its own control protocol, or a single control protocol can be provided for all services. The services may for example be an IPTV provision (MPEG2 stream provision), a VoIP service, video conferencing, IPTV, as already shown in Fig.

1a and described above. One control protocol may be SIP, however, also other control protocols can be used.

The meaning of "in association" may be understood with reference the example in Fig. 2b which is explained with further details below. Here, the service is IPTV and the control data (first type control data) are user-specific electronic program guides EPG1, EPG2, ... EPGn. However, the control data or control information of the first type may simply be a trigger to run a specific service, the provision of an HTML page in connection with IPTV etc. Therefore, somehow the control protocol(s) are "associated" or related to the specific service or specific services. The services can either be provided directly to the second type terminal device T2 through a link DL or by means of an access network AC, as shown in Fig. 2a. Alternatively, there is also the possibility to route the service provision through the gateway apparatus HiGA itsef.

In Fig. 2a, the terminal devices T1, T2, ... Tn ... TN comprise first type terminal devices T1, Tn and second type terminal devices T2, wherein said terminal devices T1, T2, ... Tn ... TN each comprise a service processor SP for processing the service SERV provided by said service providing server IMS-S through said access network AC or through said direct link DL. Whilst the first type terminal devices T1, Tn comprise a control protocol device of the first type providing first type control data in association with the execution of the service by said service processor SP to said gateway device HiGA, the second type terminal devices T2 comprise a control protocol device of a second type, different to said first type and providing second type control data in association with the execution of the service by said service processor SP to said gateway device HiGA. This means, that the first type terminal devices T1, Tn are capable of performing and communicating directly with the server IMS-S, as shown in Fig. 1c.

For example, the first type terminal devices T1, Tn may comprise the features of a user-identity which is one of the control data belonging to the first type control protocol. On the other hand, the second type terminal device may be a standard Set Top Box STB which simply comprises a service processor SP for running for example an MPEG2 stream. Thus, as such the second type terminal device will only understand some kind of control data of the second type, however, will be "blind" to any control information of the first type coming from the first type control protocol of the server IMS-S. This means, that the second type terminal device T2 does not understand any control information of the first type. For example, if the second terminal device T2 is simply a Set Top Box STB, it simply runs the TV service, however, it has not the capability of requesting or being provided with personalized electronic program guide as control data.

Although in Fig. 2a, the communication system SYS is illustrated with the gateway apparatus HiGA communicating with both the first and second type terminals T1, Tn & T2, respectively, it should be understood that the invention concentrates on those features necessary in the HiGA for communicating with the second type terminals T2, i.e. those which operate using a different protocol (device) to that used in the service providing server. For communication with the first type terminals, obviously the special features of the invention are not necessary since the first type terminals runs the same protocol as the service providing server.

The gateway apparatus HiGA is similarly arranged as in Fig. 1c or 1a, i.e. it acts as a kind of proxy between the server IMS-S and the terminal devices T1, Tn, T2. However, in accordance with the invention and as shown in Fig. 2a, the gateway apparatus HiGA comprises a kind of service abstraction layer between service-specific applications

running on non-IMS home devices and the services provided by the IMS application servers. This application space AS of the gateway apparatus HiGA comprises one or more service-specific mapping devices AS-A. This kind of application space is intended to be a common application execution environment for different types of service-specific applications. The service-specific applications in the application space essentially adapt the service-specific control plane to the control plane native to the target second terminal devices T2. One can say that the application space is an environment where plug-ins supporting different devices (set of functions) and protocols are placed. Thus, for each of the services SERV to be provided by the server IMS-S, the gateway apparatus HiGA comprises a service-specific mapping device AS-A.

In Fig. 2a, as an example, an IPTV mapping device is indicated. Thus, the gateway device HiGA assumes support for application-specific logic based in the HiGA. The control plane is terminated in the gateway apparatus HiGA which has the function of mapping this to the native control plane of the second type terminal device T2. Hence, the gateway apparatus HiGA acts as the IPTV server proxy to the second terminal device T2. One could say, that the application space AS in the gateway apparatus HiGA is a place-holder for modules terminating application-specific data from the IMS IPTV AS in case of an IPTV application, as shown in Fig. 2a. As also shown in Fig. 2a, separately the media plane from the IMS content server IMS-S is terminated directly in the second terminal device T2, as explained before.

The gateway apparatus HiGA could functionally be located in a residential gateway or in a master STB(M STB). This allows for the existence of multiple STBs (slave STBs) in the home environment which are connected to one master device handling the IMS control plane on their behalf. Typically, considering an IPTV application environment, the second terminal device

T2 may be a standard Set Top Box STB, and the gateway device HiGA may be located in the same home or in the residential gateway.

Preferably, the identity of the user may be pre-stored in a memory in HiGA and can thus be presented to the IMS server. For example, a general mobile phone card (UICC or Universal Integrated Circuit Card) with the user ID can be presented to the HiGA. This card could host a number of applications such as the USIM or the ISIM. Thus, the user identity may also be an IMSI which is a unique number associated with the mobile subscription and is part of the part of the USIM which runs on the "mobile phone card". Also a smart card may be inserted, just as in modern devices like a STB with a smart card. Furthermore and as shown in Fig. 1b, the HiGA may maintain a user profile in a user profile memory UP-MEM. Such a user profile may for example be stored in the exchange portion EX of the gateway device HiGA shown in Fig. 1c. A user profile may be maintained for every subscription which is linked to an IMS service identity. For example, as shown in Fig. 1b, each user identity (USER-ID) is associated with a specific preference (control information) and service identification IMS-ID. For example, different TV programs may be available to each individual user in their EPG (Electronic Program Guide) such as, as shown in Fig. 1b, ID1="dad"/control info="sports"; ID2="son"/control info="movies and kids programs" and IDn="mother"/control info="advertisements". IF such specific preferences (control info) are indicated, the HiGA will make sure that the requested service is delivered to the user (terminal device) in a personalised way by means of the control information.

Hereinafter, the application space AS with its service-specific mapping devices AS-A (one for each service to be provided) will be described with further details. As shown in Fig. 2a, the principal function of the mapping device AS-A is to exchange first type, e.g. SIP, control data with the

service providing server IMS-S and to exchange second type, e.g. non-SIP, control data with said second type, e.g. non-SIP, terminal device T2. That is, the HiGA, acting as a proxy for the second terminal device T2, communicates with the server IMS-S using the first type server control protocol, and it communicates with the second terminal device T2 using the second type control data. An example should illustrate this.

Assume for example that the second terminal device T2 is a standard Set Top Box STB. It will have the capability to run for example an MPEG2 stream by means of a MPEG2 decoder in the service processor SP. It may also have a simple "first type" control protocol which may only comprise the making of a simple request to run or request an MPEG2 stream or an IPTV service. Furthermore, the STB can also receive a general electronic program guide EGP but it cannot receive it or request it in a user-specific manner. The user-specific functionality is taken over by the HiGA serving as a proxy for the STB. The HiGA can request and can be provided with user-specific control information, e.g. with a personalized electronic program guide EGP.

The "exchanging" of first type control data with the IMS-S server and second type control data with the second terminal device T2 also includes a correlation or mapping between the first type and second type control information. More specifically, the service-specific mapping device AS provides to the service providing server IMS-S first type SIP control data on the basis of second type, i.e. non-SIP, control data received from said second type terminal device T2, and it receives first type control data from said first type control protocol device IMS-CTRLP. In turn, the service-specific mapping device AS-A provides to said second type terminal device T2 second type, i.e. non-SIP, control data on the basis of said first type control data received from said service-providing server IMS-S, and it receives the second

type control data from said second type control protocol device TD-CP of the second terminal device T2.

Thus, one can say that in the upward direction, i.e. terminal device T2→IMS-S server, the first type control data provided by the HiGA is based on second type control data received from the terminal device T2. In turn, in the "downward" direction, e.g. from the server IMS-S to the second terminal device T2, the second type control data provided by the HiGA device to the second terminal device T2 is based on the received first type control data from the server IMS-S. This relating - i.e. "on the basis" - or correlation of control data of the first and second type, performed by the gateway apparatus HiGA, can be considered to be a kind of "mapping", and therefore the device AS-A and the gateway device HiGA is denoted as "mapping device". Two simple examples in Fig. 2b and Fig. 2c will further highlight the "mapping" function for the control plane adaptation.

Fig. 3 shows a flowchart of an embodiment in accordance with the communication method of the invention, using a gate apparatus HiGA in a home network as explained above with reference to Fig. 2a. As illustrated in the flowchart in Fig. 3, generally the application space within the HiGA exchanges control messages 1CD of the first type between the server side IMS-S and the gateway apparatus HiGA whilst the second type control messages 2CD are exchanged between the second type terminal device T2 and the gateway apparatus HiGA.

In particular, as shown with step 1: $2CD_1$, a control message may be issued from the second type terminal device T2 to the HiGA. It is received in the HiGA and an associated (mapped) request message of a first type in step 2:$1CD_1$ is sent from the HiGA to the server side IMS-S. This message $1CD_1$ is - as explained above - based on the request message $2CD_1$. For example, as will be explained below, the control message may

have its control format or control type adapted or converted (see e.g. the EGP conversion of the EGP format in Fig. 4a).

Likewise, when sending a control message in step3: $1CD_2$ of the first type from the IMS-S server side to the HiGA, a corresponding or associated message in step 4:$2CD_2$ which is based on the first message $1CD_2$ can be provided to the second terminal device T2. Thus, the respective messages 1CD of the first type between the server side IMS-S and the HiGA are respectively based on messages 2CD of the second type between HiGA and the second terminal device T2.

As explained above with reference to Fig. 2a, the provision of the HiGA, in particular the provision of proxy applications (service-specific mapping devices) relating to specific services in the HiGA, enables standard off-the-shelf terminal devices T2 of the second type to assume a functionality which would normally only be capable to be carried out by first type terminal devices.

The example in Fig. 2b relates to the example shown in Fig. 1c which is the illustration of first terminal devices communicating with a first type server IMS-S. Just as in Fig. 1c, Fig. 2b comprises as an example service the IPTV service in the IMS-S server. It also comprises as first type control information the example of personalized electronic program guides EPG1, EPG2, EPG3 associated with user identities ID1, ID2, … IDn. Since the gateway apparatus HiGA is for example installed in the home of a user or has a user-plug-in with an identity ID1, the gateway apparatus HiGA, more specifically the service-specific mapping device running an IPTV proxy application AS-A(IPTV), can provide user-specific requests (control information) to the server IMS-S.

In the terminal device T2 there is a service processor SP for executing the IPTV service and an EPG request device CP which simply outputs a request for an EGP to the gateway apparatus

HiGA as a request message $2CD_1$. Thus, the terminal device T2 can make a request for an electronic program guide EGP and will be provided with some EGP information in the return message $2CD_2$. However, the terminal device T2 - being "blind" to user-personalized control data - will simply accept the electronic program guide EGP without knowing that it has been personalized by the intermediary (proxy) of the mapping device running the IPTV proxy application AS-A(IPTV). That is, after receiving a request message for EGP, the mapping device running the IPTV proxy application AS-A(IPTV) generates a request for personalized EGP information for the user with the user-ID ID1 by sending a request message $1CD_1$ including the user-identity ID1 inserted from the gateway apparatus HiGA or from the user-specific plug-in. Thus, one can say that the request message $1CD_1$ (a control information request message) is "based" on the request message $1CD_1$ because it generally still relates to the requesting of EGP information, only in a more user-specific way having been upgraded or supplemented with the user-identity ID1.

On the basis of $1CD_1$ the server IMS-S will return user-personalized electronic program guide information EGP1 in the return message $1CD_2$. Although the second terminal device T2 does not know that the electronic program guide information EGP which is returned in the return message $2CD_2$ is a user-specific electronic program guide information EGP1, in fact the electronic program guide information which is provided to T2 is indeed user-personalized because it has been requested in a user-personalized way from the HiGA proxy to the IMS-S server and it has been returned in a user-specific way to the HiGA. Thus, the return information EGP1 in the return message $2CD_2$ is also "based" or "correlated", i.e. mapped, from the return message $1CD_2$ containing the electronic program guide EGP1. Thus, the communication scenario in Fig. 2b comprises the exchange of first type and second type control information which are respectively "based" on each other.

Fig. 2c shows another example of the "mapping function" of the mapping device for the example of an MPEG2 service stream provision. In Fig. 2c an MPEG2 stream is decoded by an MPEG2 decoder in the service processor SP. In Fig. 2c the return messages $2CD_2$ and $1CD_2$ merely extend to the provision of an acknowledgement ACK. However, as shown in Fig. 2c, the protocols run by the second terminal device T2 and by the IMS-S server are different, i.e. the request message $2CD_1$ for having an MPEG2 service provided by the service provider IMS-S is a HTTP or RTSP request whilst the request issued by the gateway apparatus HiGA is a SIP request in the message $1CD_1$. Thus, also in Fig. 2c, the request message $1CD_1$ is "based" on the HTTP request in the message $2CD_1$. Likewise, the return message $1CD_2$ (a simple acknowledgement ACK) is a SIP acknowledgement message and the acknowledgement message $2CD_2$ being a HTTP acknowledgement message, is "based" on the SIP acknowledgement message $1CD_2$. Thus, in this case the mapping device running e.g. the IPTV proxy application AS–A(MPEG2) simply "maps" request and acknowledgement messages between the different control planes of the server IMS-S and the second terminal device T2.

Fig. 2c also shows another example in which the service-specific mapping device runs a proxy application in order to negotiate the request for resources with the server IMS-S if a request for a specific service provision is made by the second type HTTP terminal device T2. The example is for the case, when accessing a VoD (Video on Demand) service and the second terminal T2 is constituted by a set-top-box STB. The set-top-box STB (as indicated with the brackets in Fig. 2c) has initiated a media session with a VoD server using an RTSP protocol. As indicated in Fig. 1c or in Fig. 2a, the actual video streaming may be provided through a direct line DL or through the access network AC. An important aspect is that the access network should have enough resources RES (e.g. bandwidth) to deliver the requested stream to the set-top-box. A general feature of the server IMS-S is that it is able

to negotiate the resources RES required by the end device and the resources RES available in the access network AC. Hence, the IMS-S server generally allows for QoS provisioning (QoS = Quality of Service). However, as explained with reference to the prior art Figs. 1a, 1b, 1c, an off-the-shelf set-top-box STB does not have the capability to negotiate such resources RES with the IMS-S server.

However, as shown in Fig. 2c, if the gateway apparatus HiGA comprises a services specific mapping device running an RTSP proxy application AS-A(RTSP), then off-the-shelf-devices having no knowledge of QoS are enabled to request QoS parameters in a network that has a QoS reservation system. A simply example is that the user would like to watch a high definition movie, i.e. a HDTV movie that requires 5Mbsp bandwidth. If the access network AS only provides 3 Mbps, then there is a problem, because simply the high definition movie is not capable to be provided to the user having the off-the-shelf set-top-box STB.

Whilst the RTSP proxy in the application space of HiGA does no resource reservation/allocation, the reservation is actually done by the resource manager entity in the network on request from the IMS-AS. The IMS-AS is in turn asked by the IMS IPTV client in the HiGA which is triggered by the RTSP proxy. The IMS IPTV client is really the entity in the HiGA which supports SIP and which is "aware" of the IPTV service. It therefore constitutes a true HiGA functionality. Hence, using an RTSP client (in the device) → an RTSP proxy (sitting in the application space of HiGA) → an IMS IPTV application (core HiGA functionality) → an IMS AS → access network resources manager in the mentioned order, it is possible to negotiate in advance the requirements of the user's stream and capabilities of the access network AC and then either allow the stream when there are enough resources RES or to disallow the stream when there are not enough resources RES.

On the other hand, it should be noted that the RTSP proxy itself is really at the end of the above mentioned order and it does not do a resource reservation by itself. The resource reservation is done by the IMS AS (in conjunction with the other mentioned network components) when it gets a request from the IMS IPTV application in the device. The RTSP proxy just passes the RTSP requests from the client to the IMS IPTV application. Further details are explained below with reference to the preferred example "TRIGGERS FOR PERSONALIZED CONTENT".

Summarizing, in Fig. 2c the second type control data $2CD_1$ constitute a simple service request for the video streaming provision and this request $2CD_1$ is provided to the RTSP proxy application AS-A (RTSP). The RTSP proxy application can then initiate an enquiry/request message $1CD_1$ to the server IMS-S to enquiry whether there are sufficient resources in the access network AS to provide the requested service (video stream) to the second type terminal device STB. The server IMS-S-in response to receiving the request/enquiry message $1CD_1$ can then negotiate or check with the access system AC whether there are sufficient resources RES for the service provision. If there are sufficient resources, an acknowledgement message $1CD_2$ = ACK is sent back to the RTSP proxy application in HiGA and if there are no sufficient resources found, then a non-acknowledgement message $1CD_2$ = NACK is provided to the RTSP proxy application. Corresponding acknowledgement/non-acknowledgement (ACK/NACK) messages are then provided from the RTSP proxy application to the set-top-box STP. First the RTSP proxy application can check and reserve the required bandwidth (resources RES) for the service provision although the off-the-shelf-set-top-box STP can only send a general request message for the service provision. Thus, on a user-specific basis (because the RTSP proxy application can personalize the request from the set-top-box (STB) with the user identity known in HiGA), it is

not only possible to simply reject or allow the video streaming provision but it is also possible e.g. to allow the video service provision with a smaller bandwidth, i.e. with a lower QoS. Thus, the gateway apparatus HiGA performs and allows a user-specific negotiation of QoS with the server IMS-S. For example, the user may also only have paid for a certain bandwidth on the access network AC and the gateway apparatus HiGA with its RTSP proxy application can "tailor" the video service provision to a QoS for which the user has paid.

As illustrated with the examples in Fig. 2b and Fig. 2c and with the general block diagram of the communication system SYS in Fig. 2a and the communication method in Fig. 3, it may be understood that due to the invention also conventional second type terminal devices T2 can be provided with first type control information through the intermediary of the HiGA proxy. In this manner, user-specific, i.e. personalized, content data can also be provided to simple standard second terminal devices T2.

Hereinafter, a special embodiment of the invention in connection with the case of IPTV is described with reference to Fig. 2d and also with reference to Figs. 4a, 4b, 4c, 4d and 4e.

Fig. 2d is essentially corresponding to Fig. 2a for the specific case of an IPTV service application. In Fig. 2d is shown an application space and service-specific applications within it, as well as a set of non-IMS devices which can access IMS services via the HiGA. An example of the IMS service is the IPTV service. The interactions between a non-IMS STB (second terminal device), an IPTV service application in the HiGA application space (a mapping device) and the IMS IPTV AS are illustrated in Figs. 4a, 4b, 4c, 4d, 4e. These Figs. illustrate signalling diagrams which are specific to the IPTV service and are illustrated here as an example of a

service implementation. Whilst some of the messages are standard in a HiGA implementation, special messages will be highlighted to illustrate the features of the invention in the HiGA application space with an IPTV application introduced. For other IMS services and non-IMS services the sequence diagrams in Fig. 4a, 4b, 4c, 4d, 4e would be similar, depending on the application (service) to be provided.

As shown in Fig. 2d, the HiGA with an application space assumes support for application-specific logic located in the HiGA. The control plane is once again terminated in HiGA which has the task of mapping this to the native control plane of the STB by means of the mapping devices. Hence, the HiGA, as explained before, acts again as the IPTV server proxy to the STBs. The application space in HiGA thus is a place-holder for modules terminating application-specific data from the IMS IPTV AS. Again, as in Fig. 2a, the media plane from the IMS content server IMS-S is terminated in the STB.

As explained above, the HiGA functionality could be located in a residential gateway or in a master STB (M STB). This allows for the existence of multiple STBs (slave STBs) in the home environment which are connected to one master device handling IMS control plane on their behalf.

It may be noted that all the diagrams in Fig. 4a-4e relate to a preferred mode of the invention but are by no means to be considered as limiting the scope of the invention because the main scope of the invention is shown with the diagrams in Fig. 2a and Fig. 3

The media-session initialisation in the STB is shown in Fig. 4a. It should be noted, that in Fig. 4a there are messages which partially are incorporated already in a conventional gateway apparatus HiGA. The new messages in accordance with

the preferred mode of the invention are respectively encircled in Fig. 4a (and also in the other flowcharts of Figs. 4b-4e, to be explained hereinafter). Fig. 4a is more detailed embodiment of the invention relating to the EPG download in Fig. 2b.

In Fig. 4a, the "media server" on the right hand side corresponds to the IMS-S server shown on the right hand side in Fig. 2a. The set-top-box STB corresponds to the second type terminal device T2. The ":HGA"/:CSCF (call/session control function) are located in the gateway apparatus HiGA. The ":IPTV AS" corresponds to the application space in the IMS server.

The precondition in Fig. 4a is that a trigger in :CSCF is set up on REGISTER for sip:family@op.co and the STB is off; sip:family @op.com is the default IMS identiy on the set-top-box STB. The media session initialization in the set-top-box STB in Fig. 4a starts with message 1:Power on which is sent from the STB to the HiGA. With the message 2:REGISTER, the HiGA registers with the family identity. This step 2: involves the HiGA registering the set-top-box STB to the application space AS. Step 2: is a conventional message as e.g. defined in "Rechon Architecture Report, EAB-05:045608, 2005-12-22.

In step 3: a registration request is relayed to the application space based on prior established triggers. In step 4:, the application space AS responds with a step 4:MESSAGE message containing the user profile. Step 5: sends the MESSAGE to the HiGA. Now, based on the received user profile, the gateway apparatus HiGA performs a subscription in step 6: SUBSCRIBE to the application space AS. In step 7: SUBSCRIBE the subscribe message is relayed to the application space AS. In step 8: the application space :IPTV AS responds with a NOTIFY message containing a URL to the EPG for the corresponding user profile. In step 9: NOTIFY, the NOTIFY

message containing the URL is relayed to the gateway apparatus HiGA. So far, steps 1: to 9: are conventional in as far an off-the-shelf second terminal device T2 can also execute such steps in order to receive a URL to an EPG for a corresponding user profile.

In accordance with the invention, in step 10:, the gateway apparatus :HiGA sends a message 10:Retrieve EGP data message to the :IPTV AS application space. Thus, in step 10:, the IPTV application :IPTV AS in the application space retrieves the EPG from the location specified in the received URL. In step 11:EPG in format X, the EPG data which has been retrieved from the URL is received in a format normally not supported by the set-top-box STB, i.e. essentially the EPG is in a control data format of the first type (see also Fig. 2b). Therefore, in step 10, the gateway apparatus :HiGA converts the EPG to a format of a second type which is supported by the set-top-box STB. This is done, because the EPG is normally not necessarily in the same format as supported by the set-top-box STB. 'That is, the EPG format is converted to a format supported by the STB, e.g. into an HTML format. In step 12: the converted EPG data in the second control data type (e.g. HTML) is relayed to the set-top-box STB. In this manner, the off-the-shelf-set-top-box STB can receive a personalized electronic program guide EPG.

In step 13:INVITE, an INVITE message is sent by the HiGA containing the SDP which would be used to allocate network resources for the media stream in the transport network. After step 12:, i.e. after download of the EPG, :HiGA can perform a resource negotiation, as in principle shown in Fig. 2c. Thus, :HiGA can first reserve in the access network AC a certain maximum bandwidth, e.g. a 5MB line. Then, the user at the STB can select the stream channel as request to the IMS server, e.g. the user can request a HDTV channel. If the access network AC cannot provide the line, HiGA will return the message NACK saying that the access network AC cannot

provide the line (see also Fig. 2c). HiGA can also negotiate in the message to better try another stream or to do the streaming with a channel of lower resolution.

In step 14:, an invite message INVITE is relayed to the CSCF (Call/Session Control Function). In step 15:, an OK message containing a unicast or multicast address is returned by the application space :IPTV AS. In step 16:, the OK Message is relayed from the :CSCF to the :HiGA.

Step 17:Start media session is an important message which is not supported in conventional systems. In step 17:, the :IPTV application space in HiGA invokes a media seesion establishment between the set-top-box STB and the service provision device (the media server). This message is an important message because the :HiGA can actively control and initiate a media session establishment in step 17:. Figs. 4b, 4c show further preferred details of this.

In step 18:media session establishment, a media session is established between the STB and the media server IMS-S in a conventional way, e.g. through a direct line DL or through an access network AC, as shown in Fig. 2a.

Thus, since the :HiGA performs the registration on a user-specific basis (see the first block in Fig. 4a), it is possible to retrieve a user-specific electronic program guide EPG from the :IPTV AS and this specific electronic program guide EPG can be relayed to an off-the-shelf STB after having been converted before step 12:. Thereafter, the media session establishment can be triggered. Thus, control data (electronic program guide EPG) can be provided to the set-top-box in a user-personalized way, something that an off-the-shelf set-top-box STB is normally not capable of doing.

Fig. 4b shows a unicast session establishment using an UPnP protocol as illustration of the step 17:start media session

in Fig. 4a. The precondition in Fig. 4b is that the STB is powered on and registered at the server IMS via HiGA, i.e. that steps 1: to 9: in Fig. 4a have been carried out beforehand. In Fig. 4b the media server on the right hand side corresponds to the service SERV stored in the services memory SERM of the server IMS-S shown in Fig. 2a. The HiGA and the UPnP media server are co-located in the HiGA shown in Fig. 2a. The STB on the left hand side in Fig. 4b corresponds to the second terminal T2 shown in Fig. 2a.

In step 1: in Fig. 4b, the UPnP server is co-located with the IPTV application in the HiGA application space and invokes the set-top-box STB to initiate a media session passing the URL of the video content located in the media server. The UPnP AV architecture could preferably be used here, in particular the asynchronous push model described in section 6.5 of "UPnP AV architecture 0.83".

In step 2:, there is an establishment of a unicast session which means that the STB's UPnP media renderer establishes a unicast stream with the media server on the right hand side. Similarly as in Fig. 2c, this can be done by a RTSP protocol. In step 3: the RTP media stream is sent to the STB from the media server. In this scenario, the native application in the set-top-box STB could preferably be the UPnP media renderer device described in "UPnP AV architecture 0.83".

As mentioned in the important step 1:, the set-top-box STB is invoked to initiate a media session in which the URL of the video content located in the media server is passed. Thus, an active control of the STB from the :HiGA can be performed.

In contrast to Fig. 4b, Fig. 4c shows a multicast session establishment which can be used in step 17: in Fig. 4a. In addition to the units shown in Fig. 4a, Fig. 4c also shows a residential gateway RGW located between the gateway apparatus HiGA and the :CSCF (Call/Session Control Function).

Similarly, as in Fig. 4b, Fig. 4c is based on the pre-condition that the :HiGA is registered and the EPG has been downloaded by the STB.

The important message 1:INVITE in accordance with the invention comprises that the IPTV application in the HiGA sends out an INVITE message to the CSCF requesting to receive a multicasted channel (e.g. a broadcasted TV channel). Thus, in accordance with the invention, the :HiGA can actively send a first type request message to the :CSCF requesting to receive a specific multicasted channel. Essentially, step1:INVITE is to initiate a broadcast session, e.g. INVITE tv_as@op.com.

In step 2:, the INVITE message is relayed to the IPTV application space :IPTV AS by the :CSCF. In step 3:, the application space AS in the server IMS-S replies with an OK message containing a multicast address (e.g. 200) for the multicast group containing the video stream of the TV channel. This multicast address is denoted in step 3: with MC_X. In step 4: the OK message is transmitted to the gateway apparatus HiGA. Steps 2: to 4: are conventional messages in order to relay a request message to the server and to respond to such a message by the server.

In accordance with the invention, in step 5:, the IPTV application space in the HiGA application space invokes the IGMP client in the set-top-box STB to join the multicast group. Further, in accordance with the invention, in step 6: the IGMP client in the set-top-box-STB joins the new multicast group by sending an IGMP JOIN message to the residential gateway RGW which transmits it to the IGMP aware access node of the transport (access) network.

Messages 1:, 5:, 6: in Fig. 4c allow the STB to be controlled with second type control data in such a manner that it can join a specific multicast group on a multicasted channel

(e.g. a broadcasted TV cannel). Hence, the :HiGA performs the "negotiation" with the server :IPTV AS for a multicasted channel and can then, after receiving OK message in step 4:, send corresponding control data of the second type to the set-top-box STB to invoke an IGMP client to joint the multicast group. Such negotiation is not possible with off-the-shelf set-top-boxes STB.

Fig. 4d shows an example of sending control data from the server to the set-top-box STB in order to update an electronic program guide EPG. The precondition in Fig. 4d is that the set-top-box STB is powered on and registered at the INS server via HiGA (essentially that the steps 1: to 6: in Fig. 4a have been carried out). The purpose in Fig. 4d is essentially that the IPTV application in :HiGA gets an EPG update, as one example of having control data in the STB updated. However, it is understood that also other kind of control data could be updated is very much the same manner.

Step 1: is a conventional message in which the server side IPTV AS sends an EPG update message to the :HiGA. The IPTV client (IPTV proxy application) in the HiGA receives the EPG and the EPG is adapted to the format supported by the STB. Already this conversion of the EPG is - as explained with reference to Fig. 4a, step 12: - part of a new message in accordance with the invention.

In step 2:, in Fig. 4d, the IPTV proxy application (client) in the :HiGA sends EPG updates to the set-top-box STB. This step is an implementation specific to the EPG model supported by the set-top-box STB. Alternative and preferred modes include the sending of the entire EPG file or just the changes down to the STB. However, what is important is - similarly to Fig. 2b - that control data in terms of an electronic program guide EPG is exchanged in a first type format between the server :IPTV AS and the :HiGA and the set-top box STB is made to understand this update by having it

converted in the :HiGA to a format which is supported by the STB.

Thus, whilst off-the-shelf STBs can only receive a general user-unspecific EPG and no changes, the communication system SYS of the present invention allows to download a personalized (user) specific) EPG, as well as changes, thereof to the off-the-shelf STB.

As explained in the above numerous examples of Figs. 4a-4e, the IPTV proxy application (client) in the HiGA application space takes over functionalities and conversion functions which are normally not possible by an off-the-shelf STB. One could also say, that the HiGA acts as a kind of front-end for a conventional STB to carry out functions which "modern" STBs can carry out themselves.

Another important scenario is how personalized content can be delivered to the STB with the help of the IPTV proxy application (client) in the :HiGA application space, as is essentially illustrated with Fig. 4e. An example of a personalized content is an advertisement tailored to the user's preference or the user profile. This advertisement would be shown to the user during commercial breaks. Thus, similarly as having downloaded and converted a personalized electronic program guide EPG, the scenario in Fig. 4e relates to the provision of personalized content to the off-the-shelf STB.

In Fig. 4e, the positioning and arrangement of the units :STB, :HiGA, :CSCF, :IPTV AS and :media server correspond to the respective units in Fig. 4a. The precondition in Fig. 4e is that the STB is powered on and registered to the server IMS via :HiGA. The :HiGA is subscribed to the multicast channel event triggers to understand trigger events being sent from the server side.

As shown in Fig. 4e, in step 1:Event trigger, an event trigger is received by the HiGA. This could be a trigger for an event, such as the start of a commercial, an interactivity trigger for routing etc. Of course, eventually the purpose of the event trigger in step 1: is to bring about the invocation of a particular action in the set-top-box STB. This event trigger (of first type control data, see Fig. 2a) is converted by the HiGA into the second type control data to be understood by the off-the-shelf set-top-box STB. Generally, the basic function of an event trigger is to bring about the invocation of a particular action in the STB. In the example of Fig. 4e, of course, the purpose of the event trigger is to inform the STB to start a media-session - which is a commercial. That is, of course, the eventual desire is that the STB starts a media session with the server side in order to be connected with the commercial or advertisement in a personalized way.

Therefore, in step 2:, a media session establishment is initiated in which, based on the URL in the trigger, the IPTV application (proxy application) in the HiGA invokes a media session establishment in the set-top-box STB. This media session establishment is shown with Figures 4b, 4c depending on whether a unicast session or a multicast session is to be established.

It may turn out that establishing unicast sessions (Fig. 4b) for delivering personalized content may be too expensive from the point of view of network resources in the access transport network AC. For this reason, personalized content, such as advertisements, could be pre-cached in the CPN (Customer Premises Network), e.g. in the STB itself or in a NAS (Network Attached Storage) controlled by the operator. In this case, the media server in steps 3:, 4: in Fig. 4e will be the CPN entity with pre-cashed content (e.g. STB or NAS).

Since the :HiGA personalizes the messages due to the registration process (and due to having the user identities stored in it), it can be achieved that user-personalized commercials will be provided to the STB in the actual media session because the HiGA performs a filtering of what kind of event trigger is received in order to check whether the commercial (event trigger initiation) is for a specific user identity or not. Only if it is for a specific pre-registered user identity it will invoke the media session for this commercial in the STB. In this manner, personalized content, e.g. a commercial, can be provided in a user-personalized way to the STB. In contrast to this, using conventional off-the-shelf set-top-boxes, everybody would have to watch the same advert in an advertisement break. That is, in accordance with the invention, HiGA will receive a trigger if a specific previously agreed URL is about to transmit a specific commercial stream. In the HiGA, the URL is associated with the user-ID and therefore, HiGA only provides control data of first type, indicating the provision of a specific commercial on the server side, to the STB if the commercial is about to be sent and a user-ID has indicated interest in it beforehand. If so, then a media session setup is performed for this video asset.

For the invocation of VoD streams, a SIP INVITE message could be sent to the IPTV AS. To achieve this, the IPTV application in the STB could send a message over one of the alternative protocols (z. B. UPnP, HTTP, SIP etc.) to the HiGA and HiGA would in turn initiate the relevant SIP dialogue with the IPTV AS in the server. The final message in the dialogue carrying the SDP could trigger the resource management system to reserve resources RES in the access transport network AC in accordance with the bandwidth requirements of the negotiated media session. Essentially, the resource negotiation would take place as outlined with the example in Fig. 2c.

Having configured the communication system SYS, in particular the gateway apparatus HiGA, as shown in the block diagram in Fig. 2a and in the flow chart in Fig. 3, in particular having configured the gateway apparatus HiGA as shown in Fig. 2a to include service-specific mapping devices as a kind of proxy application for the off-the-self set-top-box STB, the gateway apparatus HiGA can provide access to e.g. IMS based services for different types of non-IMS aware home devices, such as the STB, by the introduction of the relevant applications in the application space AS of the HiGA which adapt, convert and interpret the service control plane of the service providing device IMS-S to the control protocols of the second terminal device T2. This invention, therefore, resolves the issue of incompatibility between non-IMS devices and IMS-based services and hence opens the way for operators to provide their multimedia services over IMS to a variety of standard, off-the-shelf home devices.

One aspect, as shown in Fig. 2b and in Figs. 4a-4e, is relating to the IPTV support in the HiGA application space to allow the standard STB to maintain its original functionality without having to be aware of the IMS IPTV AS in the server. Hence, the standard STB can be a generic media terminating device, i.e. general second type terminal device, which can be purchased off-the-shelf.

Furthermore, the application space proxy in the HiGA allows the HiGA to be easily upgraded. New versions of service applications or updates to existing ones can be downloaded to the application space AS in the HiGA. This adds flexibility to the HiGA in terms of functionality and enables the service providers to remotely manage the HiGA.

The above general embodiments of the invention in Figs. 2a, 3 (principle), Fig. 2b (EPG request) and Fig. 2c (request mapping/resource allocation), as well as the more specific examples of Fig. 2d (IMS server system) and Fig.4a (media

session initialisation and EPG download), Fig. 4b (unicast session establishment), Fig. 4c (multicast session establishment), Fig. 4d (update of EPG), and Fig. 4e (media session initiation based on triggers) may not only be useful in the above mentioned scenarios. For example, it is also envisaged that the terminal device T2 may be constituted e.g. by a controller of a heating system in the home, by a surveillance camera, a home control device performing a control of home appliances (as in a so called "intelligent home"), a DVD or MP3 collection memory, or in fact any other physical unit in the house. The server IMS-S may be connected e.g. with a remote access device such as a mobile telephone. For example, in this case, the mobile phone may be used to remote access an off-the-shelf heating controller of the heating system in the home in a user-specific manner. The mobile phone may also send a trigger to a DVD or MP3 collection memory in the home to download to the mobile phone MP3 files or to establish video streaming of personal DVDs from the home memory to the mobile telephone by establishing a user-specific media session between the home memory and the mobile phone. The mobile phone may also be used to on/off, up/down, or zoom-in/zoom-out control an off-the-shelf camera of a surveillance system located in the home, e.g. by using the trigger messages, as in particular explained with respect to Fig. 4e. This may preferably be done by using the UPnP protocol. Thus the adaptation (mapping) of service attributes may also be used in many other working examples in the home using off-the-shelf home appliances, e.g. situations in which end terminals are used which do not have own IP addresses and which do not run a SIP protocol (first type protocol).

The present invention finds its applicability in a general communication system in which the service provision side operates on the basis of control data of a first type while the terminal devices operate on the basis of control data being of a second type. The gateway apparatus HiGA according to the present invention provides the necessary

interoperability, i.e. the adaptation functions of the control plane of the first and second type. While special examples have been described with the first type being related to a SIP and the second type being related to HTTP, the invention may be used in any other communication system SYS comprising two different control protocols of a first and second type.

Furthermore, it should be noted that modifications and variations of the invention may be carried out within the scope of the attached claims.

Reference numerals in the claims only serve illustration purposes and do not limit the scope of these claims.

CLAIMS

1. A communication system (SYS), comprising a gateway apparatus (HiGA), a plurality of terminal devices (T2 … Tn … TN) and a service providing server (IMS-S) for providing services (SERV) to said terminal devices (T2 … Tn … TN) through an access network (AC), wherein

a) said service providing server (IMS-S) comprises a service memory (SERM) for storing one or more services (SER1, SERV2, SERV3) to be provided to said terminal devices (T2 … Tn … TN), and at least one control protocol (IMS-CTRLP) device of a first type (SIP) providing first type (SIP) control data (1CD) in association with said one or more services (SERV) to said gateway device (HiGA);

b) wherein said terminal devices (T2 … Tn … TN) each comprise a service processor (SP) for processing the service (SERV) provided by said service providing server (IMS-S) through said access network (AC) and a control protocol (TD-CP) device of a second type (non-SIP), different to said first type (SIP) and providing second type (non-SIP) control data (2CD) in association with the execution of the service by said service processor (SP) to said gateway device (HiGA); and wherein

c) said gateway apparatus (HiGA) comprises one or more service-specific mapping devices (AS-A) for exchanging first type (SIP) control data (1CD) with said service providing server (IMS-S) and second type (non-SIP) control data (2CD) with said terminal devices (T2), wherein

- said service-specific mapping devices (AS-A) provide to said service providing server (IMS-S) first type (SIP) control data (1CD1) on the basis of second type (non-SIP) control data (2CD1) received from said terminal devices (T2) and receive first type control data (1CD2) from said first type (SIP) control protocol device (IMS-CTRLP) of the service providing server (IMS-S); and

- said service-specific mapping devices (AS-A) provide to said terminal devices (T2) second type (non-SIP) control data (2CD2) on the basis of said first type (SIP) control data (1CD2) received from said service providing server (IMS-S) and receive said second type control data (2CD1) from said second type (non-SIP) control protocol device (TD-CP) of said terminal devices (T2).

2. Communication system (SYS) in accordance with claim 1, *characterized in that*
said service-specific mapping devices (AS-A) comprise at least one service-specific mapping device (AS-A(IPTV); Fig. 2b) running an IPTV proxy application.

3. Communication system (SYS; Fig. 2c) in accordance with claim 1, *characterized in that*

said second type (HTTP) control data (2CD1) constitute a second type service request and said service specific mapping device (AS-A(RTSP)) sends as first type control data (1CD1) a first type (SIP) enquiry request enquiring the service providing server (IMS-S) whether said access network (AC) has enough resources (RES) to provide said service to the terminal device; wherein

said service providing server (IMS-S) sends as first type control data (1CD2) an acknowledgement message (ACK) indicating that there are enough resources (RES) for the service provision if the service providing service (IMS-S) establishes that there enough resources (RES), and sends as first type control data (1CD2) a negative acknowledgement message (NACK) indicating that there are not enough resources (RES) for the service provision if the service providing server (IMS-S) establishes that there not enough resources (RES).

4. Communication system (SYS; Fig. 2c) in accordance with claim 3, *characterized in that*
said terminal device (T2) comprises a Set-Top-Box (STB) including as service processor (SP) an MPEG2 decoder, said service providing server (IMS-S) comprises in said service memory (SERM) as service (SERV1, SERV2, SERV3) a VoD (Video on Demand) service, said service-specific mapping devices (AS-A) comprise at least one service-specific mapping device (AS-A(VoD)) running a RTSP proxy application and said control protocol (RTSP) is RTSP, and said resources (RES) are the bandwidth of lines (e.g. 5MB) in said access network (AC).

5. Communication system (SYS; Fig. 2a) in accordance with claim 1, *characterized in that*
said gateway apparatus (HiGA) and said terminal devices (T2) are part of a customer premises network (CPN).

6. Communication system (SYS; Fig. 2a) in accordance with claim 5, *characterized in that*
said gateway apparatus (HiGA) is located in a residential gateway (RGW) of said customer premises network (CPN).

7. Communication system (SYS; Fig. 2b) in accordance with claim 1, *characterized in that*
said gateway apparatus (HiGA) receives as said second type first control data (2CD1) from said terminal device (T2) an EPG download request and said second type control data (2CD2) provided by said gateway apparatus (HiGA) comprises a personalized EPG (Electronic Program Guide).

8. Communication system (SYS; Fig. 2a) in accordance with claim 1, *characterized in that*
said gateway apparatus (HiGA) comprises in a memory said user identity (ID1).

9. Communication system (SYS; Fig. 2a) in accordance with claim 8, *characterized in that*
said user identity (ID1) is stored on a plug-in inserted into said gateway apparatus (HiGA) or on an UICC card inserted into a memory of said gateway apparatus (HiGA).

10. Communication system (SYS; Fig. 2a) in accordance with claim 1, *characterized in that*
said terminal device (T2) is one or more selected from the group comprising a set-top-box (STB), a controller of a heating system, a surveillance system in the home, a camera or a central home controller of an intelligent house.

11. Communication system (SYS; Fig. 2d) in accordance with claim 1, *characterized in that*
said first type of said control data (1CD1, 1CD2) is SIP (Session Initiation Protocol) and said second type of said control data (2CD1, 2CD2) is one of HTTP and UPnP.

12. Communication system (SYS; Fig. 4a) in accordance with claim 7, *characterized in that*

said gateway apparatus (HiGA) receives (step 10: in Fig. 4a) from said service providing device (IMS-S) as first type control data (1CD) said downloaded EPG of first type and converts (step 12: in Fig. 4a) a format (X) of said received EPG into a format supported by said terminal device (T2).

13. Communication system (SYS; Fig. 4a) in accordance with claim 7, *characterized in that*
said gateway apparatus (HiGA) invokes (step 17:in Fig. 4a) a media session establishment between the terminal device (T2) and said service providing device (IMS-S).

14. Communication system (SYS; Fig. 4b) in accordance with claim 13, *characterized in that*
said media session establishment is a unicast media session establishment (step 1: in Fig. 4b).

15. Communication system (SYS; Fig. 4c) in accordance with claim 13, *characterized in that*
said media session establishment is a multicast media session establishment (steps 1:, 5:, 6: in Fig. 4c).

16. Communication system (SYS; Fig. 4d) in accordance with claim 1, *characterized in that*
said gateway apparatus (HiGA) receives as first type control data (1CD) an EPG update message (step 2: in Fig. 4d).

17. Communication system (SYS; Fig. 4e) in accordance with claim 1, *characterized in that*
said gateway apparatus (HiGA) receives as first type control data (1CD2) an event trigger message (step 1: in Fig. 4e) and sends as second type control data (2CD2) a media session establishment message (step 2: in Fig. 4e) to said terminal device (T2) on the basis of said event trigger message (1CD2).

18. A gateway apparatus (HiGA) of a communication system (SYS) including a plurality of terminal devices (T2 … Tn … TN) and a service providing server (IMS-S) for providing services (SERV) to said terminal devices (T2 … Tn … TN) through an access network (AC),

wherein said service providing server (IMS-S) comprises a service memory (SERM) for storing one or more services (SER1, SERV2, SERV3) to be provided to said terminal devices (T2 … Tn … TN), and at least one control protocol (IMS-CTRLP) device of a first type (SIP) providing first type (SIP) control data (1CD) in association with said one or more services (SERV) to said gateway device (HiGA),

wherein said terminal devices (T2 … Tn … TN) each comprise a service processor (SP) for processing the service (SERV) provided by said service providing server (IMS-S) through said access network (AC) and a control protocol (TD-CP) device of a second type (non-SIP), different to said first type and providing second type (non-SIP) control data (2CD) in association with the execution of the service by said service processor (SP) to said gateway device (HiGA), comprising:

a) one or more service-specific mapping devices (AS-A) for exchanging first type (SIP) control data (1CD) with said service providing server (IMS-S) and second type (non-SIP) control data (2CD) with said second type (non-SIP) terminal devices (T2), wherein

- said service-specific mapping devices (AS-A) provide to said service providing server (IMS-S) first type (SIP) control data (1CD1) on the

basis of second type (non-SIP) control data (2CD1) received from said terminal devices (T2) and receive first type control data (1CD2) from said first type (SIP) control protocol device (IMS-CTRLP) of the service providing server (IMS-S); and

- said service-specific mapping devices (AS-A) provide to said terminal devices (T2) second type (non-SIP) control data (2CD2) on the basis of said first type (SIP) control data (1CD2) received from said service providing server (IMS-S) and receive said second type control data (2CD1) from said second type (non-SIP) control protocol device (TD-CP) of said terminal devices (T2).

19. A gateway apparatus (HiGA; Fig. 2a) in accordance with claim 18, *characterized in that*
said service-specific mapping devices (AS-A) comprise at least one service-specific mapping device (AS-A(IPTV); Fig. 2b) running an IPTV proxy application.

20. A gateway apparatus (HiGA; Fig. 2c) in accordance with claim 18, *characterized in that*

said second type (HTTP) control data (2CD1) constitute a second type service request and said service specific mapping device (AS-A(RTSP)) sends as first type control data (1CD1) a first type (SIP) enquiry request enquiring the service providing server (IMS-S) whether said access network (AC) has enough resources (RES) to provide said service to the terminal device; wherein

said service providing server (IMS-S) sends as first type control data (1CD2) an acknowledgement message (ACK) indicating that there are enough resources (RES)

for the service provision if the service providing service (IMS-S) establishes that there enough resources (RES), and sends as first type control data (1CD2) a negative acknowledgement message (NACK) indicating that there are not enough resources (RES) for the service provision if the service providing server (IMS-S) establishes that there not enough resources (RES).

21. A gateway apparatus (HiGA; Fig. 2c) in accordance with claim 20, *characterized in that*
said terminal device (T2) comprises a Set-Top-Box (STB) including as service processor (SP) a MPEG2 decoder, said service providing server (IMS-S) comprises in said service memory (SERM) as service (SERV1, SERV2, SERV3) a VoD (Video on Demand) service, said service-specific mapping devices (AS-A) comprise at least one service-specific mapping device (AS-A(VoD)) running a RTSP proxy application and said control protocol (RTSP) is RTSP, and said resources (RES) are the bandwidth of lines (e.g. 5MB) in said access network (AC).

22. A gateway apparatus (HiGA; Fig. 2a) in accordance with claim 18, *characterized in that*
said gateway apparatus (HiGA) and said terminal devices (T2) are part of a customer premises network (CPN).

23. A gateway apparatus (HiGA); Fig. 2a) in accordance with claim 22, *characterized in that*
said gateway apparatus (HiGA) is located in a residential gateway (RGW) of said customer premises network (CPN).

24. A gateway apparatus (HiGA; Fig. 2b) in accordance with claim 18, *characterized in that*
said gateway apparatus (HiGA) receives as said second type first control data (2CD1) from said terminal device (T2) an EPG download request and said second type

control data (2CD2) provided by said gateway apparatus (HiGA) comprises a personalized EPG (Electronic Program Guide).

25. A gateway apparatus (HiGA; Fig. 2a) in accordance with claim 18, *characterized in that*
said gateway apparatus (HiGA) comprises in a memory said user identity (ID1).

26. A gateway apparatus (HiGA; Fig. 2a) in accordance with claim 25, *characterized in that*
said user identity (ID1) is stored on a plug-in inserted into said gateway apparatus (HiGA) or on an UICC card inserted into a memory of said gateway apparatus (HiGA).

27. A gateway apparatus (HiGA; Fig. 2a) in accordance with claim 18, *characterized in that*
said terminal device (T2) is one or more selected from the group comprising a set-top-box (STB), a controller of a heating system, a surveillance system in the home, a camera or a central home controller of an intelligent house.

28. A gateway apparatus (HiGA (SYS; Fig. 2d) in accordance with claim 18, *characterized in that*
said first type of said control data (1CD1, 1CD2) is SIP (Session Initiation Protocol) and said second type of said control data (2CD1, 2CD2) is one of HTTP and UPnP.

29. A gateway apparatus (HiGA; Fig. 4a) in accordance with claim 18, *characterized in that*
said gateway apparatus (HiGA) receives (step 10: in Fig. 4a) from said service providing device (IMS-S) as first type control data (1CD) said downloaded EPG of first type and converts (step 12: in Fig. 4a) a format (X) of said received EPG into a format supported by said terminal device (T2).

30. A gateway apparatus (HiGA; Fig. 4a) in accordance with claim 29, *characterized in that*
said gateway apparatus (HiGA) invokes (step 17:in Fig. 4a) a media session establishment between the terminal device (T2) and said service providing device (IMS-S).

31. A gateway apparatus (HiGA; Fig. 4b) in accordance with claim 30, *characterized in that*
said media session establishment is a unicast media session establishment (step 1: in Fig. 4b).

32. A gateway apparatus (HiGA; Fig. 4c) in accordance with claim 30, *characterized in that*
said media session establishment is a multicast media session establishment (steps 1:, 5:, 6: in Fig. 4c).

33. A gateway apparatus (HiGA; Fig. 4d) in accordance with claim 18, *characterized in that*
said gateway apparatus (HiGA) receives as first type control data (1CD) an EPG update message (step 2: in Fig. 4d).

34. A gateway apparatus (HiGA; Fig. 4e) in accordance with claim 1, *characterized in that*
said gateway apparatus (HiGA) receives as first type control data (1CD2) an event trigger message (step 1: in Fig. 4e) and sends as second type control data (2CD2) a media session establishment message (step 2: in Fig. 4e) to said terminal device (T2) on the basis of said event trigger message (1CD2).

35. A communication method (SYS) between a gateway apparatus (HiGA), a plurality of terminal devices (T2 … Tn … TN) and a service providing server (IMS-S) of a communication system (SYS) for providing services (SERV) to said terminal devices (T2 … Tn … TN) through an access network (AC),

- wherein said service providing server (IMS-S) comprises a service memory (SERM) for storing one or more services (SER1, SERV2, SERV3) to be provided to said terminal devices (T2 … Tn … TN), and at least one control protocol (IMS-CTRLP) device of a first type (SIP) providing first type (SIP) control data (1CD) in association with said one or more services (SERV) to said gateway device (HiGA),

- wherein said terminal devices (T2 … Tn … TN) each comprise a service processor (SP) for processing the service (SERV) provided by said service providing server (IMS-S) through said access network (AC) and a control protocol (TD-CP) device of a second type (SIP), different to said first type, and including second type (non-SIP) control data (2CD) in association with the execution of the service by said service processor (SP), and wherein

- said gateway apparatus (HiGA) comprises one or more service-specific mapping devices (AS-A) for exchanging first type (SIP) control data (1CD) with said service providing server (IMS-S) and second type (non-SIP) control data (2CD) with said terminal devices (T2), comprising the following steps:

providing from at least one of said terminal devices (T2) to said gateway apparatus (HiGA) second type (non-SIP) control data (2CD1);

providing from said service-specific mapping devices (AS-A) of said gateway apparatus (HiGA) to said service providing server (IMS-S) first type (SIP) control data (1CD1) on the basis of said second type (non-SIP) control data (2CD1) provided from said terminal device (T2);

providing first type control data (1CD2) from said first type (SIP) control protocol device (IMS-CTRLP) of said service providing server (IMS-S) to said gateway apparatus (HiGA); and

providing from said service-specific mapping devices (AS-A) to said terminal device (T2) second type (non-SIP) control data (2CD2) on the basis of said first type (SIP) control data (1CD2) provided from said service providing server (IMS-S).

Prior Art

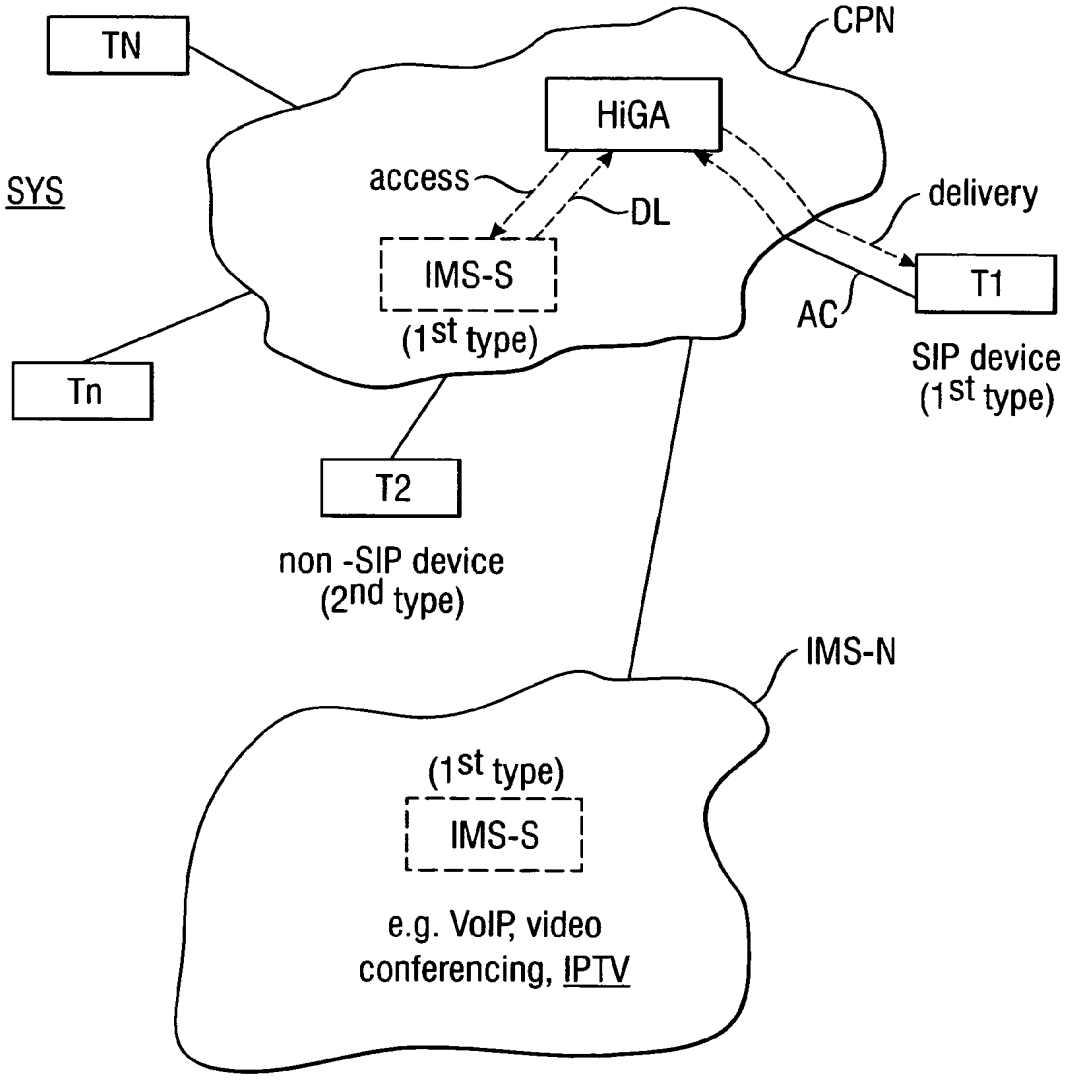


Fig. 1a

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Prior Art

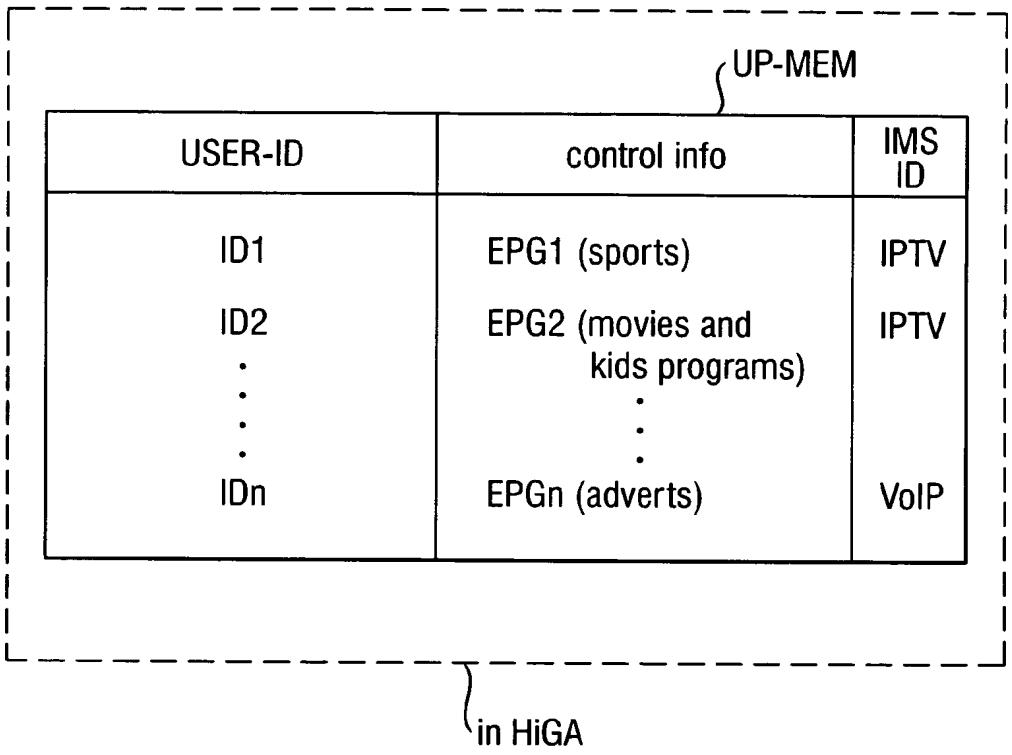


Fig. 1b

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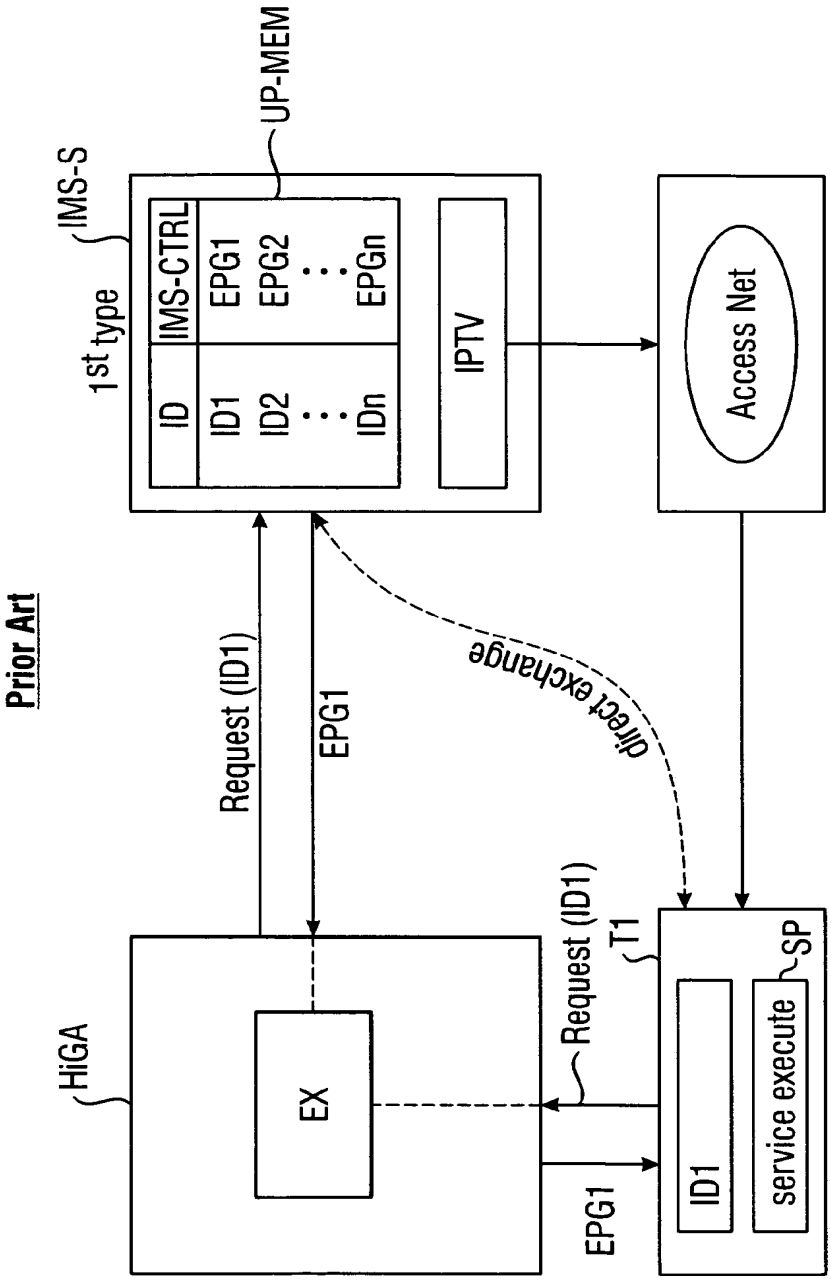


Fig. 1c

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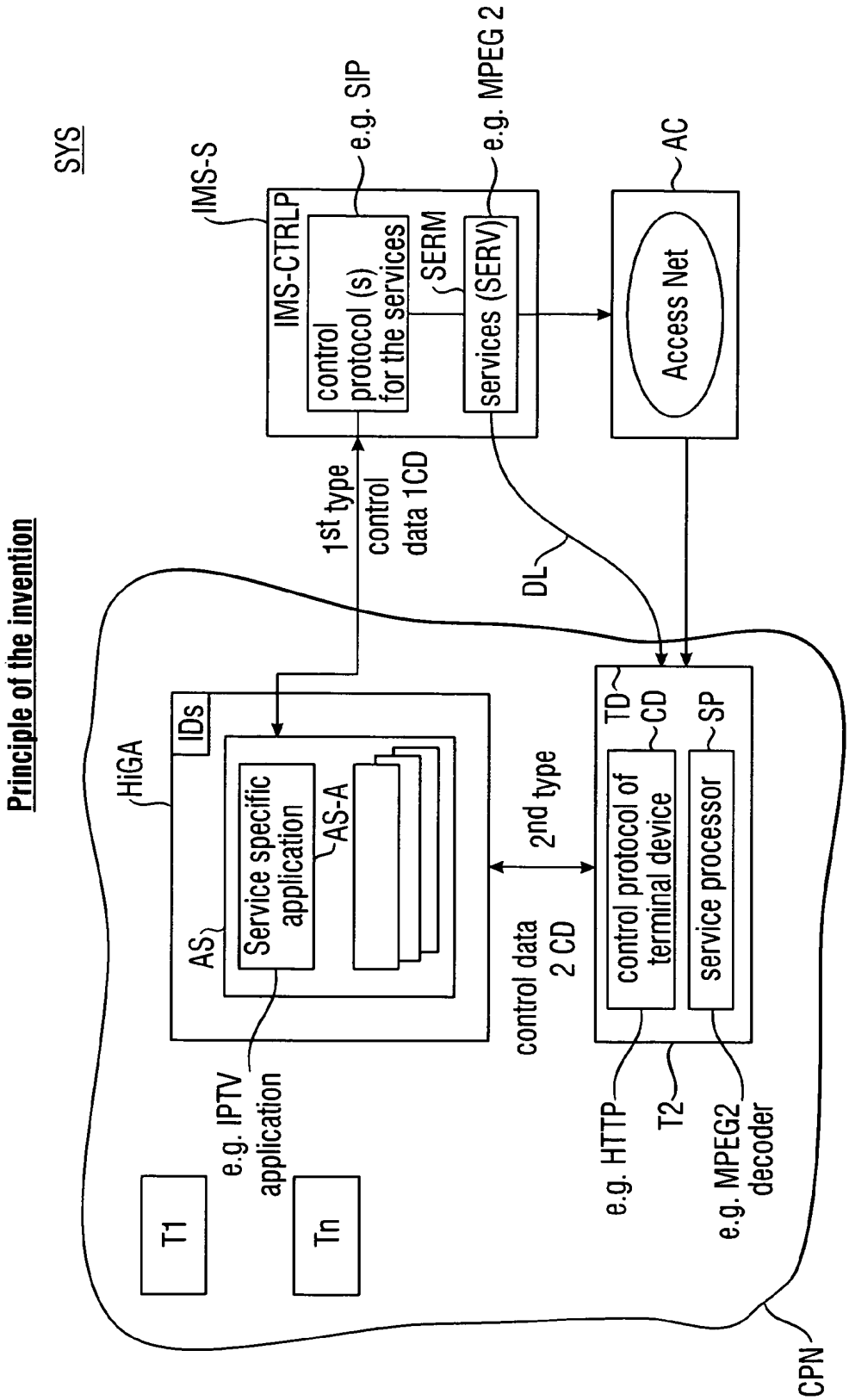


Fig. 2a

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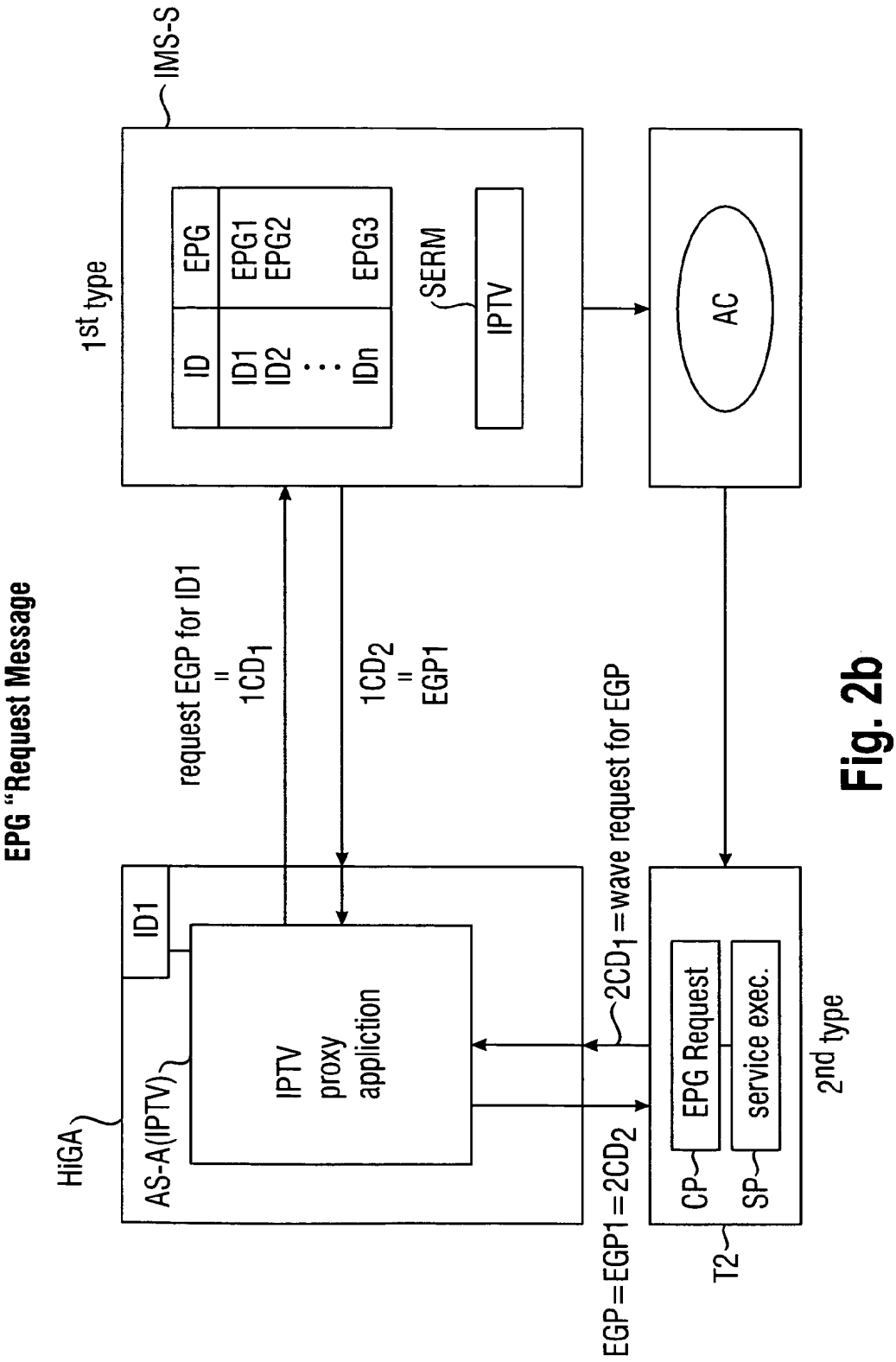


Fig. 2b

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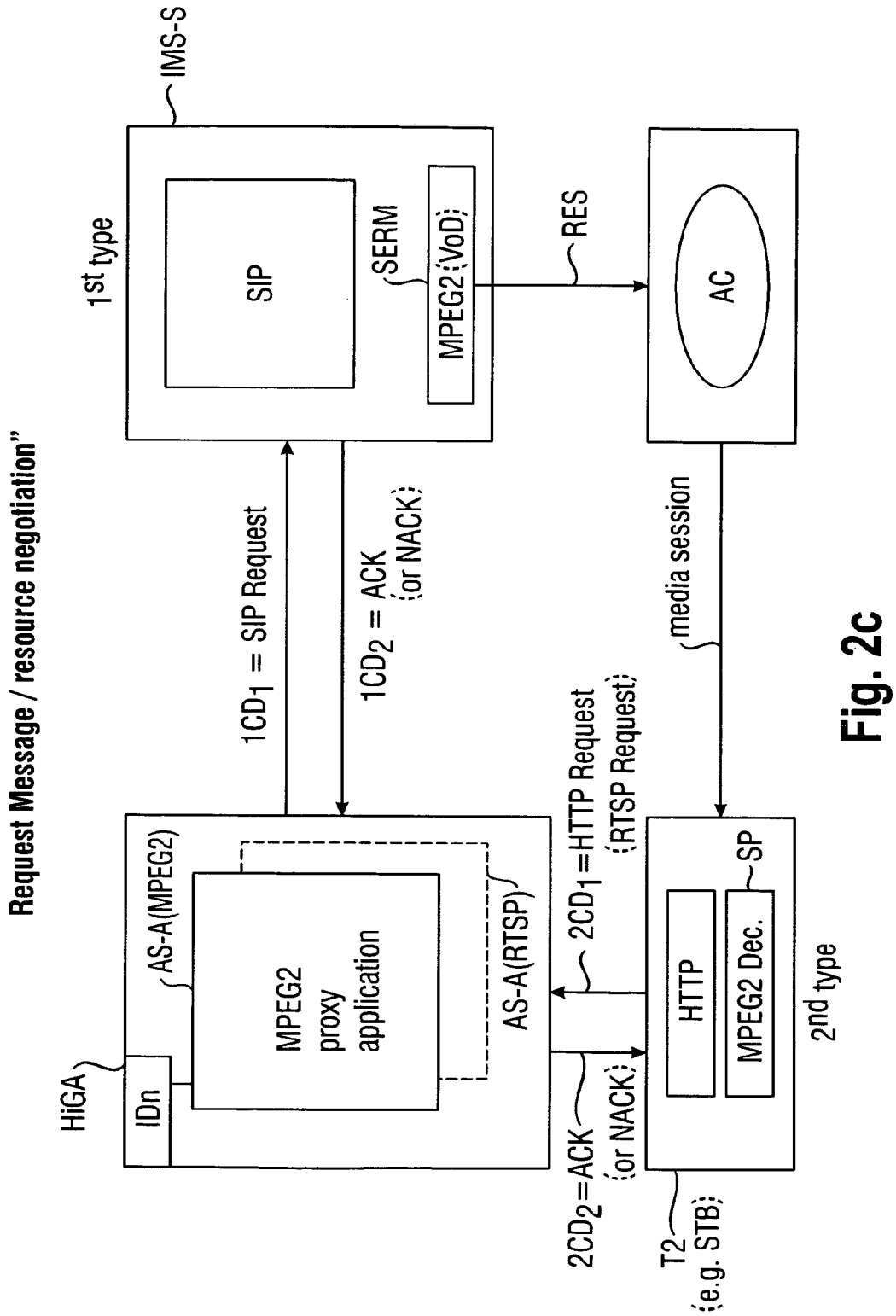


Fig. 2c

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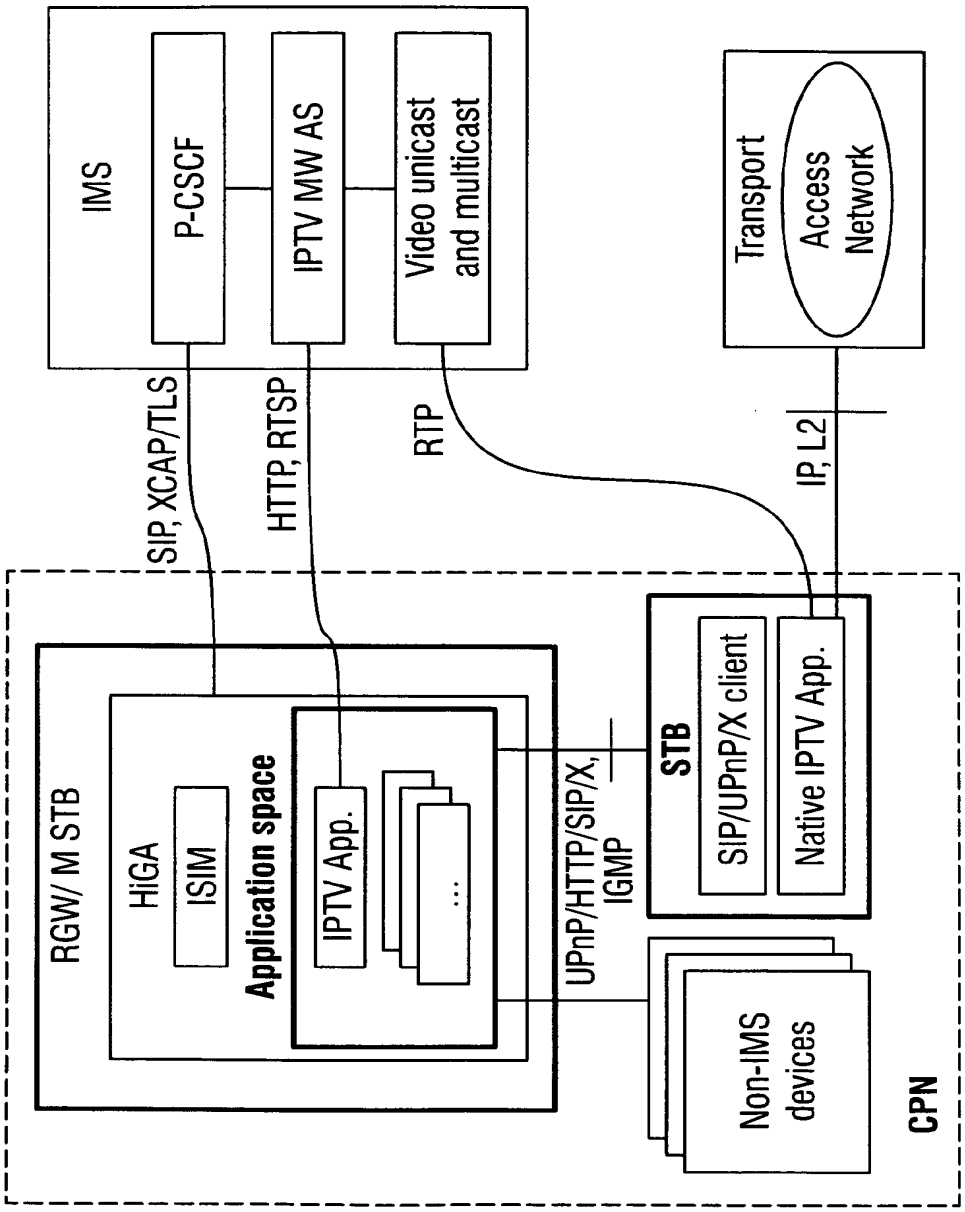


Fig. 2d

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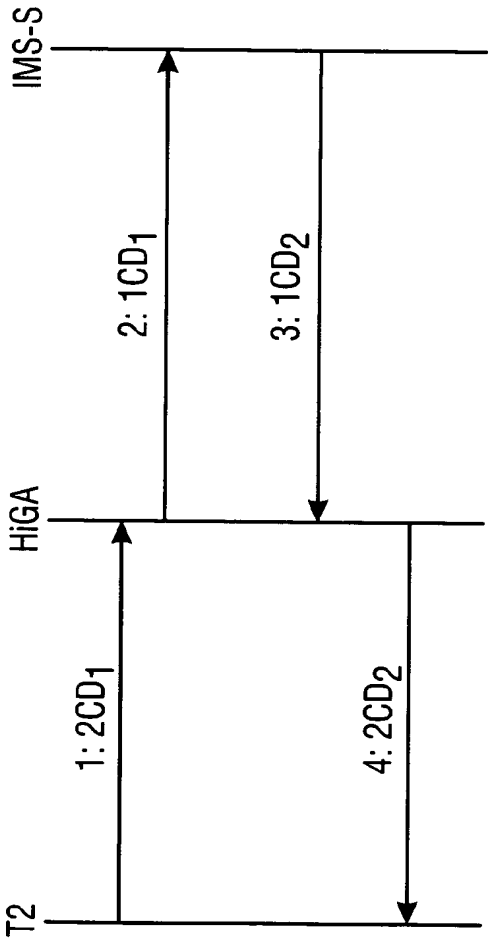


Fig. 3

Principle Method of the invention

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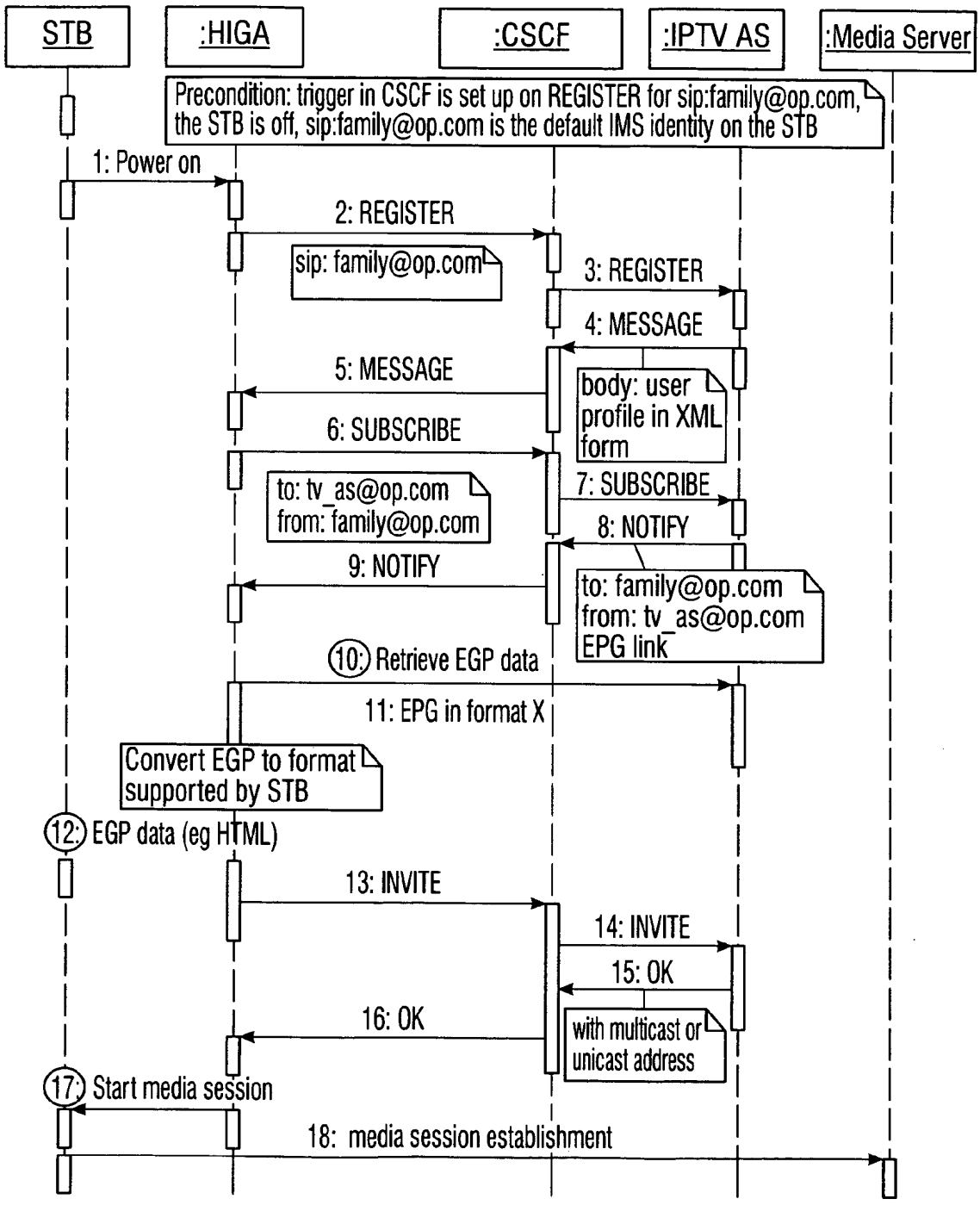


Fig. 4a

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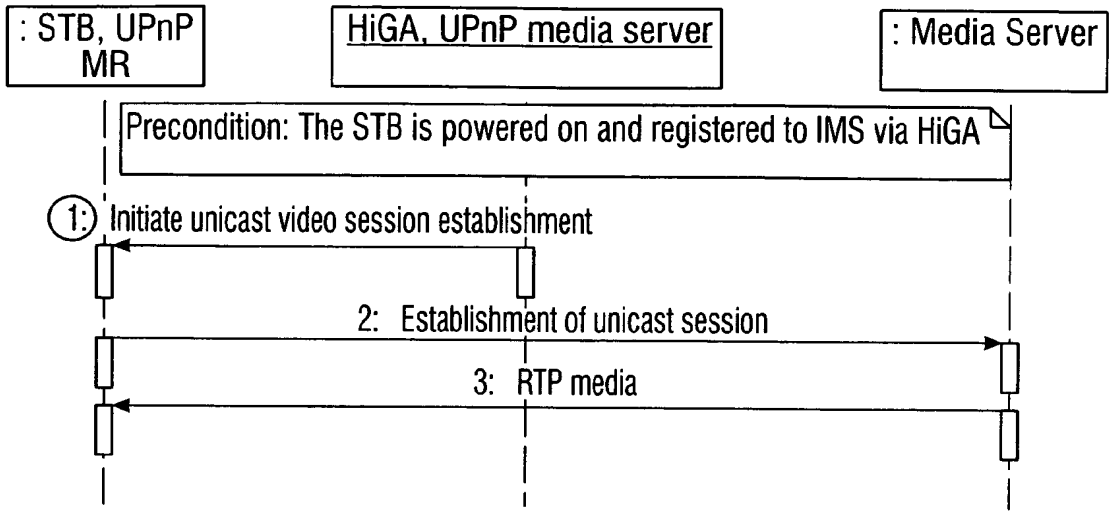


Fig. 4b

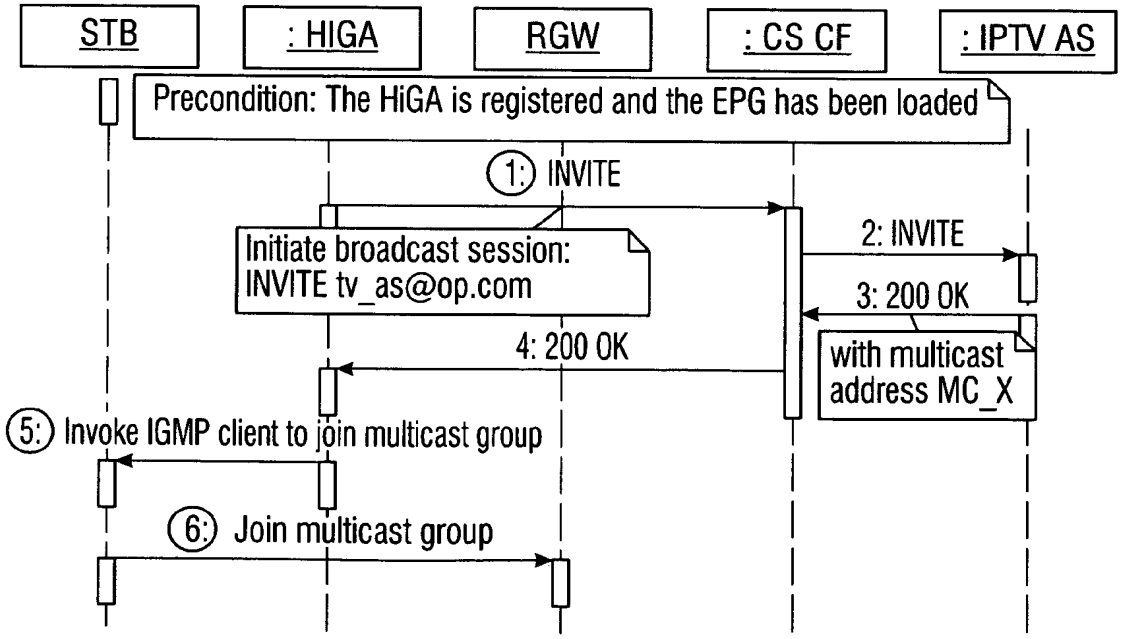


Fig. 4c

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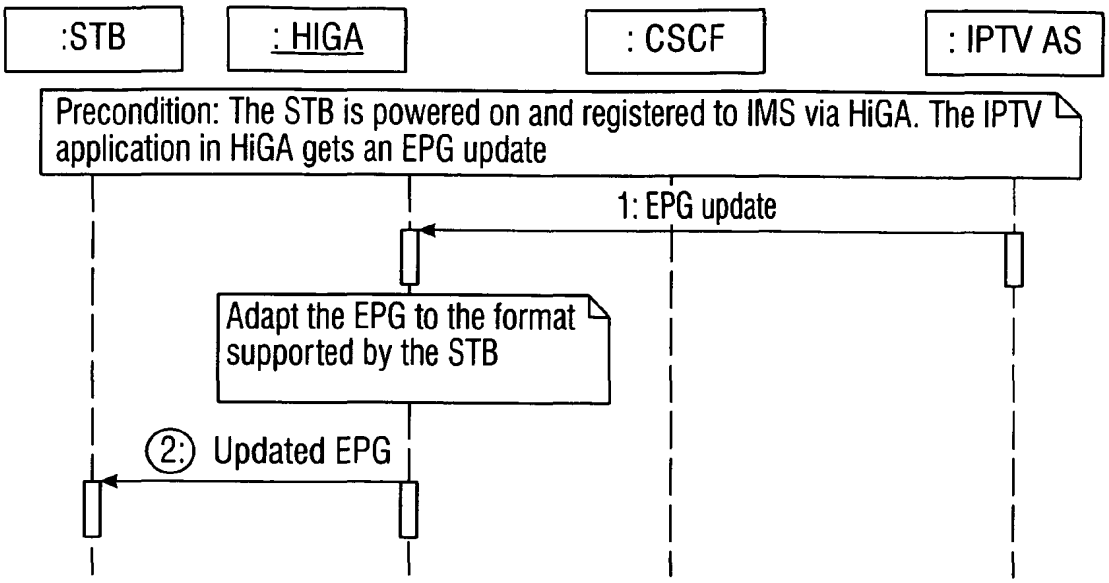


Fig. 4d

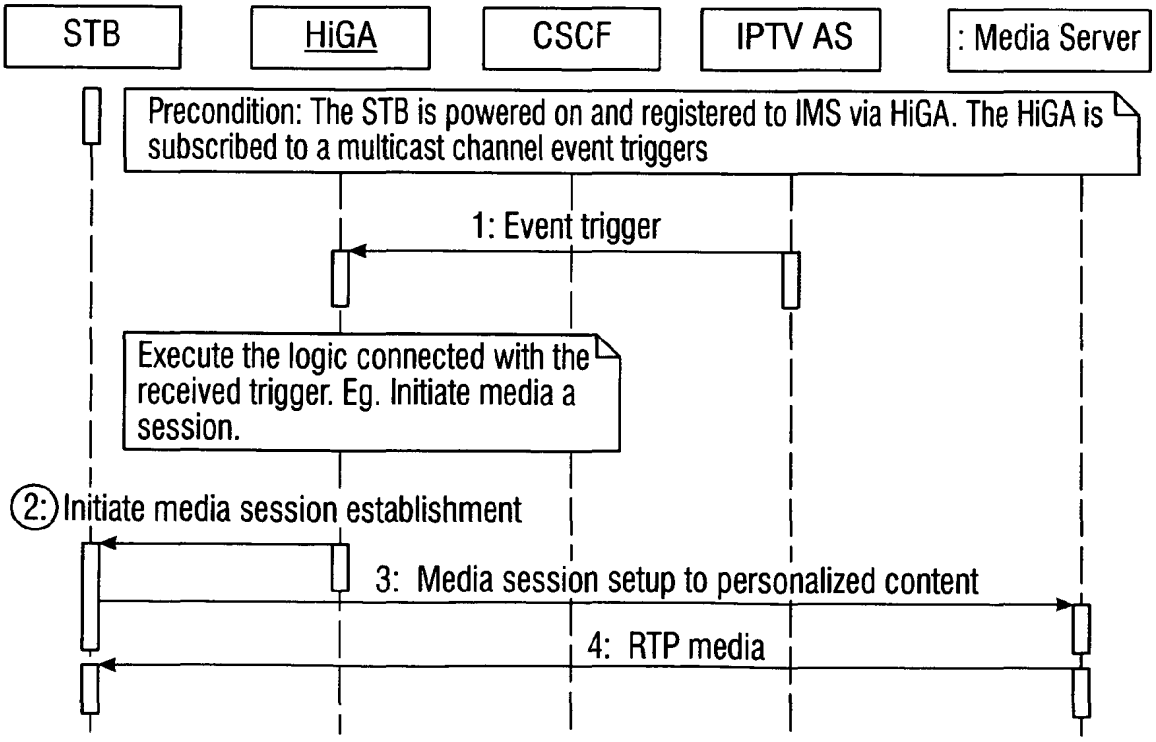


Fig. 4e

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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2007/002503

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04L29/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 419 774 A (ERICSSON TELEFON AB L M [SE]; ERICSSON TELEFON AB L M [SE]) 3 May 2006 (2006-05-03) abstract page 6, line 5 - page 9, line 11	1-35
X	US 2002/110104 A1 (SURDILA SORIN [CA] ET AL) 15 August 2002 (2002-08-15)	1,18,35
A	abstract paragraph [0021] - paragraph [0029]	2-17, 19-34
A	WO 2005/004404 A (THOMSON LICENSING SA [FR]; HUETTER INGO [DE]) 13 January 2005 (2005-01-13) abstract page 11, line 29 - page 12, line 22	1-35

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
3 July 2007	12/07/2007

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Stergiou, Christos

Form PCT/ISA/210 (second sheet) (April 2005)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2007/002503

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 2419774 A	03-05-2006	CA 2583633 A1	04-05-2006
		WO 2006045706 A1	04-05-2006
US 2002110104 A1	15-08-2002	NONE	
WO 2005004404 A	13-01-2005	EP 1642418 A1	05-04-2006
		KR 20060023176 A	13-03-2006
		MX PA05014123 A	07-04-2006
		US 2006168354 A1	27-07-2006

PUB-NO: WO2007140834A1
DOCUMENT-IDENTIFIER: WO 2007140834 A1
TITLE: IMS SERVICE PROXY IN HIGA
PUBN-DATE: December 13, 2007

INVENTOR-INFORMATION:

NAME	COUNTRY
DAMOLA, AYODELE	SE
HALEN, JOACIM	SE

ASSIGNEE-INFORMATION:

NAME	COUNTRY
ERICSSON TELEFON AB L M	SE
DAMOLA AYODELE	SE
HALEN JOACIM	SE

APPL-NO: EP2007002503
APPL-DATE: March 21, 2007

PRIORITY-DATA: US80372606P (June 2, 2006)

ABSTRACT:

CHG DATE=20071214 STATUS=O>The present invention relates to a communication system (SYS), a gateway apparatus (HiGA) and a method for allowing services of a first type provided by a communication server (IMS-S) to be provided to terminal devices (T1, T2, ... Tn ... TN) of a home network (CPN) independent of the fact whether the terminal devices are of a first type or a second type (IMS-based or non-IMS-based). The gateway apparatus (HiGA) comprises one or more service-specific mapping applications (AS) for adapting the control plane (SIP) used between the second type terminal devices (T2) to the control plane (HTTP) used between the gateway apparatus (HiGA) and the communication sever (IMS-S).

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	"20110010459".pn.	US-PGPUB	OR	OFF	2012/04/02 14:39
S2	1	("20060291472").PN.	US-PGPUB	OR	OFF	2012/04/02 15:03
S3	198	(Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)	US-PGPUB; USPAT	OR	OFF	2012/04/02 15:37
S4	49	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal)	US-PGPUB; USPAT	OR	OFF	2012/04/02 15:37
S5	10	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2012/04/02 15:37
S6	8	709/220.ccls. and (RTSP and SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/02 15:42
S7	4	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/02 15:55
S8	530	@ad<"20071221" and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 10:27
S9	47	@ad<"20071221" and (RTSP and SIP and gateway and IPTV)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 10:27
S10	13	@ad<"20071221" and (RTSP and SIP and gateway and IPTV and bye)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 10:30
S11	15	@ad<"20071221" and (RTSP and SIP and gateway and IPTV and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 10:43
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S13	715	@ad<"20071221" and (RTSP same SIP)	US-PGPUB;	OR	OFF	2012/04/03

			USPAT; EPO; JPO; DERWENT; IBM_TDB			12:39
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S18	615	@ad<"20071221" and (first adj protocol) and (second adj protocol) and (third adj protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:11
S19	0	@ad<"20071221" and ((first adj protocol) and (second adj protocol) and (third adj protocol) and SIP and RSTP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:11
S20	72	@ad<"20071221" and ((first adj protocol) and (second adj protocol) and (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:11
S21	26	SIP same RTSP same SMS	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:35
S22	62	709/227.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:37
S23	18	709/227.ccls. and (RTSP same SIP same (gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:39
S24	3	@ad<"20071221" and (RTSP same SIP same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:43
S25	33	@ad<"20071221" and (RTSP and SIP and	US-PGPUB;	OR	OFF	2012/04/04

		gateway and ((peer adj peer) or P2P))	USPAT; EPO; JPO; DERWENT; IBM_TDB			13:39
S26	64	@ad<"20071221" and (((peer adj peer) or P2P) same (bi adj directional))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:40
S27	2	@ad<"20071221" and (((peer adj peer) or P2P) same (bi adj directional) same stream)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:40
S28	0	("2005/0135366").URPN.	USPAT	OR	OFF	2012/04/04 13:41
S29	12332	@ad<"20071221" and (interactive adj (television or TV))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:48
S30	140	@ad<"20071221" and ((interactive adj (television or TV)) same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:48
S31	4	@ad<"20071221" and ((interactive adj (television or TV)) same trigger same (bi adj directional))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:49
S32	328	@ad<"20071221" and ((interactive adj (television or TV)) same gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 14:58
S33	0	@ad<"20071221" and ((interactive adj (television or TV)) same gateway same resolv$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 14:59
S34	49	@ad<"20071221" and ((interactive adj (television or TV)) same gateway and resolv$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 14:59
S35	125	@ad<"20071221" and (gateway same resolv$5 same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:00
S36	15	@ad<"20071221" and (gateway same resolv$5 same (identifier or ID) same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:00
S37	21	@ad<"20071221" and (gateway same resolv$5 same (identifier or ID) same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT;	OR	OFF	2012/04/04 15:02

			IBM_TDB			
S38	6784	@ad<"20071221" and ((bi adj directional) same buffer$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:23
S39	711	@ad<"20071221" and ((bi adj directional) same buffer$3 same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:23
S40	8	@ad<"20071221" and ((bi adj directional) same buffer$3 same (gateway or proxy) same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:24
S41	43	@ad<"20071221" and (("RTSP TEARDOWN") same server)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:36
S42	0	@ad<"20071221" and (("RTSP TEARDOWN") same peer)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:40
S43	0	@ad<"20071221" and (("RTSP TEARDOWN") same p2p)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:40
S44	7	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:27
S45	12	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2012/10/11 14:27
S46	3	@ad<"20071221" and (RTSP same SIP same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:27
S47	126	@ad<"20071221" and (RTSP same SIP and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:27
S48	745	@ad<"20071221" and (RTSP same SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:35
S49	315	@ad<"20071221" and (RTSP same SIP same (server or gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:35

S50	3	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (SIP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:36
S51	90	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:33
S52	44	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy) same session)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:33
S53	27	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy) same session same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:33
S54	10	@ad<"20071221" and ((RTSP adj (server)) same (gateway or proxy) same session same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:35
S55	4	@ad<"20071221" and ((RTSP adj (server)) same (gateway or proxy) same (session adj initiation) same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:51
S56	2	@ad<"20071221" and ((RTSP adj (server)) same (gateway or proxy) same (session adj information) same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:51
S57	22	709/220.ccls. and (RTSP and SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/06/03 11:06
S58	12	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/06/03 11:06
S59	19	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2013/06/03 11:09
S64	1	"20140040350".pn.	US-PGPUB	OR	OFF	2014/12/08 15:02
S65	1	"8549151".pn.	USPAT	OR	OFF	2014/12/08 15:07
S66	31	("20090190603" | "20090217337" | "8027353" | "20060128376" | "20050135366" | "20090100147" | "20090307307" | "7286521" | "7804848" | "20080092178" | "20090180484" | "20090193469" | "7716310" | "8032589" | "20100005177" | "20100005501" |	US-PGPUB; USPAT	OR	OFF	2014/12/09 09:54

		"7804848" | "20070177616" | "6895439" | "7043528" | "20060291472" | "20090235317" | "7792025" | "8046479" | "6895439" | "20060128376" | "7231658" | "7440440" | "7724691" | "7953867" | "7724691" | "20060291472" | "20070025301" | "20090313376" | "20110209188" | "7643411").PN.				
S67	744	(first adj protocol) same (second adj protocol) same (third adj protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:48
S68	407	@ad<"20071221" and (first adj protocol) same (second adj protocol) same (third adj protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:48
S69	29	@ad<"20071221" and (gateway same (first adj protocol) same (second adj protocol) same (third adj protocol))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:49
S70	0	@ad<"20071221" and (gateway same (first adj protocol) same (second adj protocol) same (third adj protocol) same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:52
S71	4	@ad<"20071221" and (gateway same (first adj protocol) same (second adj protocol) same (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/06/30 12:52
S72	4	@ad<"20071221" and (gateway same (first adj protocol) same (second adj protocol) same (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:09
S73	22	@ad<"20071221" and (gateway and (first adj protocol) same (second adj protocol) same (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:15
S74	48	@ad<"20071221" and ((first adj protocol) same (second adj protocol) same (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:16
S75	215	@ad<"20071221" and (gateway same trigger same media)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:25
S76	171	@ad<"20071221" and (gateway same trigger same SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 16:25
S77	3	@ad<"20071221" and (gateway same trigger same SIP same RTSP)	US-PGPUB; USPAT;	OR	OFF	2015/07/06 16:26

			EPO; JPO; DERWENT; IBM_TDB			
S78	1	chase adj play	EPO	OR	OFF	2015/07/06 16:34
S79	216	@ad<"20071221" and (gateway same trigger same media)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/07 09:02
S80	1	proxy adj higa	EPO	OR	OFF	2015/07/07 09:51

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S60	190	((first adj protocol) and (second adj protocol) and (third adj protocol)).clm.	USPAT; UPAD	OR	OFF	2013/06/03 11:07
S61	0	((first adj protocol) and (second adj protocol) and (third adj protocol) and (RTSP adj (server))).clm.	USPAT; UPAD	OR	OFF	2013/06/03 11:07
S62	25	((first adj protocol) and (second adj protocol) and (third adj protocol) and (gateway or proxy)).clm.	USPAT; UPAD	OR	OFF	2013/06/03 11:07
S63	8	((first adj protocol) same (second adj protocol) same (third adj protocol) same (gateway or proxy)).clm.	USPAT; UPAD	OR	OFF	2013/06/03 11:08

7/9/2015 10:11:16 AM
C:\Users\abaturay\Alicia's Documents\EAST Searches\14015765-TransmittingAMultimediaStreamCON.wsp

PTO/SB/08a (01-10)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	14015765
Filing Date	2013-08-30
First Named Inventor	Hans Maarten Stokking
Art Unit	2441
Examiner Name	Alicia Baturay
Attorney Docket Number	10-406-CON

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/Alicia Baturay/ 06/30/2015

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	First Named Inventor	Hans Maarten Stokking
	Art Unit	2441
	Examiner Name	Alicia Baturay
	Attorney Docket Number	10-406-CON

	1	Schulzrinne, H. et al., RFC 2326: Real Time Streaming Protocol (RTSP), April 1998, IETF.	☐
	2	ETSI, "Telecommunications and Internet Converged Services and Protocols for Advanced Networking (TISPAN); IPTV Architecture; IPTV Functions Supported by the IMS Subsystem", ETSI TS 182 027 V2.0.0 (2008), pp. 1-57.	☐
	3	3rd Generation Partnership Project, 3GPP TS 26.237 V8.0.0 (2008-12), "IMS based PSS and MBMS User Service" Protocols (Release 8), 2008.	☐
	4	Schulzrinne, H. et al., RFC 3550: RTP: A Transport Protocol for Real-Time Applications, July 2003, IETF.	☐
	5	Rosenberg, J. et al., RFC 3261: SIP: Session Initiation Protocol, June 2002, IETF.	☐
	6	Handley, M. et al. RFC 4566: SDP: Session Description Protocol, July 2006, IETF.	☐
	7	Recommendation ITU-T H.248.1, Gateway control protocol: Version 3, 2013.	☐
	8	Rosenberg, J., "Voice on the Net and the IETF" Lucent Technologies, VoN and IETF: Iband98, Nov. 1998.	☐
	9	Singh, K and Schulzrinne, H., "Unified Messaging using SIP and RTSP" IP Telecom ServicesWorkshop, Sept 2000, Atlanta, Georgia.	☐
	10	Wikipedia entry, "Session Initiation Protocol" 2007, at http://en.wikipedia.org/wiki/Session_Initiation_Protocol.	☐
	11	Wikipedia entry, "Session Description Protocol" 2007, at http://en.wikipedia.org/wiki/Session_Description_Protocol.	☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.B./

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	Filing Date	2013-08-30
	First Named Inventor	Hans Maarten Stokking
	Art Unit	2441
	Examiner Name	Alicia Baturay
	Attorney Docket Number	10-406-CON

	12	Wikipedia entry, "Real-time Transport Protocol" 2007, at http://en.wikipedia.org/wiki/Real-time Transport Protocol.	☐
	13	Wikipedia entry, "Real Time Streaming Protocol" 2007, at http://en.wikipedia.org/wiki/Real Time Streaming Protocol.	☐
	14	Ericpol Telecom, SIP-RTSP Gateway, Marketing Webpage, 2007, at http://www.ericpol.pl/index.php/en/network_migration/sip_rtsp_gateway/.	☐
	15	Ericpol i-Evolution, "Network Migration & Combinatorial Services" Marketing Whitepaper, 2004.	☐

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EXAMINER SIGNATURE

Examiner Signature	/Alicia Baturay/	Date Considered	06/30/2015

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14015765	STOKKING ET AL.
	Examiner	Art Unit
	ALICIA BATURAY	2441

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
709	227	12/09/2014	AB
709	227	07/06/2015	AB

SEARCH NOTES		
Search Notes	Date	Examiner
Searched EAST (US-PGPUB, USPAT, EPO, JPO, DERWENT, IBM_TDB)	12/08/2014	AB
Conducted Inventor Name Search	12/08/2014	AB
Conducted Class/Subclass Search	12/08/2014	AB
Updated EAST Search (US-PGPUB, USPAT, EPO, JPO, DERWENT, IBM_TDB)	07/06/2015	AB
Updated Inventor Name Search	07/06/2015	AB
Updated Class/Subclass Search	07/06/2015	AB

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14015765	STOKKING ET AL.
	Examiner	**Art Unit**
	ALICIA BATURAY	2441

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	12/08/2014	07/06/2015							
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	33	✓	✓							
	34	O	O							
	35	✓	✓							
	36	✓	✓							

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Docket No. 10-406-CON)

In re Application of:	)	
	)	
Hans Maarten Stokking et al.	)	
	)	**Examiner: Alicia Baturay**
Serial No. 14/015,765	)	
	)	**Group Art Unit: 2441**
Filed: August 30, 2013	)	
	)	**Conf. No. 6519**
	)	
For: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM	)	

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

RESPONSE TO NOTICE OF NON-COMPLIANT AMENDMENT MAILED JUNE 4, 2015

This paper is submitted in response to the Notice of Non-Compliant Amendment mailed June 4, 2015. Applicants believe that no fees are due. However, the Commissioner is authorized to charge any fees to Deposit Account No. 132490.

Please enter the following remarks and amendments into the record for this application.

Listing of the Claims begins on page 2 of this paper.

Remarks begin on page 9 of this paper.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Listing of the Claims

1-13. (Canceled)

14. (Previously presented) A method, wherein a gateway is capable of communicating with a first terminal and a second terminal, the method comprising:

the gateway or the first terminal using a first protocol to exchange first media session information between the first terminal and the gateway, wherein the exchange of the first media session information sets up a first media stream from the first terminal;

the second terminal using a second protocol to receive a trigger provided by the gateway or first terminal, wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal;

in response to receiving the trigger, the second terminal using a third protocol to initiate the exchange of the second media session information between the gateway and the second terminal, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates; and

the second terminal receiving the second media stream, wherein the second media stream is associated with the first media stream.

15. (Previously presented) The method according to claim 14, wherein the exchange of the first media session information comprises:

the gateway providing to the first terminal at least part of the second media session information.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

16. (Previously presented) The method according to claim 14, wherein the exchange of the second media session information comprises:

the gateway providing to the second terminal at least part of the first media session information.

17. (Previously presented) The method according to claim 14, wherein the exchange of the first media session information comprises:

the gateway receiving, from the first terminal, an identifier of the second terminal.

18. (Previously presented) The method according to claim 17, further comprising:

before using the second protocol to provide the trigger to the second terminal, the gateway resolving the identifier of the second terminal into a network address of the second terminal.

19. (Previously presented) The method according to claim 18, wherein providing the trigger to the second terminal comprises the gateway transmitting the trigger to the resolved network address of the second terminal.

20. (Previously presented) The method of claim 14, wherein the third protocol is different from the second protocol.

21. (Previously presented) The method of claim 14, wherein the first multimedia stream is the second multimedia stream.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

22. (Previously presented) The method of claim 14, wherein the trigger serves to inform the second terminal of availability of a new multimedia stream.

23. (Previously presented) The method of claim 14, wherein the first protocol is a peer-to-peer protocol.

24. (Previously presented) The method of claim 14, wherein the third protocol is a client-server protocol, and wherein the second receiving terminal has client capabilities of the third protocol and not server capabilities of the third protocol.

25. (Previously presented) The method of claim 14, wherein the trigger comprises a network address of the gateway.

26. (Previously presented) The method of claim 25, wherein the network address is a URI or a URI reference.

27. (Previously presented) The method of claim 14, wherein the first protocol and the second protocol are identical.

28. (Previously presented) The method of claim 27, wherein the first protocol and the second protocol are the Session Initiation Protocol (SIP).

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

29. (Previously presented) The method of claim 14, wherein the gateway is configured to associate the first multimedia session information with the second multimedia session information.

30. (Previously presented) An article of manufacture including a non-transitory computer-readable medium, having stored thereon software instructions that, if executed by a computing device, cause the computing device to perform operations comprising:

using a first protocol to initiate an exchange of first media session information between a first terminal and a gateway, wherein the exchange of the first media session information sets up a first media stream from the first terminal;

using a second protocol to provide a trigger to a second terminal, wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal;

using the second protocol to conduct the exchange of the second media session information between the gateway and the second terminal, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates; and

using the first protocol to transmit a response to the first terminal, wherein the response causes the first terminal to begin transmission of the first media stream.

31. (Previously presented) A gateway comprising:

a communication interface; and

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TELEPHONE (312) 913-0001

memory that stores software instructions that, when executed by the gateway, cause the gateway to:

(i) exchange first multimedia session information with a first terminal using a first protocol, wherein the exchange of the first media session information sets up a first media stream from the first terminal,

(ii) provide a trigger to a second terminal, wherein the trigger is provided using a second protocol, in response to which the second terminal is able to initiate the exchange of second multimedia session information with the gateway, and

(iii) exchange second multimedia session information with the second terminal, using a third protocol, wherein the third protocol is different from the first protocol, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates.

32. (Previously presented) The gateway of claim 31, wherein the gateway is configured to connect to a first terminal supporting a first protocol and to a second terminal supporting a second protocol,

wherein the first protocol is Session Initiation Protocol (SIP) and the second protocol is Real Time Streaming Protocol (RTSP),

wherein the first terminal is an originating SIP client of a user at a user side,

wherein the gateway acts as a terminating SIP client,

wherein the gateway is configured to confirm that the gateway is able to receive a multimedia session from the user and to provide the first terminal with multimedia session information,

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wherein the second terminal is an RTSP client,

wherein the gateway acts as an RTSP server on behalf of the user,

wherein the second terminal uses RTSP for session control, and

wherein the gateway is configured to inform the second terminal that an incoming session is pending and notify the RTSP client to connect to an RTSP server function of the gateway.

33. (Previously presented) The gateway of claim 31, wherein the gateway is configured to transmit a notification message to the second terminal in response to an invitation of the first terminal, in order to activate the second terminal to set up the second multimedia session between the second terminal and the gateway.

34. (Previously presented) The gateway of claim 31, wherein the gateway is embedded in an IP Multi-Media Subsystem (IMS) network architecture, wherein the first protocol is Session Initiation Protocol (SIP), wherein the third protocol is Real Time Streaming Protocol (RTSP), the IMS network architecture comprising a service-control-function component and a media-function component, wherein the memory of the gateway is distributed in the IMS network architecture, such that:

exchanging the first multimedia session information is handled by the service-control-function component within the IMS network architecture;

triggering the second terminal is controlled by the service-control-function component within the IMS network architecture; and

exchanging second multimedia session information is handled by the media-function component within the IMS network architecture.

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35. (Previously presented) The gateway of claim 31, wherein the gateway is configured to associate the first multimedia session information and the second multimedia session information with each other.

36. (Previously presented) The gateway of claim 31, wherein the gateway further comprises Session Initiation Protocol (SIP) client functionality and Real Time Streaming Protocol (RTSP) server functionality.

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HULBERT & BERGHOFF LLP
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Remarks

A Notice of Non-Compliant Amendment was mailed June 4, 2015 in response to Applicants' Response filed April 13, 2015 ("Response," hereinafter) in reply to the Office Action mailed December 11, 2014. The Notice of Non-Compliant Amendment stated that claims 14-36 of the Response were incorrectly listed as "New," although these claims had already been pending from Applicants' previous submission. The current submission in response to the Notice of Non-Compliant Amendment corrects the inadvertent error in the listing of the claims in the Response. Specifically, claims 14-36 are now listed as "Previously presented."

In accordance with the Notice of Non-Compliant Amendment (namely, "box 4" checked, Applicants believe that only the corrected claims listing filed herewith is required to bring the Response into compliance.

Should the Examiner wish to discuss this case with the undersigned, the Examiner is invited to call the undersigned at (312) 913-3350.

Respectfully submitted,

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP

Date: June 9, 2015

By: /David A. Grabelsky/
David A. Grabelsky
Reg. No. 59,208

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HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Electronic Acknowledgement Receipt

EFS ID:	22575219
Application Number:	14015765
International Application Number:	
Confirmation Number:	6519
Title of Invention:	Method And System For Transmitting A Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Customer Number:	20306
Filer:	David A. Grabelsky
Filer Authorized By:	
Attorney Docket Number:	10-406-CON
Receipt Date:	09-JUN-2015
Filing Date:	30-AUG-2013
Time Stamp:	13:28:50
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	10-406-CON_Response_to_Notice_of_Non-Compliant_Amendment_of_06Jun15_11Dec14_OA.pdf	106044 a6baee62b5d64ad63b975e3bedc8912d119bd080	no	9

Warnings:	
Information:	

Total Files Size (in bytes):	106044

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/015,765	Filing Date 08/30/2013	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **06/09/2015**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 23	Minus	** 23	= 0	X $80 =	0
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $420 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/CHARRISSA BROWN/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/015,765	08/30/2013	Hans Maarten Stokking	10-406-CON	6519

20306 7590 06/04/2015

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

EXAMINER	
BATURAY, ALICIA	

ART UNIT	PAPER NUMBER
2441	

MAIL DATE	DELIVERY MODE
06/04/2015	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of Non-Compliant Amendment (37 CFR 1.121)	Application No. 14/015,765	Applicant(s) STOKKING ET AL.
	Examiner Alicia Baturay	Art Unit 2441

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

The amendment document filed on *13 April 2015* is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following item(s) is required.

THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

- ☐ 1. Amendments to the specification:
  - ☐ A. Amended paragraph(s) do not include markings.
  - ☐ B. New paragraph(s) should not be underlined.
  - ☐ C. Other _____.
- ☐ 2. Abstract:
  - ☐ A. Not presented on a separate sheet. 37 CFR 1.72.
  - ☐ B. Other _____.
- ☐ 3. Amendments to the drawings:
  - ☐ A. The drawings are not properly identified in the top margin as "Replacement Sheet," "New Sheet," or "Annotated Sheet" as required by 37 CFR 1.121(d).
  - ☐ B. The practice of submitting proposed drawing correction has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required.
  - ☐ C. Other _____.
- ☒ 4. Amendments to the claims:
  - ☐ A. A complete listing of all of the claims is not present.
  - ☐ B. The listing of claims does not include the text of all pending claims (including withdrawn claims)
  - ☒ C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended).
  - ☐ D. The claims of this amendment paper have not been presented in ascending numerical order.
  - ☒ E. Other: *See Continuation Sheet*.
- ☐ 5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4):

_____

For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.

TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:

1. Applicant is given **no new time period** if the non-compliant amendment is an after-final amendment or an amendment filed after allowance. If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the **entire corrected amendment** must be resubmitted.

2. Applicant is given **two months** from the mail date of this notice to supply the correction, if the non-compliant amendment is one of the following: a preliminary amendment, a non-final amendment (including a submission for a request for continued examination (RCE) under 37 CFR 1.114), a supplemental amendment filed within a suspension period under 37 CFR 1.103(a) or (c), and an amendment filed in response to a *Quayle* action. If any of above boxes 1. to 4. are checked, the correction required is only the **corrected section** of the non-compliant amendment in compliance with 37 CFR 1.121.

   Extensions of time are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action.

   Failure to timely respond to this notice will result in:
   Abandonment of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action; or
   Non-entry of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

/Alicia Baturay/ Primary Examiner, Art Unit 2441	

Continuation of 4(e) Other:

Claims 14-36 were pending in the application at the time the Non-Final Office Action was issued on 12/11/2014. In the response filed 04/13/2015, claims 14-36 are all listed as "new".

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/015,765	08/30/2013	Hans Maarten Stokking	10-406-CON	6519

20306 7590 04/13/2015

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

EXAMINER
BATURAY, ALICIA

ART UNIT	PAPER NUMBER
2441	

MAIL DATE	DELIVERY MODE
04/13/2015	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Applicant-Initiated Interview Summary	Application No.	Applicant(s)	
	14/015,765	STOKKING ET AL.	
	Examiner	Art Unit	
	Alicia Baturay	2441	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Alicia Baturay (USPTO)*. (3)_____.

(2) *David Grabelsky (Reg. #59,208)*. (4)_____.

Date of Interview: *09 April 2015*.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☐112 ☐102 ☒103 ☐Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: *14, 30, and 31*.

Identification of prior art discussed: *Mela et al. (U.S. 7,724,691)*.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Applicants' Representative initiated the interview to clarify operation of the invention and advance prosecution. Applicants' Representative reported that the "trigger provided by the gateway or first terminal" to the second terminal was critical to the operation of the invention. The current breadth of the claimed invention was detailed and discussed, and it was suggested that Applicants' Representative either discuss what distinguishes the trigger in the invention from that in the cited prior art or amend the claim language to further detail the method in which the trigger works. Applicants' Representative was advised that any amendments as discussed above would require further search and consideration to properly determine patentability of the claimed invention. Applicants' Representative indicated that he would file a formal response with the Office.

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☒ Attachment

/Alicia Baturay/ Primary Examiner, Art Unit 2441	

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Baturay, Alicia

From: Grabelsky, David <grabelsky@mbhb.com>
Sent: Tuesday, April 07, 2015 3:05 PM
To: Baturay, Alicia
Subject: U.S. Application No. 14/015,765: Proposed agenda for interview on April 9, 2015
Attachments: Call Flow for Examiner Interview - U.S. Application No. 14015765.pdf

Dear Examiner Baturay,

Thank you for agreeing to hold a telephone interview on April 9, 2015 at 11 am Eastern Time to discuss the office action in the above application. In accordance with your request, I am providing here a proposed agenda for the interview.

1. Discuss the Mela reference as its applies to the 103(a) rejection of the independent claim 14 (and the other independent claims). In particular, Applicants seek clarification of how certain teachings in Mela are being interpreted in the rejection as reading on limitations of claim 14. To help the discussion, I have attached a drawing that includes graphical summary representations of each of claim 14 and of Applicants' understanding the arguments in the rejection.

Specifically, the top figure is a call flow summarizing certain aspects of claim 14; the bottom figure is a call flow summarizing what Applicants understand to be aspects of Mela identified in the rejection as being analogous to limitations of claim 14. Applicants believe that a comparison of the two call flows appears to contradict the rejection as presented in the office action. A discussion of the comparison may help clarify the issues involved. Note that in the call flow representing Mela and the arguments of the rejection, quotations have been placed around items corresponding to Applicants' reading of assertions made in the rejection (on pages 4-5 of the office action); items without quotes correspond to disclosures in Mela identified in the rejection.

The above summary and the graphical summaries presented in the attached drawing are not intended as a complete explanation or argument, but rather to help set a context for a discussion during the interview.

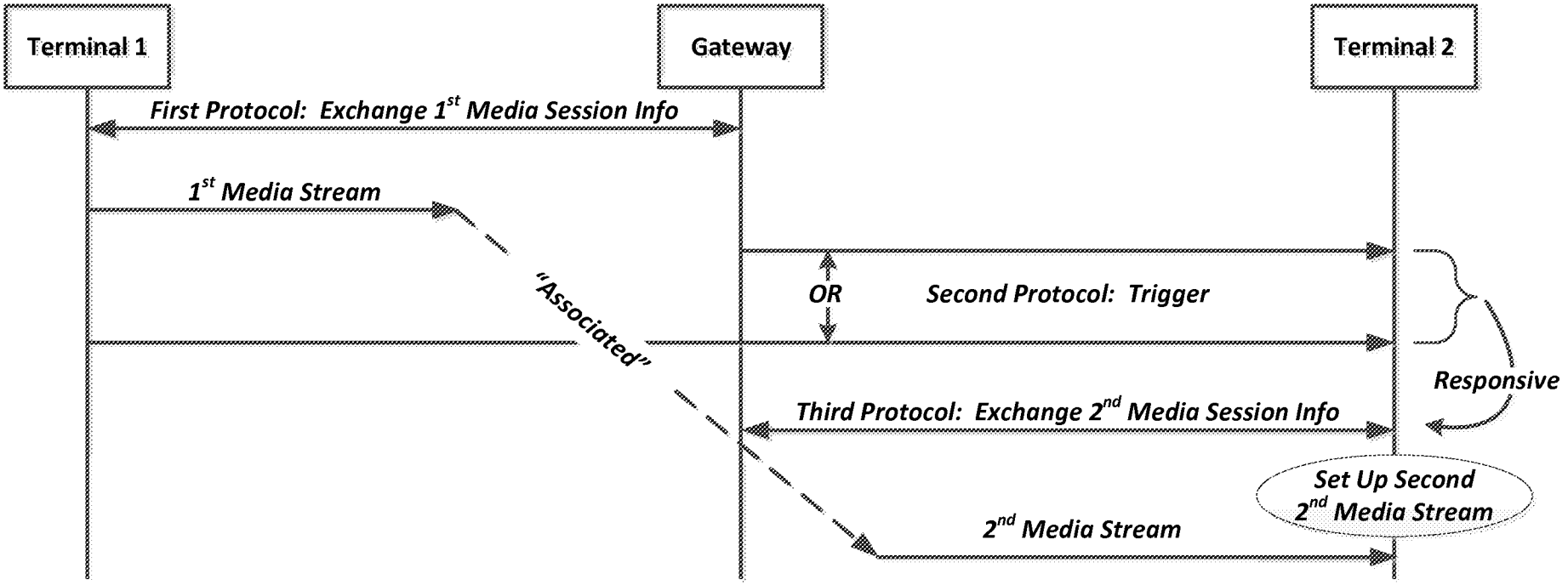
I will plan to call you at 571-272-3981 at 11:00 am Eastern Time on April 9, 2015. In the meantime, please let me know if you have any questions or need any further information.

Sincerely,

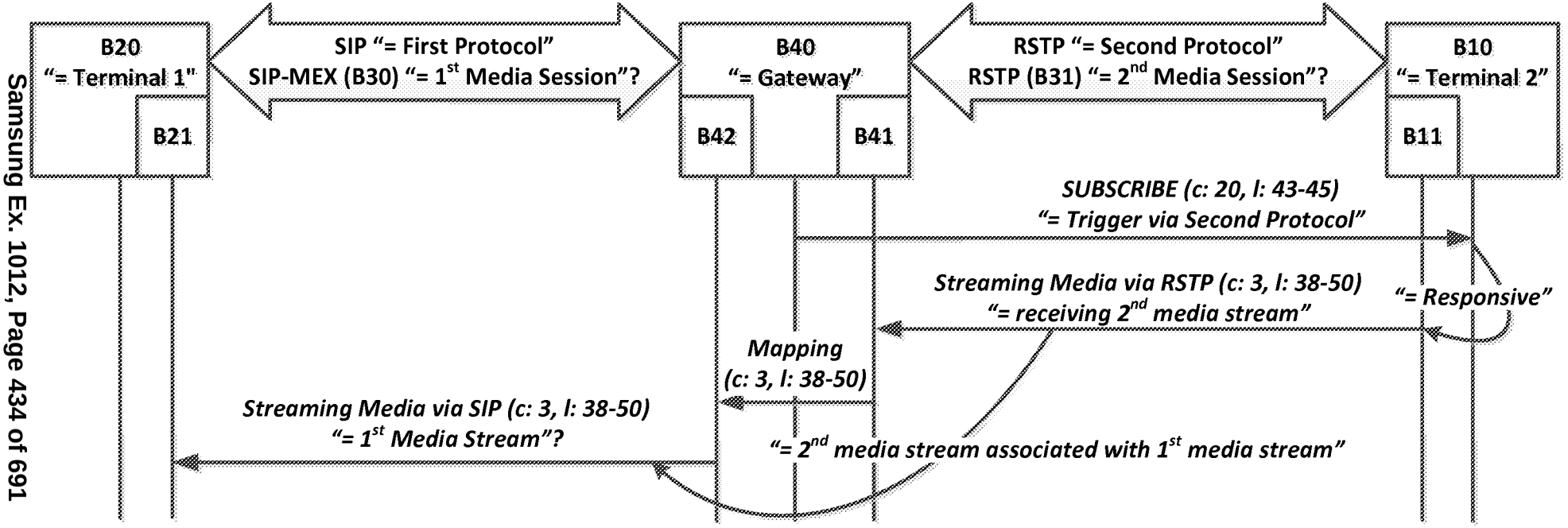
David Grabelsky
Reg. No. 59,208
Tel.: 312-913-3353

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Claim 14 Graphical Summary: NOT intended to be complete or to limit any claim as written



Mela Graphical Summary + Office Action Arguments (in quotes):
NOT necessarily intended to be a complete or limiting argument rebutting the rejection of any claim



Samsung Ex. 1012, Page 434 of 691

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Docket No. 10-406-CON)

In re Application of:	)	
	)	
Hans Maarten Stokking et al.	)	
	)	**Examiner: Alicia Baturay**
Serial No. 14/015,765	)	
	)	**Group Art Unit: 2441**
Filed: August 30, 2013	)	
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	)	
For: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM	)	

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

RESPONSE TO OFFICE ACTION MAILED DECEMBER 11, 2014

This paper is submitted in response to the Office Action mailed December 11, 2014. In addition, a Petition for Extension of Time under 37 C.F.R. § 1.136(a) (one-month) is enclosed, along with requisite fees.

Please enter the following remarks and amendments into the record for this application.

Listing of the Claims begins on page 2 of this paper.

Remarks begin on page 9 of this paper.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Listing of the Claims

1-13. (Canceled)

14. (New) A method, wherein a gateway is capable of communicating with a first terminal and a second terminal, the method comprising:

the gateway or the first terminal using a first protocol to exchange first media session information between the first terminal and the gateway, wherein the exchange of the first media session information sets up a first media stream from the first terminal;

the second terminal using a second protocol to receive a trigger provided by the gateway or first terminal, wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal;

in response to receiving the trigger, the second terminal using a third protocol to initiate the exchange of the second media session information between the gateway and the second terminal, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates; and

the second terminal receiving the second media stream, wherein the second media stream is associated with the first media stream.

15. (New) The method according to claim 14, wherein the exchange of the first media session information comprises:

the gateway providing to the first terminal at least part of the second media session information.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

16. (New) The method according to claim 14, wherein the exchange of the second media session information comprises:

the gateway providing to the second terminal at least part of the first media session information.

17. (New) The method according to claim 14, wherein the exchange of the first media session information comprises:

the gateway receiving, from the first terminal, an identifier of the second terminal.

18. (New) The method according to claim 17, further comprising:

before using the second protocol to provide the trigger to the second terminal, the gateway resolving the identifier of the second terminal into a network address of the second terminal.

19. (New) The method according to claim 18, wherein providing the trigger to the second terminal comprises the gateway transmitting the trigger to the resolved network address of the second terminal.

20. (New) The method of claim 14, wherein the third protocol is different from the second protocol.

21. (New) The method of claim 14, wherein the first multimedia stream is the second multimedia stream.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

22. (New) The method of claim 14, wherein the trigger serves to inform the second terminal of availability of a new multimedia stream.

23. (New) The method of claim 14, wherein the first protocol is a peer-to-peer protocol.

24. (New) The method of claim 14, wherein the third protocol is a client-server protocol, and wherein the second receiving terminal has client capabilities of the third protocol and not server capabilities of the third protocol.

25. (New) The method of claim 14, wherein the trigger comprises a network address of the gateway.

26. (New) The method of claim 25, wherein the network address is a URI or a URI reference.

27. (New) The method of claim 14, wherein the first protocol and the second protocol are identical.

28. (New) The method of claim 27, wherein the first protocol and the second protocol are the Session Initiation Protocol (SIP).

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HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

29. (New) The method of claim 14, wherein the gateway is configured to associate the first multimedia session information with the second multimedia session information.

30. (New) An article of manufacture including a non-transitory computer-readable medium, having stored thereon software instructions that, if executed by a computing device, cause the computing device to perform operations comprising:

using a first protocol to initiate an exchange of first media session information between a first terminal and a gateway, wherein the exchange of the first media session information sets up a first media stream from the first terminal;

using a second protocol to provide a trigger to a second terminal, wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal;

using the second protocol to conduct the exchange of the second media session information between the gateway and the second terminal, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates; and

using the first protocol to transmit a response to the first terminal, wherein the response causes the first terminal to begin transmission of the first media stream.

31. (New) A gateway comprising:

a communication interface; and

memory that stores software instructions that, when executed by the gateway, cause the gateway to:

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

(i) exchange first multimedia session information with a first terminal using a first protocol, wherein the exchange of the first media session information sets up a first media stream from the first terminal,

(ii) provide a trigger to a second terminal, wherein the trigger is provided using a second protocol, in response to which the second terminal is able to initiate the exchange of second multimedia session information with the gateway, and

(iii) exchange second multimedia session information with the second terminal, using a third protocol, wherein the third protocol is different from the first protocol, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates.

32. (New) The gateway of claim 31, wherein the gateway is configured to connect to a first terminal supporting a first protocol and to a second terminal supporting a second protocol,

wherein the first protocol is Session Initiation Protocol (SIP) and the second protocol is Real Time Streaming Protocol (RTSP),

wherein the first terminal is an originating SIP client of a user at a user side,

wherein the gateway acts as a terminating SIP client,

wherein the gateway is configured to confirm that the gateway is able to receive a multimedia session from the user and to provide the first terminal with multimedia session information,

wherein the second terminal is an RTSP client,

wherein the gateway acts as an RTSP server on behalf of the user,

wherein the second terminal uses RTSP for session control, and

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

wherein the gateway is configured to inform the second terminal that an incoming session is pending and notify the RTSP client to connect to an RTSP server function of the gateway.

33. (New) The gateway of claim 31, wherein the gateway is configured to transmit a notification message to the second terminal in response to an invitation of the first terminal, in order to activate the second terminal to set up the second multimedia session between the second terminal and the gateway.

34. (New) The gateway of claim 31, wherein the gateway is embedded in an IP Multi-Media Subsystem (IMS) network architecture, wherein the first protocol is Session Initiation Protocol (SIP), wherein the third protocol is Real Time Streaming Protocol (RTSP), the IMS network architecture comprising a service-control-function component and a media-function component, wherein the memory of the gateway is distributed in the IMS network architecture, such that:

exchanging the first multimedia session information is handled by the service-control-function component within the IMS network architecture;

triggering the second terminal is controlled by the service-control-function component within the IMS network architecture; and

exchanging second multimedia session information is handled by the media-function component within the IMS network architecture.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

35. (New) The gateway of claim 31, wherein the gateway is configured to associate the first multimedia session information and the second multimedia session information with each other.

36. (New) The gateway of claim 31, wherein the gateway further comprises Session Initiation Protocol (SIP) client functionality and Real Time Streaming Protocol (RTSP) server functionality.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Remarks

1. Summary of the Office Action

In the Office Action mailed December 11, 2014 ("Current Office Action"), the Examiner rejected claims 14-20 and 22-36 on grounds of non-statutory double patenting over claims 1-7 and 9-23 of U.S. Patent No. 8,549,151. The examiner rejected claims 14-16, 20, 21, and 27-29 under 35 U.S.C. § 103(a) as being allegedly obvious over U.S. Patent No. 7,724,691 (Mela) in view of "RFC 2326: Real Time Streaming Protocol (RTSP)" (Schulzrinne) in view of U.S. Patent No. 6,895,439 (Isomäki). The Examiner also rejected claims 17-19, 25, and 26 under 35 U.S.C. § 103(a) as being allegedly obvious over Mela in view of Schulzrinne in view of Isomäki in view of U.S. Patent No. 7,804,848 (Mirtorabi), and rejected claim 22 as being allegedly obvious over Mela in view of Schulzrinne in view of Isomäki in view of U.S. Patent Application Pub. No. 2006/0128376 (Alexis). The Examiner rejected claims 23 and 24 as being allegedly obvious over Mela in view of Schulzrinne in view of Isomäki in view of U.S. Patent Application Pub. No. 2006/0291472 (Guo), and rejected claim 30 under 35 U.S.C. § 103(a) as being allegedly obvious over Mela in view of Schulzrinne. Finally, the Examiner rejected claims 31-33, 35 and 36 under 35 U.S.C. § 103(a) as being allegedly obvious over Mela in view of Isomäki and further in view of Schulzrinne. The Examiner indicated that claim 34 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims.

2. Summary of Examiner Interview

Applicants' undersigned representative held a telephone interview with the Examiner on April 9, 2015 to discuss the rejections in the Current Office Action. During the interview, the Mela reference was discussed in connection with the obviousness rejection of claim 14 in the

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Current Office Action, with the understanding that the discussion applied as well to independent claims 30 and 31. Applicants' representative offered an explanation as to how and why the Mela reference fails to support the rationale of the obviousness rejection of claim 14. The Examiner appeared to concur with the offered explanation, but also indicated that she would defer a definitive judgement as to the applicability of the Mela reference to claim 14 until taking a further, closer look at the reference following submission of a formal response by Applicants to the Current Office Action. The Examiner further indicated a willingness to reconsider the current rejections in view of arguments presented by Applicants' representative during the interview, once those arguments are submitted in the formal response to the Current Office Action. The Examiner also kindly indicated a willingness to confer with Applicants prior to issuing a next Office Communication responsive to Applicants' formal response.

In an Official Interview Summary mailed April 13, 2015, the Examiner provided a summary largely in similar to Applicants' summary above. Applicants concur with the Official Interview Summary.

Applicants thank the Examiner for her time and consideration during the interview.

3. Status of the Claims

Pending are claims 14-36, of which claims 14, 30 and 36 are independent and the remainder are dependent.

4. Response to Rejections on grounds of nonstatutory double patenting

The Examiner rejected claims 14-20 and 22-36 on grounds of non-statutory double patenting over claims 1-7 and 9-23 of U.S. Patent No. 8,549,151. Without acquiescing to the Examiner's assertions regarding the rejection of claims 14-20 and 22-36 on grounds of nonstatutory double patenting, Applicants will consider filing a Terminal Disclaimer at such

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

time when the current nonstatutory double patenting rejection remains the only impediment to allowability of the pending claims of the instant application.

5. Response to Rejections under 35 U.S.C. § 103(a)

a. Claims 14-16, 20, 21, and 27-29

The Examiner rejected claims 14-16, 20, 21, and 27-29 under 35 U.S.C. § 103(a) as being allegedly obvious over Mela in view of Schulzrinne in view of Isomäki. Applicants submit that modifying the teachings of Mela with those of Schulzrinne and of Isomäki does not logically or reasonably lead to any of claims 14-16, 20, 21, and 27-29. Applicants first address claim 14, then subsequently address claims 15-16, 20, 21, and 27-29.

Applicants submit that the rejection of claim 14 relied exclusively on Mela for teaching various features of the claim that Mela does not actually teach, and so the underpinnings of the the obviousness conclusion were fundamentally flawed. Applicants further submit that Schulzrinne and Isomäki do not make up for the deficiencies of Mela, and so modifying the teachings of Mela with those of Schulzrinne and of Isomäki does not logically or reasonably lead to claim 14.

The failure of Mela to teach what is relied upon in the current rejection of claim 14 can be summarized as follows. On pages 4-5 of the Current Final Office Action, the Examiner identified: element B20 in Mela with the "first terminal" recited in claim 14; element B10 in Mela with the "second terminal" recited in claim 14; and element B40 with the "gateway" recited in claim 14. The Examiner further identified: SIP in Mela with the "first protocol" recited in claim 14; the SIP-MEX connection B30 in Mela with the "first media session" recited in claim 1; RTSP in Mela with the "second protocol" recited in claim 14; the RTSP connection B31 in Mela with the "second media session" recited in claim 14.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

The Examiner then appeared to suggest that the SIP SUBSCRIBE disclosed at column 20, lines 43-45 in Mela could be sent from the element 40 to the element B10, and as such could be identified with the trigger received using the second protocol in claim 14. However, this characterization by the Examiner of the SIP SUBSCRIBE in Mela being the trigger received using the second protocol is at odds with the Examiner's identification as RTSP in Mela as the second protocol.

The Examiner next identified the streaming media via RTSP sent from B10 disclosed at column 3, lines 38-50 as "the second terminal receiving the second media stream" recited in claim 14. But streaming media *sent from* B10 cannot be any media stream *received by* B10, the entity in Mela identified by the Examiner as the "second terminal" recited in claim 14.

On the basis at least of parsing the Examiner's explanation, Applicants submit that various elements disclosed in Mela and identified by the Examiner as equivalent or analogous to limitations recited in claim 1 are not taught by Mela in any arrangement that actually corresponds to what is recited in claim 1. And as explained in more detail below, there is no teaching or suggestion in Mela of a trigger received by "the second terminal" that causes it to initiate communications with the "gateway" to set up a second media session.

Additional and more specific details supporting Applicants' contention that the combined teachings of Mela, Schulzrinne, and Isomäki do not logically or reasonably lead to claim 14 are discussed below.

The Examiner relied on Mela for teaching various features of claim 14 that Mela does not actually teach

In the office action, the Examiner asserted that Mela teaches:

- a method, wherein a gateway is capable of communicating with a first terminal and a second terminal, the method comprising:

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

- the gateway or the first terminal using a first protocol to exchange first media session information between the first terminal and the gateway, wherein the exchange of the first media session information sets up a first media stream from the first terminal;
- the second terminal using a second protocol to receive a trigger provided by the gateway or first terminal, wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal;
- in response to receiving the trigger, the second terminal . . . sets up a second media stream in which the second terminal participates; and
- the second terminal receiving the second media stream, wherein the second media stream is associated with the first media stream. (Current Office Action, pages 4 5.)

However, for the reasons summarized above and further explained below, Mela fails to disclose some of these features for which the Examiner relied on Mela.

i. Figure 2 and Figure 8 of Mela describe different system configurations

In the rejection of claim 14, with respect to Mela, the Examiner relies to a large extent on Figure 2 (and its associated description), and for a minor part on the description of Figure 8. However, Applicants note that Figure 8 relates to a completely different embodiment (system configuration) than the one described in Figure 2. In particular, the embodiment of Figure 2 teaches a system where a streaming SIP client (B20) retrieves streaming content from a RTSP server (B10) via an intermediary gateway B40. Figure 8 and the accompanying description (e.g., column 20, lines 43-45 part on which the Examiner appears to rely for part of the argumentation), relate to an entirely different system configuration, where a RTSP streaming client retrieves streaming content from a SIP based streaming server via an intermediary gateway. The gateway of Figure 8 is a different gateway from the one described in Figure 2 with therefore entirely different properties. The gateway of Figure 2 comprises a SIP user agent (client) pointing to the SIP user agent (client) receiving the stream from the gateway. The gateway of Figure 2 further comprises a RTSP client pointing to a RTSP server for receiving a

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

stream from the RTSP server. In sharp contrast, the gateway of Figure 8 (and of Figure 3 for that matter) comprises a RTSP server pointing to the RTSP client receiving the stream from the gateway. The gateway of Figure 8 (and Figure 3) further comprises a SIP user agent (client) pointing to a SIP media server for receiving a stream from the SIP media server.

Isolating a single step from the Figure 8 (Figure 3) configuration and combining this step with the steps associated with the differently configured system of Figure 2 is a combination is not actually disclosed or suggested in Mela. A question in determining obviousness is whether the invention would have been obvious from the cited references to one of ordinary skill in the art *having no knowledge of Applicants' invention*. However, it would not be obvious to modify Mela in the way suggested by the Examiner. At best, modifying Mela in this way would be based on hindsight bias. (*See* M.P.E.P. § 2143 (stating that "impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art")). Without the inventors' insight, one of skill in the art would not have been led by the cited art to isolate a single step from the Figure 8 (Figure 3) configuration and combine this with the steps associated with the differently configured system of Figure 2. As such it is highly unlikely that the skilled person, without inventive skills, would do that. Other than that, such combination is simply not taught in Mela.

Applicants also note that a close review of the Examiner's rejection of claim 14 reveals various inconsistencies in the Examiner's application of the disclosure of Mela in comparison to the claimed features of claim 14. In this regard, the Examiner generally argues that (1) the element B10 (i.e., the RTSP streaming server of Figure 2) of Mela would anticipate the claim limitation of a second terminal, (2) that the element B20 (i.e., the streaming client in the SIP domain) would anticipate the claim limitation of a first terminal, and (3) that the element B40

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

would anticipate the claim limitation of a gateway. However, if these various elements of Mela are interpreted as a teaching of these various claim elements, it is clear that the Examiner's interpretation of Mela with regard to other claim limitations is inconsistent. Applicants explain example inconsistencies below in the following subsections.

ii. Inconsistency regarding the feature of a trigger to initiate the exchange of second multimedia session information between the gateway and the second terminal

The Examiner appears to interpret that the SUBSCRIBE message H2 (of column 20, lines 43-45) amounts to a trigger to initiate the exchange of second multimedia session information between the gateway and the second terminal. The Examiner then appears to argue this second session to be an RTSP session. However, such reasoning is factually incorrect for a number of reasons. First, the SUBSCRIBE message H2 is a SIP message sent to a SIP Media server. The only session being set-up between the gateway and the SIP Media server is a SIP session and not a RTSP session. Second, the SUBSCRIBE message H2 of column 20 lines 43-45 cannot be a trigger that is *to initiate* the exchange of session information (as recited in claim 14), since it is already part of the exchange of session information. In fact the H2 message contains what appears to be session information (*see, e.g.*, Mela column 20, lines 53-60 for the contents of the H2 message).

iii. Inconsistency regarding the feature of the second terminal using the second protocol

The Examiner states: "….the second terminal (Mela, Fig. 2 element B10; column 3, lines 38-50 using a second protocol (RTSP, see Mela columne, lines 41-43) to receive a trigger (the gateway sends message H2-SUBSCRIBE to the media server - see Mela, column 20 lines 43-45)." (Current Office Action, pages 4-5.)

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Accordingly, it appears that the Examiner asserts that the RTSP protocol of Mela amounts to the claim limitation of the second protocol, which is used to receive a trigger. The trigger is then the SUBSCRIBE message H2 sent to the media server. According to the Examiner, the media server would amount to the claim limitation of the second terminal and would use a second protocol (RTSP) to receive the trigger. However, Applicants disagree with this alleged anticipation for a number of reasons. For example, the SUBSCRIBE message is a SIP message and not a RTSP message. Hence RTSP is not used as a protocol by the SIP media server of column 20, lines 43-45. Further, the Media Server of column 20, lines 43-45 (which, as mentioned above, the Examiner interpreted as the second terminal) is in fact a SIP Media Server which is therefore by definition incapable of using a RTSP message as trigger. In conclusion, the Examiner relied on the notion of an element B10 of Figure 2 for the anticipation of the second terminal. B10 relates to a Media server comprising only a RTSP server B11 (see Mela column 3, line 41, Fig. 2). The Examiner then appears to switch the line of reasoning by now relying on the notion of a SIP Media Server (no longer comprising a RTSP server) for the alleged anticipation of the same second terminal using a second protocol to receive a trigger. This interpretation, however, is inconsistent. As mentioned above, Figure 2 and Figure 8 relate to complete different system configurations which are irreconcilable.

iv. Inconsistency regarding the feature of the second terminal receiving the second stream

The Examiner states that the claim limitation of the second terminal receiving the second stream is anticipated by Mela, column 3, lines 41-43, which according to Examiner teaches that a streaming server B10 sends streaming media content via a RTSP connection B31 to a gateway B40. (*See* Current Office Action, page 5.) However the gateway B40, which does receive a

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HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

media stream from the streaming server B10, is *not* the second terminal according to the earlier line of reasoning of the Examiner. Indeed if this line of reasoning were to be consistently followed, it would be the streaming server B10 that would have to receive a media stream from the gateway B40. However, Mela Figure 2 teaches exactly the opposite.

v. Mela fails to disclose the claim limitations associated with the use of the trigger mechanism

In light of the above, it becomes clear that Mela does not teach any of the claim limitations associated with the use of a trigger mechanism to set-up and associate media streams, wherein the set-up is based on different exchanges of session information using different protocols for the exchanges and for the trigger. In particular, Mela fails to disclose "the second terminal using a second protocol to receive a trigger provided by the gateway or first terminal, wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal." Further, Mela fails to disclose (i) "in response to receiving the trigger, the second terminal . . . sets up a second media stream in which the second terminal participates", much less (ii) the claimed feature of "in response to receiving the trigger, the second terminal using a third protocol to initiate the exchange of the second media session information between the gateway and the second terminal, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates."

Applicant recognizes that Mela does teach two different exchanges of multimedia session information, where one gateway is involved. One such exchange may be based on the SIP protocol and one other exchange may be based on the RTSP protocol. However, Mela teaches that it is always the device comprising the RTSP client or SIP client that is at the receiving end-

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HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

of the stream that takes the initiative of starting a session, by transmitting a request message to the gateway. This is clear from the disclosure of Mela. For instance, claim 1 of Mela teaches an implementation of the method according to Mela, wherein a device comprising a SIP client is at the receiving end of the stream. The disclosure in the claim of "sending a first session invitation protocol (SIP) message from a first device to a second device, wherein the first SIP message includes a first indicator indicating a request for a media stream" clearly illustrates this teaching. Further, claim 24 of Mela teaches the only alternative implementation of the method according to Mela, where a device comprising a RTSP client is at the receiving end of the stream. The disclosure in the claim of "receiving a first real time streaming protocol (RTSP) message from a first device at a second device, wherein the first RTSP message includes a first indicator indicating a request for a media stream" clearly illustrates the referred to teaching. There does not appear to be any indication in Mela that these first messages are preceded by some kind of trigger mechanism (triggering the second terminal into exchanging second session information to facilitate receiving a second media stream). Such a trigger is simply not taught by Mela.

Other evidence that Mela solely teaches that the request for receiving a media stream is always made from the device at the receiving end of the stream, without any preceding trigger mechanism, is for example taught in Mela, in column 20, lines 22-23 ("…an ordinary RTSP client connecting to the gateway and it initiates receiving a video stream"). Further examples are found in Mela column 20, lines 29-31 ("The request for streaming media by the RTSP client is announced by message H1 DESCRIBE from the RTSP client to the gateway"). As is evident from Figure 8, this message is the first message, sent from the receiving terminal, without any preceding trigger being received by this receiving terminal. Still further, other evidence teaching the absence of any trigger mechanism is for example to be found in Mela in column 4, lines 1-9:

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HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

e.g. "the client requests the streaming media," "the communication is started by sending a SUBSCRIBE D1 message from the client to the server," "the first message D1 SUBSCRIBE from client to server."

In light of the above, it is clear that Mela does not disclose each and every element for which the Examiner relies on it. M.P.E.P. § 2142 requires an Examiner to clearly articulate reasoning with rational underpinnings in order to properly establish *prima facie* obviousness. However, Mela does not disclose each and every element for which the Examiner relies on it. Thus, the factual basis for the Examiner's obviousness conclusion is fundamentally flawed, and therefore, the Examiner has not established *prima facie* obviousness of claim 14 under M.P.E.P. § 2142.

Still further, the Examiner clearly erred in reaching this conclusion of obviousness, because Schulzrinne and Isomäki do not make up for the deficiencies of Mela, and so combining the references together would not reasonably or logically result in the invention of claim 14.

The teachings of Schulzrinne and Isomäki fail to make up for the deficiencies of the teaching of Mela

The Examiner also relies on various teachings of Schulzrinne and Isomäki in the rejection of claim 14. However, these references fail to make up for the deficiencies of Mela mentioned above. Applicants address these cited references in the subsections below.

i. Schulzrinne

The Examiner noted that "Mela does not explicitly teach to initiate the exchange of the second media session information, and wherein the exchange of the second media session information." (Current Office Action, page 5.) As an initial matter, Applicants note that this statement of the deficiency of Mela is incomplete. In fact, Mela fails to teach (i) "the second

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

terminal using a second protocol to receive a trigger provided by the gateway or first terminal, wherein the trigger [received by the second terminal using the second protocol] is to initiate an exchange of second media session information between the gateway and the second terminal" and (ii) "*in response to receiving the trigger, the second terminal using a third protocol to initiate the exchange of the second media session information* between the gateway and the second terminal, *wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates*."

The Examiner then turned to Schulzrinne, stating "Schulzrinne teaches to initiate the exchange of the second media session information . . . wherein the exchange of the second media session information." (Current Office Action, page 5.) With that, the Examiner concluded "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mela in view of Schulzrinne in order to initiate the exchange of the second media session information, and wherein the exchange of the second media session information. One would be motivated to do so in order to enable controlled, on-demand delivery of real-time data, such as audio and video (see Schulzrinne, page 1, Abstract)." (*Id.*)

However, at issue is not merely whether Schulzrinne discloses "to initiate the exchange of the second media session information, and wherein the exchange of the second media session information." At best, this is a disembodied teaching that the Examiner attempts to combine with the alleged teaching in Mela of "in response to receiving the trigger, the second terminal . . . sets up a second media stream in which the second terminal participates." But at issue is not whether it would be obvious to carry out the disembodied functions disclosed separately by the various prior art references. Rather, at issue is *whether the combination recited by Applicants' claims would have been obvious*. In particular, at issue is whether combining Schulzrinne with

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Mela would reasonably or logically lead to "the second terminal using a second protocol to receive a trigger provided by the gateway or first terminal, wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal" and (ii) "*in response to receiving the trigger,* the second terminal *using a third protocol to initiate the exchange of the second media session information* between the gateway and the second terminal*, wherein the exchange of the second media session information sets up a second media stream* in which the second terminal participates." As described above, Mela fails to teach any such trigger and action in response to the trigger. Further, Schulzrinne fails to overcome the deficiency of Mela, because Schulzrinne similarly fails to disclose any such trigger and action in response to the trigger. Such a trigger and action in response to the trigger are missing from each of the cited references, and they do not follow from combination of the cited references.

A proper obviousness analysis must not simply consider the functions of a claimed method as disembodied pieces and show that each disembodied piece existed separately. Indeed, the Supreme Court specifically cautioned against such improper analysis in the *KSR* case, stating:

> As is clear from cases such as Adams, a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field *to combine the elements in the way the claimed new invention does*. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.

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300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
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KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 82 U.S.P.Q.2d (BNA) 1385, 1396 (2007) (emphasis added).

In this case, however, what the Examiner has done seems to be precisely that. The Examiner seems to have reasoned that Mela would make it obvious to do what Mela teaches and that Schulzrinne would make it obvious to do what Schulzrinne teaches. The Examiner did not make out any case as to why Applicants' claimed invention would have been obvious given the teachings of Mela and the disembodied teachings of Schulzrinne.

In particular, as mentioned above, the Examiner alleged the following:

> It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mela in view of Schulzrinne in order to initiate the exchange of the second media session information, and wherein the exchange of the second media session information . . . in order to enable controlled, on-demand delivery of real-time data, such as audio and video (see Schulzrinne, page 1, Abstract). (Current Office Action, pages 5 6.)

There are clear deficiencies in this reasoning. At best the Examiner merely concluded that it would have been obvious to do what Schulzrinne allegedly teaches, and to therefore somehow modify Mela to do this. The Examiner provided no rationale as to how doing so would lead to doing so in the specific context of Applicants' claimed invention or in the specific context of Mela. In other words, the Examiner provided no rationale for how the combination would lead to the second terminal *using, in response to receiving the trigger, a [third] protocol to initiate the exchange of the second media session information* between the gateway and the second terminal, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates.

In light of the above, the combination of the cited art would not reasonably or logically result in these claimed features. Thus, combining the cited references together would not have

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

reasonably resulted in the invention of claim 14, without having advanced knowledge of Applicants' claimed invention.

ii. Isomäki

The Examiner further resorts to Isomäki for the teaching of using a third protocol [for initiating the exchange of second media session information between the gateway and the second terminal]. (*See* Current Office Action, page 6.) In particular, the Examiner appeared to admit that the combination of Mela and Schulzrinne does not explicitly teach using a third protocol to initiate the exchange of the second media session information between the gateway and the second terminal. (*Id.*) The Examiner then stated "[h]owever, Isomäki teaches using a third protocol (Isomäki, column 2, lines 21-22)." (Id.) With that, the Examiner concluded "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Mela and Schulzrinne in view of Isomäki in order to enable using a third protocol. One would be motivated to do so in order to enable User Equipment (UE) basic access to network services involving any protocol, such as SIP, HTTP, and RTSP (Isomäki, column 1, lines 49-50)." (*Id.*)

However, the Applicants disagree for a number of reasons. First, Isomäki does teach in column 2, lines 21-22 that a proxy server may be used for accessing services by means of a protocol different than SIP. An example of such protocol for accessing services is HTTP. However, column 2, lines 44-53 of Isomäki teach the skilled person that the HTTP protocol of Isomäki is used by a HTTP proxy for accessing a HTTP server for the provisioning of data services from the HTTP server. This understanding is, for instance, also shown in Fig.1 of Isomäki. Following the Examiner's argumentation with respect to Mela, the second terminal is anticipated by a RTSP streaming server B10 of Mela, Figure 2. It is rather evident from, for

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HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

instance, Isomäki Figure 1 that the RTSP server 34 only communicates in RTSP and is not able to communicate in HTTP. Hence the skilled person would not learn from Isomäki to use by a RTSP server (allegedly anticipating the second terminal) the HTTP protocol as the third protocol for initiating a session involving the second terminal (RTSP server).

Second, Isomäki does not teach the RTSP server (allegedly anticipating the second terminal) to initiate any type of session at all. As such it is rather evident that the RTSP request (to initiate a RTSP session) is made from the RTSP proxy to the RTSP server, and not the other way around (*see, e.g.*, Isomäki column 2, lines 53-56).

Third, Mela teaches away from Isomäki. For instance Mela column 27, lines 36-37 explicitly states that with the SIP-MEX (protocol) there is no need for a separate streaming protocol or network proxies for streaming services. However, the whole teaching of Isomäki revolves around the use of network proxies for providing streaming services. For example, the proxy server of Isomäki contains different network proxies (see Fig. 1) which are used to enable the provisioning of data services to an end-user. The proxy server is capable of communicating with a RTSP server which teaches the skilled person is capable of delivering streaming services (the RTSP protocol is the Real Time Streaming Protocol, see Isomäki column 2, line 55; the RTSP server may deliver streaming audio and video, see Isomäki, column 9, lines 65-66). As such the skilled person, being aware of the Mela teachings, would not likely resort to Isomäki at all.

Fourth, the Mela/Schulzrinne/Isomäki combination would not reasonably or logically result in the claimed feature of "in response to receiving the trigger, the second terminal using a third protocol to initiate the exchange of the second media session information between the gateway and the second terminal, wherein the exchange of the second media session information

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sets up a second media stream in which the second terminal participates." The presently claimed invention would not have been obvious from the cited references to one of ordinary skill in the art *having no knowledge of Applicants' invention*, because none of the cited references show or suggest "in response to receiving the trigger, the second terminal using a third protocol to initiate the exchange of the second media session information between the gateway and the second terminal, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates." This claim feature is missing from each of the cited references, and it does not follow from combination of the cited references. Even if one were to modify the combination of Mela and Schulzrinne in view of Isomäki in order to enable "using a third protocol," the resulting combination still would not achieve the claimed combination of using the third protocol to—in response to receiving the trigger—initiate the exchange of the second media session information between the gateway and the second terminal.

The Mela/Schulzrinne/Isomäki combination could never result in an implementation including all claim limitations of claim 14, for at least the reason that neither the independent references nor the combination teach the use of the trigger mechanism as claimed. Mela teaches that, in one implementation, the gateway enables a SIP client to request and receive services from a RTSP media server. At best, Isomäki would additionally teach is that a network proxy according to Isomäki may be used as a separate network element (e.g. separate from the Mela gateway) to allow such a SIP client (terminal) of Mela to also request access to a distinct HTTP server as taught in Isomäki. For requesting access to such a HTTP server, the Mela gateway would no longer be used, but rather the SIP requests from the SIP terminal would have to be directed to the HTTP network proxy as taught by Isomäki, which would then connect to the HTTP server on behalf of such terminal. It is immediately evident that the HTTP network proxy

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CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

and HTTP server of Isomäki would in such hypothetical combination simply co-exist with the Mela gateway and RTSP server. Such co-existence would not cause Isomäki to contribute any teaching to the Mela teachings that would make such combination reasonably or logically result in the invention of claim 14.

In light of the above, combining the cited references together would not have reasonably resulted in the invention of claim 14, without having advanced knowledge of Applicants' claimed invention. Accordingly, Applicants submit that modifying the teachings of Mela with those of Schulzrinne and of Isomäki does not logically or reasonably lead to claim 14, and that claim 14 is therefore allowable.

Each of claims 15-16, 20, 21, and 27-29 depends from claim 14, which is allowable for at least the reasons above. Applicants submit that each of claims 15-16, 20, 21, and 27-29 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to any of claims 15-16, 20, 21, or 27-29.

b. Claims 17-19, 25, and 26

The Examiner rejected claims 17-19, 25, and 26 under 35 U.S.C. § 103(a) as being allegedly obvious over Mela in view of Schulzrinne in view of Isomäki in view of Mirtorabi. Each of claims 17-19, 25, and 26 depends from claim 14, which is allowable for at least the reasons above. Applicants submit that each of claims 17-19, 25, and 26 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to any of claims 17-19, 25, or 26.

c. Claim 22

The Examiner rejected claim 22 as being allegedly obvious over Mela in view of

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Schulzrinne in view of Isomäki in view of Alexis. Claim 22 depends from claim 14, which is allowable for at least the reasons above. Applicants submit that claim 22 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to claim 22.

d. Claims 23 and 24

The Examiner rejected claims 23 and 24 as being allegedly obvious over Mela in view of Schulzrinne in view of Isomäki in view of Guo. Each of claims 23 and 24 depends from claim 14, which is allowable for at least the reasons above. Applicants submit that each of claims 23 and 24 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to either of claims 23 or 24.

e. Claim 30

The Examiner rejected rejected claim 30 under 35 U.S.C. § 103(a) as being allegedly obvious over Mela in view of Schulzrinne. Claim 30 includes, inter alia, limitations similar to those of claim 14, which is allowable for at least the reasons above. Applicants submit that claim 30 is therefore allowable for at least the reasons that claim 1 is allowable.

f. Claims 31-33, 35, and 36

The Examiner rejected claims 31-33, 35 and 36 under 35 U.S.C. § 103(a) as being allegedly obvious over Mela in view of Isomäki and further in view of Schulzrinne. Claim 30 includes, inter alia, limitations similar to those of claim 14, which is allowable for at least the reasons above. Applicants submit that claim 30 is therefore allowable for at least the reasons that claim 1 is allowable.

Each of claims 32-33, 35 and 36 depends from claim 31, which is allowable for at least

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

the reasons above. Applicants submit that each of claims 32-33, 35 and 36 is therefore allowable for at least the reason that each depends from an allowable claim. Further, Applicants do not concede any of the Examiner's specific assertions with respect to any of claims 32-33, 35 or 36.

6. Allowable subject matter

The Examiner indicated that claim 34 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Claim 34 depends from claim 31, which is allowable for at least the reasons above. Applicants submit that claim 31 is therefore allowable for at least the reason that each depends from an allowable claim.

7. Conclusion

For the foregoing reasons, Applicants submit that claims are allowable. Therefore, Applicants request favorable reconsideration and allowance of the claims.

Applicants do not acquiesce in any assertion in the office action that is not expressly addressed by these remarks.

Should the Examiner wish to discuss this case with the undersigned, the Examiner is invited to call the undersigned at (312) 913-3350.

Respectfully submitted,

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP

Date: April 13, 2015

By: /David A. Grabelsky/
David A. Grabelsky
Reg. No. 59,208

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

Docket Number (Optional): 10-406-CON

Application Number: 14/015,765

Filed: August 30, 2013

For: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM

Art Unit: 2441

Examiner: Alicia Baturay

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	Micro Entity Fee	
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☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
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☑ attorney or agent of record. Registration number 59208.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/David A. Grabelsky/ — Signature

April 13, 2015 — Date

David A. Grabelsky — Typed or printed name

312-913-3353 — Telephone Number

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(Not for submission under 37 CFR 1.99)

Application Number	14015765
Filing Date	2013-08-30
First Named Inventor	Hans Maarten Stokking
Art Unit	2441
Examiner Name	Alicia Baturay
Attorney Docket Number	10-406-CON

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	First Named Inventor	Hans Maarten Stokking
	Art Unit	2441
	Examiner Name	Alicia Baturay
	Attorney Docket Number	10-406-CON

	1	Schulzrinne, H. et al., RFC 2326: Real Time Streaming Protocol (RTSP), April 1998, IETF.	☐
	2	ETSI, "Telecommunications and Internet Converged Services and Protocols for Advanced Networking (TISPAN); IPTV Architecture; IPTV Functions Supported by the IMS Subsystem", ETSI TS 182 027 V2.0.0 (2008), pp. 1-57.	☐
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	4	Schulzrinne, H. et al., RFC 3550: RTP: A Transport Protocol for Real-Time Applications, July 2003, IETF.	☐
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	9	Singh, K and Schulzrinne, H., "Unified Messaging using SIP and RTSP" IP Telecom ServicesWorkshop, Sept 2000, Atlanta, Georgia.	☐
	10	Wikipedia entry, "Session Initiation Protocol" 2007, at http://en.wikipedia.org/wiki/Session_Initiation_Protocol.	☐
	11	Wikipedia entry, "Session Description Protocol" 2007, at http://en.wikipedia.org/wiki/Session_Description_Protocol.	☐

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	Art Unit	2441
	Examiner Name	Alicia Baturay
	Attorney Docket Number	10-406-CON

	12	Wikipedia entry, "Real-time Transport Protocol" 2007, at http://en.wikipedia.org/wiki/Real-time Transport Protocol.	☐
	13	Wikipedia entry, "Real Time Streaming Protocol" 2007, at http://en.wikipedia.org/wiki/Real Time Streaming Protocol.	☐
	14	Ericpol Telecom, SIP-RTSP Gateway, Marketing Webpage, 2007, at http://www.ericpol.pl/index.php/en/network_migration/sip_rtsp_gateway/.	☐
	15	Ericpol i-Evolution, "Network Migration & Combinatorial Services" Marketing Whitepaper, 2004.	☐

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	Art Unit	2441
	Examiner Name	Alicia Baturay
	Attorney Docket Number	10-406-CON

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OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/David A. Grabelsky/	Date (YYYY-MM-DD)	2015-04-13
Name/Print	David A. Grabelsky	Registration Number	59,208

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	14015765
Filing Date:	30-Aug-2013
Title of Invention:	Method And System For Transmitting A Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Filer:	David A. Grabelsky
Attorney Docket Number:	10-406-CON

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 1 month with $0 paid	1251	1	200	200
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
		Total in USD ($)		**380**

Electronic Acknowledgement Receipt

EFS ID:	22046264
Application Number:	14015765
International Application Number:	
Confirmation Number:	6519
Title of Invention:	Method And System For Transmitting A Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Customer Number:	20306
Filer:	David A. Grabelsky
Filer Authorized By:	
Attorney Docket Number:	10-406-CON
Receipt Date:	13-APR-2015
Filing Date:	30-AUG-2013
Time Stamp:	16:54:37
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$380
RAM confirmation Number	3770
Deposit Account	132490
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	10-406-CON_Response_11Dec14_OA.pdf	180677 879cbfb30a6d65f6cc8ee96151ea170d6141c9a0	no	28
Warnings:					
Information:					
2	Extension of Time	10-406-CON_Petition_for_one-month_Extension_of_Time.pdf	187660 407d1a08a3f4d4758243bb2900c7f502fbdc96a0	no	2
Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Form (SB08)	10-406-CON_Information_Disclosure_Statement_13Apr15.pdf	529076 c2ad04b02383fb2e41416dcad66d7a670a4b27fa	no	5
Warnings:					
Information:					
A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.					
4	Non Patent Literature	Singh_2000.pdf	110119 b49367604188403e8abe5e50485823a26c3873f6	no	16
Warnings:					
Information:					
5	Non Patent Literature	H_248_ITU-T_2013.pdf	862363 be4537c9b3a3e32ec49769d1401d5120c2c6bcfa	no	242
Warnings:					
Information:					
6	Non Patent Literature	Ericpol_Combinational_Services_2004.pdf	1128100 cb7a1e2cffde040d3f715fd3bb1abca7f7dfcd5b	no	4
Warnings:					
Information:					
7	Non Patent Literature	3GPP_26237-800.pdf	650477 eb058be9c4aa08c40dc0862234d059ea3d43adb1	no	60

Warnings:					
Information:					
8	Non Patent Literature	Wikipedia_SIP_2007.pdf	198903 b7c6b70453856510fb5099aec6ccf5ef24819724	no	4
Warnings:					
Information:					
9	Non Patent Literature	Wikipedia_SDP_2007.pdf	111930 80c8088f097b1ecf6e0c9739d77c9f03293004ea	no	1
Warnings:					
Information:					
10	Non Patent Literature	Wikipedia_RTP.pdf	131910 cbb5475c41b335f25fd5544ea2bb0878c6891320	no	3
Warnings:					
Information:					
11	Non Patent Literature	Wikipedia_RSTP_2007.pdf	119512 5f2dd2832b11a8fecaca537297fe58a458180b57	no	3
Warnings:					
Information:					
12	Non Patent Literature	Schulzrinne_RFC3550_2003.pdf	256900 7df753f266f1aa3f45f7d94dba2a419a9bf14bb8	no	81
Warnings:					
Information:					
13	Non Patent Literature	Schulzrinne_RFC2326_1998.pdf	233152 b5c008096fd0afa5c2a26d29b5ab86b7093065f6	no	81
Warnings:					
Information:					
14	Non Patent Literature	Rosenberg_VON_1998.pdf	693322 b9e2f2922988022903feb36eabad2e7ec080679c	no	13
Warnings:					
Information:					
15	Non Patent Literature	Rosenberg_RFC3261_2002.pdf	207581 8ef412e4989141cc7f2fd93815e555a5feb3dac5	no	61
Warnings:					
Information:					
16	Non Patent Literature	Handley_RFC4566_2006.pdf	159113 [illegible]6afa	no	43

Warnings:					
Information:					
17	Non Patent Literature	Ericpol_SIP-RTSP_Gateway_2007.pdf	131497 de9a2096fb5120277c8e0892a34b41ddec13f63c	no	1
Warnings:					
Information:					
18	Non Patent Literature	ETSI_TISPAN_182-027_2008.pdf	3515623 c9913fbfd7583cbc45204b457225e930097b7cbf	no	57
Warnings:					
Information:					
19	Fee Worksheet (SB06)	fee-info.pdf	32259 c2c96fe87c60c54c4a0ac85675c76a3d68ae30ffb	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	9440174	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/015,765	Filing Date 08/30/2013	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 04/13/2015

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 23	Minus	** 23	= 0	X $80 =	0
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $420 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/LAJUAN HICKSON/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/015,765	08/30/2013	Hans Maarten Stokking	10-406-CON	6519

20306 7590 12/11/2014

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

EXAMINER	
BATURAY, ALICIA	

ART UNIT	PAPER NUMBER
2441	

MAIL DATE	DELIVERY MODE
12/11/2014	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 14/015,765	Applicant(s) STOKKING ET AL.	
	Examiner Alicia Baturay	Art Unit 2441	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 August 2013*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *14-36* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *14-33,35 and 36* is/are rejected.

8)☒ Claim(s) *34* is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *30 August 2013* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☒ All b)☐ Some** c)☐ None of the:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

DETAILED ACTION

1. The present application is being examined under the pre-AIA first to invent provisions.

2. Claims 14-36 are presented for examination.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the claims at issue are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the reference application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope

of a joint research agreement. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO internet Web site contains terminal disclaimer forms which may be used. Please visit http://www.uspto.gov/forms/. The filing date of the application will determine what form should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to http://www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

4. Claims 14-20 and 22-36 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-7 and 9-23 of U.S. Patent No. 8,549,151. Although the claims at issue are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter.

Claim Rejections - 35 USC § 103

5. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

6. Claims 14-16, 20, 21, and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mela et al. (U.S. 7,724,691) in view of Schulzrinne et al. ("RFC 2326: Real Time Streaming Protocol (RTSP)") and further in view of Isomäki et al. (U.S. 6,895,439).

7. With respect to claim 14, Mela teaches a method, wherein a gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) is capable of communicating with a first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) and a second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50), the method comprising: the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) or the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) using a first protocol (SIP – see Mela, col. 3, line 50) to exchange a first media session information (SIP is a protocol used to setup multimedia sessions – see Mela, col. 1, lines 44-45) between the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) and the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50), wherein the exchange of the first media session information sets up a first media stream from (Mela, col. 1, lines 44-54) the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50); the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) using a second protocol (RTSP – see Mela, col. 3, lines 41-43) to receive a trigger (the gateway sends message H2 – SUBSCRIBE to the media server – see Mela, col. 20, lines 43-45) provided by the gateway or first terminal, wherein the trigger is to initiate an exchange of a second media session information (a method of providing a RTSP session between a second entity (gateway) and a third entity (the second terminal) – see Mela, col. 2, lines 3-4) between the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) and the second terminal (Mela, Fig. 2, element B10; col. 3,

lines 38-50); in response to receiving the trigger (the gateway sends message H2 – SUBSCRIBE to the media server – see Mela, col. 20, lines 43-45), the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50), between the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) and the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50), sets up a second media stream (the streaming server B10 sends streaming media content via a RTSP connection B31 to a gateway B40 – see Mela, col. 3, lines 41-43) in which the second terminal participates (Mela, Fig. 2, element B10; col. 3, lines 38-50); and the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) receiving the second media stream (the streaming server B10 sends streaming media content via a RTSP connection B31 to a gateway B40 – see Mela, col. 3, lines 41-43), wherein the second media stream is associated with the first media stream (Mela, col. 2, lines 52-55).

Mela does not explicitly teach to initiate the exchange of the second media session information, and wherein the exchange of the second media session information.

However, Schulzrinne teaches to initiate the exchange of the second media session information (a session typically consists of a client setting up a transport mechanism for the continuous media stream (SETUP) – see Schulzrinne, page 8, RTSP session, lines 2-3), wherein the exchange of the second media session information (a session typically consists of a client setting up a transport mechanism for the continuous media stream (SETUP) – see Schulzrinne, page 8, RTSP session, lines 2-3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mela in view of Schulzrinne in order to initiate the exchange of the second media session information, and wherein the exchange of the second media session information.

One would be motivated to do so in order to enable controlled, on-demand delivery of real-time data, such as audio and video (see Schulzrinne, page 1, Abstract).

The combination of Mela and Schulzrinne does not explicitly teach using a third protocol. However, Isomäki teaches using a third protocol (Isomäki, col. 2, lines 21-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Mela and Schulzrinne in view of Isomäki in order to enable using a third protocol. One would be motivated to do so in order to enable User Equipment (UE) basic access to network services involving any protocol, such as SIP, HTTP, and RTSP (Isomäki, col. 1, lines 49-50).

8. With respect to claim 15, the combination of Mela, Schulzrinne, and Isomäki teaches the invention described in claim 14, including the method wherein the exchange of the first media session information comprises: the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) providing to the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) at least part of the second media session information (a session typically consists of a client setting up a transport mechanism for the continuous media stream (SETUP) – see Schulzrinne, page 8, RTSP session, lines 2-3).

9. With respect to claim 16, the combination of Mela, Schulzrinne, and Isomäki teaches the invention described in claim 14, including the method wherein the exchange of the second media session information comprises: the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) providing to the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) at least part of

the first media session information (SIP is a protocol used to setup multimedia sessions – see Mela, col. 1, lines 44-45).

10. With respect to claim 20, the combination of Mela, Schulzrinne, and Isomäki teaches the invention described in claim 14, including the method wherein the third protocol (HTTP – see Isomäki, col. 2, lines 21-22) is different from the second protocol (SIP – see Mela, col. 3, line 50).

11. With respect to claim 21, the combination of Mela, Schulzrinne, and Isomäki teaches the invention described in claim 14, including the method wherein the first multimedia stream is the second multimedia stream (Mela, col. 2, lines 52-55).

12. With respect to claim 27, the combination of Mela, Schulzrinne, and Isomäki teaches the invention described in claim 14, wherein the first protocol and the second protocol are identical (Mela, Fig. 1; col. 3, lines 32-37).

13. With respect to claim 28, the combination of Mela, Schulzrinne, and Isomäki teaches the invention described in claim 27, wherein the first protocol and the second protocol are Session Initiation Protocol (SIP) (Mela, Fig. 1; col. 3, lines 32-37).

14. With respect to claim 29, the combination of Mela, Schulzrinne, and Isomäki teaches the invention described in claim 14, including the method wherein the gateway (Mela, Fig. 2,

element B40; col. 3, lines 38-50) is configured to associate (Mela, col. 2, lines 52-55) the first multimedia session information (SIP is a protocol used to setup multimedia sessions – see Mela, col. 1, lines 44-45) and the second multimedia session information (a method of providing a RTSP session between a second entity (gateway) and a third entity (the second terminal) – see Mela, col. 2, lines 3-4).

15. Claims 17-19, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mela, Schulzrinne, Isomäki, and further in view of Mirtorabi et al. (U.S. 7,804,848).

16. With respect to claim 17, Mela teaches the invention described in claim 14, including a method, wherein a gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) is capable of communicating with a first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) and a second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50), the method comprising: the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) or the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) using a first protocol (SIP – see Mela, col. 3, line 50) to exchange a first media session information (SIP is a protocol used to setup multimedia sessions – see Mela, col. 1, lines 44-45) between the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) and the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50), wherein the exchange of the first media session information sets up a first media stream from (Mela, col. 1, lines 44-54) the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50); the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) using a second protocol (RTSP – see Mela, col. 3, lines 41-43) to receive a

trigger (the gateway sends message H2 – SUBSCRIBE to the media server – see Mela, col. 20, lines 43-45) provided by the gateway or first terminal, wherein the trigger is to initiate an exchange of a second media session information (a method of providing a RTSP session between a second entity (gateway) and a third entity (the second terminal) – see Mela, col. 2, lines 3-4) between the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) and the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50); in response to receiving the trigger (the gateway sends message H2 – SUBSCRIBE to the media server – see Mela, col. 20, lines 43-45), the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50), between the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) and the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50), sets up a second media stream (the streaming server B10 sends streaming media content via a RTSP connection B31 to a gateway B40 – see Mela, col. 3, lines 41-43) in which the second terminal participates (Mela, Fig. 2, element B10; col. 3, lines 38-50); and the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) receiving the second media stream (the streaming server B10 sends streaming media content via a RTSP connection B31 to a gateway B40 – see Mela, col. 3, lines 41-43), wherein the second media stream is associated with the first media stream (Mela, col. 2, lines 52-55).

Mela does not explicitly teach to initiate the exchange of the second media session information, and wherein the exchange of the second media session information.

However, Schulzrinne teaches to initiate the exchange of the second media session information (a session typically consists of a client setting up a transport mechanism for the continuous media stream (SETUP) – see Schulzrinne, page 8, RTSP session, lines 2-3), wherein the exchange of the second media session information (a session typically consists of a client

setting up a transport mechanism for the continuous media stream (SETUP) – see Schulzrinne, page 8, RTSP session, lines 2-3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mela in view of Schulzrinne in order to initiate the exchange of the second media session information, and wherein the exchange of the second media session information. One would be motivated to do so in order to enable controlled, on-demand delivery of real-time data, such as audio and video (see Schulzrinne, page 1, Abstract).

The combination of Mela and Schulzrinne does not explicitly teach using a third protocol.

However, Isomäki teaches using a third protocol (Isomäki, col. 2, lines 21-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Mela and Schulzrinne in view of Isomäki in order to enable using a third protocol. One would be motivated to do so in order to enable User Equipment (UE) basic access to network services involving any protocol, such as SIP, HTTP, and RTSP (Isomäki, col. 1, lines 49-50).

The combination of Mela, Schulzrinne, and Isomäki does not explicitly teach the method wherein the exchange of the first media session information comprises: the gateway receiving, from the first terminal, an identifier of the second terminal.

However, Mirtorabi teaches the method wherein the exchange of the first media session information comprises: the gateway receiving, from the first terminal, an identifier of the second terminal (Mirtorabi, col. 9, lines 13-47).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Mela, Schulzrinne, and Isomäki in view of Mirtorabi in order

to enable the method wherein the exchange of the first media session information comprises: the gateway receiving, from the first terminal, an identifier of the second terminal. One would be motivated to do so in order to set a forwarding address in an IPv6 domain at a boundary with a domain using a different routing protocol (Mirtorabi, col 2, lines 32-34).

17. With respect to claim 18, the combination of Mela, Schulzrinne, Isomäki, and Mirtorabi teaches the invention described in claim 17, including the method further comprising: before using the second protocol to provide the trigger to the second terminal, the gateway resolving the identifier of the second terminal into a network address of the second terminal (Mirtorabi, col. 9, lines 13-47).

18. With respect to claim 19, the combination of Mela, Schulzrinne, Isomäki, and Mirtorabi teaches the invention described in claim 18, including the method wherein providing the trigger (the gateway sends message H2 – SUBSCRIBE to the media server – see Mela, col. 20, lines 43-45) to the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) comprises the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) transmitting the trigger (the gateway sends message H2 – SUBSCRIBE to the media server – see Mela, col. 20, lines 43-45) to the resolved network address of the second terminal (Mirtorabi, col. 9, lines 13-47).

19. With respect to claim 25, the combination of Mela, Schulzrinne, Isomäki, and Mirtorabi teaches the invention described in claim 14, wherein the trigger comprises a network address of the gateway (Mela, col. 20, lines 28-43).

20. With respect to claim 26, the combination of Mela, Schulzrinne, Isomäki, and Mirtorabi teaches the invention described in claim 25, wherein the network address is a URI or a URI reference (Mela, col. 4, lines 1-36).

21. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mela, Schulzrinne, and Isomäki and further in view of Alexis (U.S. 2006/0128376).

22. With respect to claim 22, Mela teaches the invention described in claim 14, including a method, wherein a gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) is capable of communicating with a first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) and a second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50), the method comprising: the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) or the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) using a first protocol (SIP – see Mela, col. 3, line 50) to exchange a first media session information (SIP is a protocol used to setup multimedia sessions – see Mela, col. 1, lines 44-45) between the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) and the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50), wherein the exchange of the first media session information sets up a first media stream from (Mela, col. 1, lines 44-54) the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50); the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) using a second protocol (RTSP – see Mela, col. 3, lines 41-43) to receive a trigger (the gateway sends message H2 – SUBSCRIBE to the media server – see Mela, col. 20, lines 43-45) provided by the gateway or first terminal, wherein the trigger is to initiate an

exchange of a second media session information (a method of providing a RTSP session between a second entity (gateway) and a third entity (the second terminal) – see Mela, col. 2, lines 3-4) between the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) and the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50); in response to receiving the trigger (the gateway sends message H2 – SUBSCRIBE to the media server – see Mela, col. 20, lines 43-45), the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50), between the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) and the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50), sets up a second media stream (the streaming server B10 sends streaming media content via a RTSP connection B31 to a gateway B40 – see Mela, col. 3, lines 41-43) in which the second terminal participates (Mela, Fig. 2, element B10; col. 3, lines 38-50); and the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) receiving the second media stream (the streaming server B10 sends streaming media content via a RTSP connection B31 to a gateway B40 – see Mela, col. 3, lines 41-43), wherein the second media stream is associated with the first media stream (Mela, col. 2, lines 52-55).

Mela does not explicitly teach to initiate the exchange of the second media session information, and wherein the exchange of the second media session information.

However, Schulzrinne teaches to initiate the exchange of the second media session information (a session typically consists of a client setting up a transport mechanism for the continuous media stream (SETUP) – see Schulzrinne, page 8, RTSP session, lines 2-3), wherein the exchange of the second media session information (a session typically consists of a client setting up a transport mechanism for the continuous media stream (SETUP) – see Schulzrinne, page 8, RTSP session, lines 2-3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mela in view of Schulzrinne in order to initiate the exchange of the second media session information, and wherein the exchange of the second media session information. One would be motivated to do so in order to enable controlled, on-demand delivery of real-time data, such as audio and video (see Schulzrinne, page 1, Abstract).

The combination of Mela and Schulzrinne does not explicitly teach using a third protocol.

However, Isomäki teaches using a third protocol (Isomäki, col. 2, lines 21-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Mela and Schulzrinne in view of Isomäki in order to enable using a third protocol. One would be motivated to do so in order to enable User Equipment (UE) basic access to network services involving any protocol, such as SIP, HTTP, and RTSP (Isomäki, col. 1, lines 49-50).

The combination of Mela, Schulzrinne, and Isomäki does not explicitly teach the method wherein the trigger servers to inform the second terminal of availability of a new multimedia stream.

However, Alexis teaches the method wherein the trigger servers to inform the second terminal of availability of a new multimedia stream (Alexis, page 15, paragraph 276).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Mela, Schulzrinne, and Isomäki in view of Alexis in order to enable the method wherein the trigger servers to inform the second terminal of availability of a new multimedia stream. One would be motivated to do so in order to provide additional functionalities and capabilities for mobile telephones (Alexis, page 1, paragraph 6).

23. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mela, Schulzrinne, and Isomäki and further in view of Guo et al. (U.S. 2006/0291472).

24. With respect to claim 23, Mela teaches the invention described in claim 14, including a method, wherein a gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) is capable of communicating with a first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) and a second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50), the method comprising: the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) or the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) using a first protocol (SIP – see Mela, col. 3, line 50) to exchange a first media session information (SIP is a protocol used to setup multimedia sessions – see Mela, col. 1, lines 44-45) between the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) and the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50), wherein the exchange of the first media session information sets up a first media stream from (Mela, col. 1, lines 44-54) the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50); the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) using a second protocol (RTSP – see Mela, col. 3, lines 41-43) to receive a trigger (the gateway sends message H2 – SUBSCRIBE to the media server – see Mela, col. 20, lines 43-45) provided by the gateway or first terminal, wherein the trigger is to initiate an exchange of a second media session information (a method of providing a RTSP session between a second entity (gateway) and a third entity (the second terminal) – see Mela, col. 2, lines 3-4) between the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) and the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50); in response to receiving the trigger (the gateway sends message H2 – SUBSCRIBE to the media server – see Mela, col. 20, lines 43-45), the

second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50), between the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) and the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50), sets up a second media stream (the streaming server B10 sends streaming media content via a RTSP connection B31 to a gateway B40 – see Mela, col. 3, lines 41-43) in which the second terminal participates (Mela, Fig. 2, element B10; col. 3, lines 38-50); and the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) receiving the second media stream (the streaming server B10 sends streaming media content via a RTSP connection B31 to a gateway B40 – see Mela, col. 3, lines 41-43), wherein the second media stream is associated with the first media stream (Mela, col. 2, lines 52-55).

Mela does not explicitly teach to initiate the exchange of the second media session information, and wherein the exchange of the second media session information.

However, Schulzrinne teaches to initiate the exchange of the second media session information (a session typically consists of a client setting up a transport mechanism for the continuous media stream (SETUP) – see Schulzrinne, page 8, RTSP session, lines 2-3), wherein the exchange of the second media session information (a session typically consists of a client setting up a transport mechanism for the continuous media stream (SETUP) – see Schulzrinne, page 8, RTSP session, lines 2-3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mela in view of Schulzrinne in order to initiate the exchange of the second media session information, and wherein the exchange of the second media session information. One would be motivated to do so in order to enable controlled, on-demand delivery of real-time data, such as audio and video (see Schulzrinne, page 1, Abstract).

The combination of Mela and Schulzrinne does not explicitly teach using a third protocol.

However, Isomäki teaches using a third protocol (Isomäki, col. 2, lines 21-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Mela and Schulzrinne in view of Isomäki in order to enable using a third protocol. One would be motivated to do so in order to enable User Equipment (UE) basic access to network services involving any protocol, such as SIP, HTTP, and RTSP (Isomäki, col. 1, lines 49-50).

The combination of Mela, Schulzrinne, and Isomäki does not explicitly teach the method wherein the first protocol is a peer-to-peer protocol.

However, Guo teaches the method wherein the first protocol is a peer-to-peer protocol (Guo, pages 2 and 3, paragraph 25, lines 3 and 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Mela, Schulzrinne, and Isomäki in view of Guo in order to enable the method wherein the first protocol is a peer-to-peer protocol. One would be motivated to do so in order to obviate the need for client-side device upgrades and server-side device upgrades in order to utilize network services by rendering the companion protocol transparent to the service endpoints (Guo, pages 1-2, paragraph 16).

25. With respect to claim 24, the combination of Mela, Schulzrinne, Isomäki, and Guo teaches the invention described in claim 14, including the method wherein the third protocol is a client-server protocol, and wherein the second receiving terminal has client capabilities of the

third protocol and not server capabilities of the third protocol (Guo, pages 2 and 3, paragraph 25, lines 3 and 4).

26. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mela and further in view of Schulzrinne.

27. With respect to claim 30, Mela teaches an article of manufacture including a non-transitory computer-readable medium, having stored thereon software instructions that, if executed by a computing device, cause the computing device to perform operations comprising: using a first protocol (SIP – see Mela, col. 3, line 50) to initiate an exchange of a first media session information (SIP is a protocol used to setup multimedia sessions – see Mela, col. 1, lines 44-45) between a first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) and a gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50), wherein the exchange of the first media session information sets up a first media stream from (Mela, col. 1, lines 44-54) the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50); using a second protocol (RTSP – see Mela, col. 3, lines 41-43) to provide a trigger (the gateway sends message H2 – SUBSCRIBE to the media server – see Mela, col. 20, lines 43-45) to a second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50), wherein the trigger is to initiate an exchange of a second media session information (a method of providing a RTSP session between a second entity (gateway) and a third entity (the second terminal) – see Mela, col. 2, lines 3-4) between the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) and the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50);

using a second protocol (RTSP – see Mela, col. 3, lines 41-43), between the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) and the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50), sets up a second media stream (the streaming server B10 sends streaming media content via a RTSP connection B31 to a gateway B40 – see Mela, col. 3, lines 41-43) in which the second terminal participates (Mela, Fig. 2, element B10; col. 3, lines 38-50); and using a first protocol (SIP – see Mela, col. 3, line 50) to transmit a response to (the client receives the NOTIFY (D3) message – see Mela, col. 7, line 32) the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50), wherein the response causes the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) to begin transmission of the first media stream (the client starts streaming the movie – Mela, col. 7, lines 51-52).

Mela does not explicitly teach to conduct the exchange of the second media session information, and wherein the exchange of the second media session information.

However, Schulzrinne teaches to conduct the exchange of the second media session information (a session typically consists of a client setting up a transport mechanism for the continuous media stream (SETUP) – see Schulzrinne, page 8, RTSP session, lines 2-3), wherein the exchange of the second media session information (a session typically consists of a client setting up a transport mechanism for the continuous media stream (SETUP) – see Schulzrinne, page 8, RTSP session, lines 2-3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mela in view of Schulzrinne in order to conduct the exchange of the second media session information, and wherein the exchange of the second media session information.

One would be motivated to do so in order to enable controlled, on-demand delivery of real-time data, such as audio and video (see Schulzrinne, page 1, Abstract).

28. Claims 31-33, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mela and Isomäki and further in view of Schulzrinne.

29. With respect to claim 31, Mela teaches a gateway comprising: a communication interface; and memory that stores software instructions that, when executed by the gateway, cause the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) to: (i) exchange first multimedia session information (SIP is a protocol used to setup multimedia sessions – see Mela, col. 1, lines 44-45) with a first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) using a first protocol (SIP – see Mela, col. 3, line 50) wherein the exchange of the first media session information sets up a first media stream for (Mela, col. 1, lines 44-54) the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50), (ii) provide a trigger (the gateway sends message H2 – SUBSCRIBE to the media server – see Mela, col. 20, lines 43-45) to a second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50), wherein the trigger is provided using a second protocol (RTSP – see Mela, col. 3, lines 41-43), in response to which the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) is able to initiate the exchange of second multimedia session information (a method of providing a RTSP session between a second entity (gateway) and a third entity (the second terminal) – see Mela, col. 2, lines 3-4) with the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50), and (iii) exchange second multimedia session information (a

method of providing a RTSP session between a second entity (gateway) and a third entity (the second terminal) – see Mela, col. 2, lines 3-4) with the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50), and is different from the first protocol (SIP – see Mela, col. 3, line 50), and sets up a second media stream (the streaming server B10 sends streaming media content via a RTSP connection B31 to a gateway B40 – see Mela, col. 3, lines 41-43) in which the second terminal participates (Mela, Fig. 2, element B10; col. 3, lines 38-50).

Mela does not explicitly teach using a third protocol.

However, Isomäki teaches using a third protocol (Isomäki, col. 2, lines 21-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mela in view of Isomäki in order to enable using a third protocol. One would be motivated to do so in order to enable User Equipment (UE) basic access to network services involving any protocol, such as SIP, HTTP, and RTSP (Isomäki, col. 1, lines 49-50).

The combination of Mela and Isomäki does not explicitly teach wherein the exchange of the second media session information.

However, Schulzrinne teaches wherein the exchange of the second media session information (a session typically consists of a client setting up a transport mechanism for the continuous media stream (SETUP) – see Schulzrinne, page 8, RTSP session, lines 2-3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Mela and Isomäki in view of Schulzrinne in order to enable wherein the exchange of the second media session information sets up a second media stream. One would be motivated to do so in order to enable controlled, on-demand delivery of real-time data, such as audio and video (see Schulzrinne, page 1, Abstract).

30. With respect to claim 32, the combination of Mela, Isomäki, and Schulzrinne teaches the invention described in claim 31, including the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) wherein the gateway is configured to connect to a first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) supporting a first protocol (SIP – see Mela, col. 3, line 50) and to a second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) supporting a second protocol (RTSP – see Mela, col. 3, lines 41-43), wherein the first protocol is Session Initiation Protocol (SIP) (SIP – see Mela, col. 3, line 50) and the second protocol is Real Time Streaming Protocol (RTSP) (RTSP – see Mela, col. 3, lines 41-43), wherein the first terminal is an originating SIP client of a user at a user side (Mela, Fig. 2, element B20; col. 3, lines 38-50), wherein the gateway acts as a terminating SIP client, wherein the gateway is configured to confirm that the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) is able to receive a multimedia session from the user and to provide the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50) with multimedia session information (the client starts streaming the movie – Mela, col. 7, lines 51-52), wherein the second terminal is an RTSP client (Mela, Fig. 2, element B10; col. 3, lines 38-50), wherein the gateway acts as an RTSP server on behalf of the user (Mela, Fig. 2, element B40; col. 3, lines 38-50), wherein the second terminal uses RTSP for session control (RTSP is a standard protocol for controlling multimedia streaming on Internet – see Mela, col. 1, lines 32-33), and wherein the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) is configured to inform the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) that an incoming session is pending and notify the RTSP client to connect to an RTSP server function of the gateway (Mela, col. 3, lines 38-50).

31. With respect to claim 33, the combination of Mela, Isomäki, and Schulzrinne teaches the invention described in claim 31, including the gateway wherein the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) is configured to transmit a notification message to (Mela, col. 3, lines 38-50) the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) in response to an invitation of (Mela, col. 3, lines 38-50) the first terminal (Mela, Fig. 2, element B20; col. 3, lines 38-50), in order to activate the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) to set up the second multimedia session (Mela, col. 3, lines 38-50) between the second terminal (Mela, Fig. 2, element B10; col. 3, lines 38-50) and the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50).

32. With respect to claim 35, the combination of Mela, Isomäki, and Schulzrinne teaches the invention described in claim 31, including the gateway wherein the gateway (Mela, Fig. 2, element B40; col. 3, lines 38-50) is further configured to associate the first multimedia session (SIP is a protocol used to setup multimedia sessions – see Mela, col. 1, lines 44-45) and the second multimedia session information (a method of providing a RTSP session between a second entity (gateway) and a third entity (the second terminal) – see Mela, col. 2, lines 3-4) with each other (Mela, col. 2, lines 52-55).

33. With respect to claim 36, the combination of Mela, Isomäki, and Schulzrinne teaches the invention described in claim 31, including the gateway wherein the gateway further comprises Session Initiation Protocol (SIP) client functionality and Real Time Streaming Protocol (RTSP) server functionality (Mela, Fig. 2, element B40; col. 3, lines 38-50).

Allowable Subject Matter – Dependent Claim

34. Claim 34 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Baturay whose telephone number is (571) 272-3981. The examiner can normally be reached at 7am - 4:30pm, Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571) 272-7493. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Alicia Baturay/
Primary Examiner, Art Unit 2441

December 8, 2014

Notice of References Cited	Application/Control No. 14/015,765	Applicant(s)/Patent Under Reexamination STOKKING ET AL.	
	Examiner Alicia Baturay	Art Unit 2441	Page 1 of 1

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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,895,439	05-2005	Isomaki et al.	709/229
*	B	US-7,724,691	05-2010	Mela et al.	370/261
*	C	US-7,804,848	09-2010	Mirtorabi et al.	370/466
*	D	US-2006/0128376	06-2006	Alexis, Glenroy J.	455/426.1
*	E	US-2006/0291472	12-2006	Guo et al.	370/395.5
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
*	U	Schulzrinne, H. et al., RFC 2326: Real Time Streaming Protocol (RTSP), April 1998, IETF, Pages 1-92.
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	31	("20090190603" | "20090217337" | "8027353" | "20060128376" | "20050135366" | "20090100147" | "20090307307" | "7286521" | "7804848" | "20080092178" | "20090180484" | "20090193469" | "7716310" | "8032589" | "20100005177" | "20100005501" | "7804848" | "20070177616" | "6895439" | "7043528" | "20060291472" | "20090235317" | "7792025" | "8046479" | "6895439" | "20060128376" | "7231658" | "7440440" | "7724691" | "7953867" | "7724691" | "20060291472" | "20070025301" | "20090313376" | "20110209188" | "7643411").PN.	US-PGPUB; USPAT	OR	OFF	2014/12/09 09:54
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S2	1	("20060291472").PN.	US-PGPUB	OR	OFF	2012/04/02 15:03
S3	198	(Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)	US-PGPUB; USPAT	OR	OFF	2012/04/02 15:37
S4	49	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal)	US-PGPUB; USPAT	OR	OFF	2012/04/02 15:37
S5	10	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2012/04/02 15:37
S6	8	709/220.ccls. and (RTSP and SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/02 15:42
S7	4	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/02 15:55
S8	530	@ad<"20071221" and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 10:27
S9	47	@ad<"20071221" and (RTSP and SIP and gateway and IPTV)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 10:27
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S13	715	@ad<"20071221" and (RTSP same SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:39
S14	168	@ad<"20071221" and (RTSP same SIP same (gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:40
S15	2	@ad<"20071221" and (RTSP same SIP same (gateway or proxy) same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:40
S16	36	@ad<"20071221" and (RTSP same SIP same (gateway or proxy) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 12:41
S17	789	(first adj protocol) and (second adj protocol) and (third adj protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:10
S18	615	@ad<"20071221" and (first adj protocol) and (second adj protocol) and (third adj protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:11
S19	0	@ad<"20071221" and ((first adj protocol) and (second adj protocol) and (third adj protocol) and SIP and RSTP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:11
S20	72	@ad<"20071221" and ((first adj protocol) and (second adj protocol) and (third adj protocol) and trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:11
S21	26	SIP same RTSP same SMS	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:35
S22	62	709/227.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT;	OR	OFF	2012/04/03 13:37

			EPO; JPO; DERWENT; IBM_TDB			
S23	18	709/227.ccls. and (RTSP same SIP same (gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:39
S24	3	@ad<"20071221" and (RTSP same SIP same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/03 13:43
S25	33	@ad<"20071221" and (RTSP and SIP and gateway and ((peer adj peer) or P2P))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:39
S26	64	@ad<"20071221" and (((peer adj peer) or P2P) same (bi adj directional))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:40
S27	2	@ad<"20071221" and (((peer adj peer) or P2P) same (bi adj directional) same stream)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:40
S28	0	("2005/0135366").URPN.	USPAT	OR	OFF	2012/04/04 13:41
S29	12332	@ad<"20071221" and (interactive adj (television or TV))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:48
S30	140	@ad<"20071221" and ((interactive adj (television or TV)) same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:48
S31	4	@ad<"20071221" and ((interactive adj (television or TV)) same trigger same (bi adj directional))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 13:49
S32	328	@ad<"20071221" and ((interactive adj (television or TV)) same gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 14:58
S33	0	@ad<"20071221" and ((interactive adj (television or TV)) same gateway same resolv$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 14:59
S34	49	@ad<"20071221" and ((interactive adj (television or TV)) same gateway and resolv$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 14:59

S35	125	@ad<"20071221" and (gateway same resolv$5 same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:00
S36	15	@ad<"20071221" and (gateway same resolv$5 same (identifier or ID) same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:00
S37	21	@ad<"20071221" and (gateway same resolv$5 same (identifier or ID) same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:02
S38	6784	@ad<"20071221" and ((bi adj directional) same buffer$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:23
S39	711	@ad<"20071221" and ((bi adj directional) same buffer$3 same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:23
S40	8	@ad<"20071221" and ((bi adj directional) same buffer$3 same (gateway or proxy) same first same second)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:24
S41	43	@ad<"20071221" and (("RTSP TEARDOWN") same server)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:36
S42	0	@ad<"20071221" and (("RTSP TEARDOWN") same peer)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:40
S43	0	@ad<"20071221" and (("RTSP TEARDOWN") same p2p)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/04/04 15:40
S44	7	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:27
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S46	3	@ad<"20071221" and (RTSP same SIP same trigger)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:27
S47	126	@ad<"20071221" and (RTSP same SIP	US-PGPUB;	OR	OFF	2012/10/11

		and trigger)	USPAT; EPO; JPO; DERWENT; IBM_TDB			14:27
S48	745	@ad<"20071221" and (RTSP same SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:35
S49	315	@ad<"20071221" and (RTSP same SIP same (server or gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 14:35
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S51	90	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:33
S52	44	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy) same session)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:33
S53	27	@ad<"20071221" and ((RTSP adj (client or user or terminal or endpoint or end-point or "end point")) same (server or gateway or proxy) same session same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:33
S54	10	@ad<"20071221" and ((RTSP adj (server)) same (gateway or proxy) same session same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:35
S55	4	@ad<"20071221" and ((RTSP adj (server)) same (gateway or proxy) same (session adj initiation) same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:51
S56	2	@ad<"20071221" and ((RTSP adj (server)) same (gateway or proxy) same (session adj information) same protocol)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2012/10/11 15:51
S57	22	709/220.ccls. and (RTSP and SIP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/06/03 11:06
S58	12	709/220.ccls. and (RTSP and SIP and gateway)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/06/03 11:06

S59	19	((Stokking.in.) or ((Van adj Deventer).in.) or (Walraven.in.) or (Niamut.in.)) and (terminal).clm.	US-PGPUB; USPAT	OR	OFF	2013/06/03 11:09
S64	1	"20140040350".pn.	US-PGPUB	OR	OFF	2014/12/08 15:02
S65	1	"8549151".pn.	USPAT	OR	OFF	2014/12/08 15:07

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S60	190	((first adj protocol) and (second adj protocol) and (third adj protocol)).clm.	USPAT; UPAD	OR	OFF	2013/06/03 11:07
S61	0	((first adj protocol) and (second adj protocol) and (third adj protocol) and (RTSP adj (server))).clm.	USPAT; UPAD	OR	OFF	2013/06/03 11:07
S62	25	((first adj protocol) and (second adj protocol) and (third adj protocol) and (gateway or proxy)).clm.	USPAT; UPAD	OR	OFF	2013/06/03 11:07
S63	8	((first adj protocol) same (second adj protocol) same (third adj protocol) same (gateway or proxy)).clm.	USPAT; UPAD	OR	OFF	2013/06/03 11:08

12/9/2014 9:57:56 AM
C:\Users\abaturay\Alicia's Documents\EAST Searches\14015765-TransmittingAMultimediaStreamCON.wsp

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14015765	STOKKING ET AL.
	Examiner	Art Unit
	ALICIA BATURAY	2441

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
709	227	12/09/2014	AB

SEARCH NOTES		
Search Notes	Date	Examiner
Searched EAST (US-PGPUB, USPAT, EPO, JPO, DERWENT, IBM_TDB)	12/08/2014	AB
Conducted Inventor Name Search	12/08/2014	AB
Conducted Class/Subclass Search	12/08/2014	AB

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

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CONFIRMATION NO. 6519

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14/015,765	08/30/2013	709	2441	10-406-CON

APPLICANTS

Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO, Delft, NETHERLANDS, Assignee (with 37 CFR 1.172 Interest);
Koninkijke KPN N.V., The Hague, NETHERLANDS, Assignee (with 37 CFR 1.172 Interest);

INVENTORS

Hans Maarten Stokking, The Hague, NETHERLANDS;
Mattijs Oskar Van Deventer, Leidschendam, NETHERLANDS;
Fabian Arthur Walraven, Groningen, NETHERLANDS;
Omar Aziz Niamut, Vlaardingen, NETHERLANDS;

**** CONTINUING DATA ***************************

This application is a CON of 12/808,665 06/16/2010 PAT 8549151
which is a 371 of PCT/EP08/11014 12/22/2008
which claims benefit of 61/008,644 12/21/2007

**** FOREIGN APPLICATIONS ***************************

EUROPEAN PATENT OFFICE (EPO) 08002517.4 02/12/2008

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ****

09/17/2013

Foreign Priority claimed ☑ Yes ☐ No 35 USC 119(a-d) conditions met ☑ Yes ☐ No Verified and Acknowledged /ALICIA BATURAY/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		NETHERLANDS	9	23	3

ADDRESS

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606
UNITED STATES

TITLE

Method And System For Transmitting A Multimedia Stream

FILING FEE RECEIVED		
1840	FEES: Authority has been given in Paper No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14015765	STOKKING ET AL.
	Examiner	**Art Unit**
	ALICIA BATURAY	2441

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	12/08/2014								
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	35	✓								
	36	✓								

PTO/SB/08a (01-10)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	13/730,024
Filing Date	2013-08-30
First Named Inventor	Hans Maarten Stokking
Art Unit	2441
Examiner Name	~~TBD~~ Alicia Baturay
Attorney Docket Number	10-406-CON

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7043528	B2	2006-05-09	Schmitt et al.	
	2	7231658	B2	2007-06-12	Kunito et al.	
	3	7286521	B1	2007-10-23	Jackson et al.	
	4	7440440	B1	2008-10-21	Abichandani et al.	
	5	7643411	B2	2010-01-05	Andreasen et al.	
	6	7716310	B2	2010-05-11	Foti	
	7	7792025	B2	2010-09-07	Segel et al.	
	8	7953867	B1	2011-05-31	Andreasen	

/Alicia Baturay/ 12/08/2014

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.B./

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/730,024
	Filing Date	2013-08-30
	First Named Inventor	Hans Maarten Stokking
	Art Unit	2441
	Examiner Name	~~TBD~~ Alicia Baturay
	Attorney Docket Number	10-406-CON

	9	8032589	B2	2011-10-04	Foti	
	10	8046479	B2	2011-10-25	Einarsson et al.	
	11	6895439	B2	2005-05-17	Isomaki et al.	
	12	7724691	B2	2010-05-25	Mela et al.	
	13	7804848	B2	2010-09-28	Mirtorabi et al.	
	14	8027353	B2	2011-09-27	Damola et al.	

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Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20070025301	A1	2007-02-01	Petersson et al.	
	2	20070177616	A1	2007-08-02	Jabri et al.	
	3	20080092178	A1	2008-04-17	McNamara et al.	

/Alicia Baturay/ 12/08/2014

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	First Named Inventor	Hans Maarten Stokking
	Art Unit	2441
	Examiner Name	~~TBD~~ Alicia Baturay
	Attorney Docket Number	10-406-CON

	4	20090100147	A1	2009-04-16	Igarashi	
	5	20090180484	A1	2009-07-16	Igarashi	
	6	20090190603	A1	2009-07-30	Damola et al.	
	7	20090193469	A1	2009-07-30	Igarashi	
	8	20090217337	A1	2009-08-27	Aström	
	9	20090235317	A1	2009-09-17	Igarashi	
	10	20090307307	A1	2009-12-10	Igarashi	
	11	20090313376	A1	2009-12-17	Cedervall et al.	
	12	20100005177	A1	2010-01-07	Cagenius	
	13	20100005501	A1	2010-01-07	Stokking et al.	
	14	20110209188	A1	2011-08-25	Petersson et al.	

/Alicia Baturay/
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	First Named Inventor	Hans Maarten Stokking
	Art Unit	2441
	Examiner Name	~~TBD~~ Alicia Baturay
	Attorney Docket Number	10-406-CON

	15	20060291472	A1	2006-12-28	Guo et al.	
	16	20050135366	A1	2005-06-23	Trappeniers et al.	
	17	20060128376	A1	2006-06-15	Alexis	

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Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2007140812	WO		2007-12-13	Telefonaktiebolaget LM Ericsson		☐
	2	1890463	EP		2008-02-20	Converse, Ltd.		☐

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NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	Schulzrinne, H. et al., RFC 2326: Real Time Streaming Protocol (RTSP), April 1998, IETF, Pages 1-92.	☐
	2	International Search Report and Written Opinion, PCT International Application NO. PCT/EP2008/011014 dated December 22, 2008.	☐

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	Examiner Name	~~TBD~~ Alicia Baturay
	Attorney Docket Number	10-406-CON

	3	European Extended Search Report, European Patent Application No. 08002517.4 dated July 4, 2008.	☐
	4	Fresa, A. et al., "A Testbed for Experimentation of Innovative Services in the B3G Framework", Testbeds and Research Infrastructures for the Development of Networks and Communities, February 23-25, 2005, pp. 110-119.	☐
	5	Whitehead, S. et al., "An Evaluation of Session Initiation Protocol (SIP) for Use in Streaming Media Applications", Standard-Working-Draft, Internet Engineering Task Force, IETF, No. 2, October 22, 2006, whole document.	☐
	6	Friedrich, O. et al., "Next Generation IPTV Services for an Extended IMS Architecture", Autonomous Decentralized Systems, 2007, Eight International Symposium on IEEE, March 1, 2007, 6 pages.	☐
	7	Takei, Kentaro et al., "Design of Gateway System Between Different Signaling Protocols of the Multimedia Session on the Internet", Information Networking, 2001, Proceedings 15th International Conference, pp. 297-302.	☐
	8	Singh, K. et al., "Interworking Between SIP/SDP and H.323", Internet Engineering Task Force Internet Draft, January 2000, pp. 1-39.	☐
	9	Khan, S. et al., "Experiences with Blending HTTP, RTSP, and IMS", IEEE Communications Magazine IEEE USA, Vol. 45, No. 3, March 2007, pp. 122-128.	☐
	10	Bodzinga, Anne et al., "Interworking IPTV Services with IMS", Telecommunications Network Strategy and Planning Symposium, November 2006, pp. 1-5.	☐
	11	Anonymous, "MoFu IVAS Interactive Video Applicatino Server", Whitepaper, Mobilfuture, [Online], December 2006, pp. 1-21, http://mobilfuture.kei.pl/files/MoFu_IVAS_whitepaper_v1.0.pdf.	☐
	12	Weldon, "IMS and IPTV, Perfect Together", Internet Citation [online], January 17, 2006, http://ipcommunications.tmcnet.com/hot-topics/ims/articles/280-ims-iptv-perfect-together.htm, pp. 1-4.	☐
	13	Singh, Kundan et al., "Interworking Between SIP/SDP and H.323", IP Telecom Services Workshop, September 2000, whole document.	☐

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EFS Web 2.1.17

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	Attorney Docket Number	10-406-CON

	14	Burger, E., "A Mechanism for Content Indirection in Session Initiation Protocol (SIP) Messages", Network Working Group, Request for Comments 4483, www.rfc-editor.org/rfc/rfc4483.txt, May 2006.	☐
	15	Schulzrinne, H. et al., "Real Time Streaming Protocol 2.0 (RTSP)", MMUSIC Working Group, Internet-Draft, November 19, 2007, draft-ietf-mmusic-rfc2326bis-16.txt.	☐
	16	ETSI, "Telecommunications and Internet Converged Services and Protocols for Advanced Networking (TISPAN); IPTV Architecture; IPTV Functions Supported by the IMS Subsystem", ETSI TS 182 027 V2.0.0 (2008), pp. 1-57.	☐

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EXAMINER SIGNATURE

Examiner Signature	/Alicia Baturay/	Date Considered	12/08/2014

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/015,765	08/30/2013	Hans Maarten Stokking	10-406-CON

CONFIRMATION NO. 6519

PUBLICATION NOTICE

20306
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

OC000000066486100

Title: Method And System For Transmitting A Multimedia Stream

Publication No.US-2014-0040350-A1
Publication Date:02/06/2014

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Case No. 10-406-CON)

In the Application of:	)	
	)	
Hans Maarten Stokking et al.	)	
	)	**Examiner: TBD**
Serial No.: 14/015,765	)	
	)	**Group Art Unit: 2447**
Filing Date: August 30, 2013	)	
	)	**Confirmation No.: 6519**
For: Method and System for Transmitting a Multimedia Stream	)	

COMMENT REGARDING RESUBMISSION OF SECOND REQUEST FOR CORRECTED FILING RECEIPT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attention: Application Processing Division
Customer Correction Branch

Dear Sir:

On December 11, 2013, Applicant filed a Second Request for Corrected Filing Receipt. The documents as filed via EFS-Web included (i) the Second Request for Corrected Filing Receipt (2 pages) and (ii) a copy of the filing receipt for which Applicant is requesting correction. Upon review of the filing documents as show on the USPTO's Patent Application Information Retrieval (PAIR) website, Applicant noted that only the first page (of two pages) of the Second Request for Corrected Filing Receipt is shown on PAIR.

In an abundance of caution, Applicant is re-submitting the Second Request to Correct Filing Receipt in order to ensure that the USPTO receives each page of the Second Request for Corrected Filing Receipt (i.e., pages 1-2 of the Second Request for Corrected Filing Receipt filed December 11, 2013).

Should the Examiner wish to discuss this case with the undersigned, the Examiner is invited to call the undersigned at (312) 913-3350.

Respectfully submitted,

Date: December 12, 2013

By: /Scott M. Miller/
Scott M. Miller
Registration No. 62,967

McDonnell Boehnen Hulbert & Berghoff LLP
300 South Wacker Drive, 32nd Floor
Chicago, IL 60606
(312)913-0001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Case No. 10-406-CON)

In the Application of:	)	
	)	
Hans Maarten Stokking et al.	)	
	)	**Examiner: TBD**
Serial No.: 14/015,765	)	
	)	**Group Art Unit: 2447**
Filing Date: August 30, 2013	)	
	)	**Confirmation No.: 6519**
For: Method and System for Transmitting a Multimedia Stream	)	

SECOND REQUEST FOR CORRECTED FILING RECEIPT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attention: Application Processing Division
Customer Correction Branch

Dear Sir:

1. Attached is a copy of the official updated filing receipt received from the PTO in the above-referenced application which issuance of a corrected filing receipt is respectfully requested.
2. There is an error with respect to the following data, which is incorrectly entered.

Error In:

Applicant(s):

NEDERLANDSE ORGANISATIE VOOR TOEGEPAST-NATUURWETENSCHAPPELIJK ONDERZOEK TNO, Delft, NL
KONINKLIJKE KPN N.V., The Hague, NL

Correct Data:

Applicant(s):

KONINKLIJKE KPN N.V., The Hague, NL
NEDERLANDSE ORGANISATIE VOOR TOEGEPAST-NATUURWETENSCHAPPELIJK ONDERZOEK TNO, Delft, NL

McDonnell Boehnen Hulbert & Berghoff LLP
300 South Wacker Drive, 32nd Floor
Chicago, IL 60606
(312)913-0001

3. As indicated above, the correct order of the Applicants is (i) KONINKLIJKE KPN N.V., The Hague, NL followed by (ii) NEDERLANDSE ORGANISATIE VOOR TOEGEPAST-NATUURWETENSCHAPPELIJK ONDERZOEK TNO, Delft, NL. The Application Data Sheet submitted on August 30, 2013 and the Request for Corrected Filing Receipt submitted on October 10, 2013 correctly reflect this information.
4. No fee is believed due at this time. However, if a fee is due the Commissioner is authorized to charge our Deposit Account 13-2490.

Respectfully submitted,

Date: December 12, 2013

By: /Scott M. Miller/
Scott M. Miller
Registration No. 62,967

Samsung Ex. 1012, Page 522 of 691

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/015,765	08/30/2013	2447	1840	10-406-CON	23	3

CONFIRMATION NO. 6519

UPDATED FILING RECEIPT

20306
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

OC000000064280326

Date Mailed: 10/28/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Hans Maarten Stokking, The Hague, NETHERLANDS;
Mattijs Oskar Van Deventer, Leidschendam, NETHERLANDS;
Fabian Arthur Walraven, Groningen, NETHERLANDS;
Omar Aziz Niamut, Vlaardingen, NETHERLANDS;

Applicant(s) Koninklijke KPN N.V., The Hague, NETHERLANDS
Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO, Delft, NETHERLANDS
Koninklijke KPN N.V., The Hague, NETHERLANDS

Assignment For Published Patent Application

Koninkijke KPN N.V., The Hague, NETHERLANDS
Nederlandse Organisatie Voor Toegepast-Natuurwetenschappelijk Onderzoek TNO, Delft, NETHERLANDS

Power of Attorney: The patent practitioners associated with Customer Number 20306

Domestic Priority data as claimed by applicant

This application is a CON of 12/808,665 06/16/2010 PAT 8549151
which is a 371 of PCT/EP08/11014 12/22/2008
which claims benefit of 61/008,644 12/21/2007

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)
EUROPEAN PATENT OFFICE (EPO) 08002517.4 02/12/2008

Request to Retrieve - This application either claims priority to one or more applications filed in an intellectual property Office that participates in the Priority Document Exchange (PDX) program or contains a proper **Request to Retrieve Electronic Priority Application(s)** (PTO/SB/38 or its equivalent). Consequently, the USPTO will attempt to electronically retrieve these priority documents.

If Required, Foreign Filing License Granted: 09/17/2013

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/015,765**

Projected Publication Date: 02/06/2014

Non-Publication Request: No

Early Publication Request: No

Title

Method And System For Transmitting A Multimedia Stream

Preliminary Class

709

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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EFS ID:	17645381
Application Number:	14015765
International Application Number:	
Confirmation Number:	6519
Title of Invention:	Method And System For Transmitting A Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Customer Number:	20306
Filer:	Scott Michael Miller
Filer Authorized By:	
Attorney Docket Number:	10-406-CON
Receipt Date:	12-DEC-2013
Filing Date:	30-AUG-2013
Time Stamp:	16:51:39
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	10_406_CON_Comments.pdf	68506 cbe1e250dd64d1ec525963e82c42e3e76ff9f692	no	1

Warnings:	
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2	Request for Corrected Filing Receipt	10_406_CON_Second_Request_Correct_Filing_Receipt.pdf	80630 b98883baffebc002436640fb652a9a0006e01f68	no	2
Warnings:					
Information:					
3	Request for Corrected Filing Receipt	10_406_CON_Updated_Filing_Receipt_Corrected.pdf	192519 230c2e1dee18bed16a4d7396bc1a8b68ec4e47eb	no	4
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New Applications Under 35 U.S.C. 111

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National Stage of an International Application under 35 U.S.C. 371

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New International Application Filed with the USPTO as a Receiving Office

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Case No. 10-406-CON)

In the Application of:	)	
	)	
Hans Maarten Stokking et al.	)	
	)	**Examiner: TBD**
Serial No.: 14/015,765	)	
	)	**Group Art Unit: 6519**
Filing Date: August 30, 2013	)	
	)	**Confirmation No.: 1864**
For: Method and System for Transmitting a Multimedia Stream	)	

SECOND REQUEST FOR CORRECTED FILING RECEIPT

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
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CONFIRMATION NO. 6519

UPDATED FILING RECEIPT

20306
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Inventor(s)

Hans Maarten Stokking, The Hague, NETHERLANDS;
Mattijs Oskar Van Deventer, Leidschendam, NETHERLANDS;
Fabian Arthur Walraven, Groningen, NETHERLANDS;
Omar Aziz Niamut, Vlaardingen, NETHERLANDS;

Applicant(s) Koninklijke KPN N.V., The Hague, NETHERLANDS
Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO, Delft, NETHERLANDS
Koninklijke KPN N.V., The Hague, NETHERLANDS

Assignment For Published Patent Application

Koninkijke KPN N.V., The Hague, NETHERLANDS
Nederlandse Organisatie Voor Toegepast-Natuurwetenschappelijk Onderzoek TNO, Delft, NETHERLANDS

Power of Attorney: The patent practitioners associated with Customer Number 20306

Domestic Priority data as claimed by applicant

This application is a CON of 12/808,665 06/16/2010 PAT 8549151
which is a 371 of PCT/EP08/11014 12/22/2008
which claims benefit of 61/008,644 12/21/2007

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)
EUROPEAN PATENT OFFICE (EPO) 08002517.4 02/12/2008

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The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/015,765**

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Non-Publication Request: No

Early Publication Request: No

Title

Method And System For Transmitting A Multimedia Stream

Preliminary Class

709

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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Electronic Acknowledgement Receipt

EFS ID:	17630396
Application Number:	14015765
International Application Number:	
Confirmation Number:	6519
Title of Invention:	Method And System For Transmitting A Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Customer Number:	20306
Filer:	Scott Michael Miller
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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Corrected Filing Receipt	10_406_CON_Second_Request_Correct_Filing_Receipt.pdf	70504 573de15d409c68cd132abe7bfb25d41da2e72aee	no	1

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2	Request for Corrected Filing Receipt	10_406_CON_Updated_Filing_Receipt_Corrected.pdf	192519 230c2e1dee18bed16a4d7396bc1a8b68ec4e47eb	no	4

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Patentanmeldung Nr.	**Patent application No.**	**Demande de brevet n°**
	08002517.4 / EP08002517	

The organization code and number of your priority application, to be used for filing abroad under the Paris Convention, is EP08002517.

Der Präsident des Europäischen Patentamts;
Im Auftrag

For the President of the European Patent Office

Le President de l'Office européen des brevets
p.o.

R.C. van Dijk

Anmeldung Nr:
Application no.: 08002517.4
Demande no :

Anmeldetag:
Date of filing: 12.02.08
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Anmelder / Applicant(s) / Demandeur(s):

Koninklijke KPN N.V.
Maanplein 55
2516 CK The Hague/NL

Nederlandse Organisatie voor
Toegepast-Natuurwetenschappelijk Onderzoek TNO
Schoemakerstraat 97
2628 VK Delft/NL

Bezeichnung der Erfindung / Title of the invention / Titre de l'invention:
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Method and system for transmitting a multimedia stream

In Anspruch genommene Priorität(en) / Priority(Priorities) claimed / Priorité(s) revendiquée(s)
Staat/Tag/Aktenzeichen / State/Date/File no. / Pays/Date/Numéro de dépôt:

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H04L29/06

Am Anmeldetag benannte Vertragstaaten / Contracting States designated at date of filing / Etats contractants désignées lors du dépôt:

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Method and system for transmitting a multimedia stream

Field of the invention

The invention relates to a method and a system for transmitting a multimedia stream from a first end-terminal to a second-end terminal. In particular, the invention relates to a method and system for transmitting a multimedia stream from a first end-terminal to a second-end terminal in a multimedia session which is set up by the first end-terminal. The invention further relates to a gateway for use in such system.

Background of the invention

IP Multi-Media Subsystem (IMS) defined by the 3GPP and 3GPP2 standards open the door to a whole range of new multimedia services, such as Voice over IP (VoIP) and IPTV. The IMS service architecture enables to combine multimedia services of various types.

One type of services may enable viewers at home to participate real-time in a live TV show using e.g. a webcam at home. The multimedia streams generated by the webcam are transported from the home-located user over an IP network to the TV studio using the Real-time Transport Protocol (RTP). In an IMS based architecture such multimedia sessions between clients are set up using the Session Initiation Protocol (SIP), whereas the Real Time Streaming Protocol (RTSP) is typically used for streaming multimedia content from a server to a client.

Systems that provide an interface between SIP and RTSP systems, usually referred to as SIP-RTSP gateways, are known. Within ETSI TISPAN Standardisation (WI2048, TS 182 027) an architecture is proposed in which an end-terminal, e.g. a set-top box, a personal computer, a personal digital assistant (PDA) or a mobile telephone with multi-media capabilities, can use SIP to set up a multimedia session with a selected content provider. After establishment of the session, RTSP is used to select, retrieve and control the streamed content. Further,

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the University of Colombia (Kundan Singh and Henning Schulzrinne, "Unified Messaging using SIP and RTSP", IP Telecom Services Workshop, Sept 2000, Atlanta, Georgia, US) has developed a SIP-RTSP Gateway for multimedia unified messaging.

These systems use SIP and RTSP clients at the user side and SIP and RTSP servers in the network thereby enabling a user to set up a multimedia session in which multimedia content is streamed to the user.

One problem related to these known systems is that they do not provide the functionality needed for the above mentioned services, which require the user to set up a multimedia session such that user-generated content is streamed from the user to the studio. Further, some applications may require the user to have RTSP server functionality.

Summary of the invention

It is an object of the invention to reduce or eliminate at least one of the drawbacks known in the prior art and to provide a method and system for transmitting a multimedia stream from a first end-terminal to a second end-terminal.

In one embodiment of the invention a first end-terminal is connected to a second end-terminal. Further, the first and second end-terminal are connected to at least one gateway for enabling the multimedia stream to be transmitted from the first end- terminal to the second end-terminal. The method comprises the steps of: (i) the first end-terminal inviting the gateway to set up a first multimedia session between the first end-terminal and the gateway, the first multimedia session being controlled by a first protocol; (ii) the gateway notifying - in response to the invitation - the second end-terminal of the pending invitation; (iii) the second end-terminal setting up - in response to the notification - a second multimedia session between the second end-terminal and the gateway, the second multimedia session

being controlled by a second protocol; (iv) the gateway setting up - in response to the invitation - the first multimedia session; and (v) transmitting a multimedia stream from the first end-terminal to the second end-terminal.

The method thus allows the user of a first end-terminal, which uses a first multimedia protocol, to stream real-time user-generated content to a second end-terminal, which uses a second multimedia protocol, where both the first and second end-terminal act as a client.

In the method a gateway is capable of connecting a first end-terminal supporting a first protocol, e.g. SIP, to a second end-terminal supporting a second protocol, e.g. RTSP. Towards the first end-terminal, i.e. the (originating) SIP client at the user side, the gateway acts as (terminating) SIP client. The gateway confirms that it is able to receive the multimedia session from the user and provides first end-terminal with multimedia session information. Towards the second end-terminal, i.e. the RTSP client, the gateway acts as RTSP server on behalf of the user, using RTSP for session control.

The gateway informs the second end-terminal that an incoming session is pending and notifies the RTSP client to connect to the RTSP server function of the gateway.

The gateway thus acts as a server for both SIP and RTSP and uses a notification message for connecting to the second end-terminal RTSP client. This message acts as a trigger message and ensures that legacy SIP clients from the user and RTSP clients from the studio can be connected in order to enable user-generated content to be transmitted from the first end-terminal to the second-end terminal.

In one embodiment the first protocol is the Session Initiation Protocol (SIP). In a further embodiment the first-end terminal transmits an SIP INVITE to the gateway.

In a further embodiment the second protocol is the Real Time Streaming Protocol (RTSP).

In yet another embodiment the gateway transmits a notification message, preferably an RTSP notification message, to the second-end terminal in response to invitation of the

first end-terminal, in order to activate the second end-terminal to set up the second multimedia session between the second end-terminal and the gateway.

In one embodiment the method comprises the steps of: - the first-end terminal transmitting first multimedia session information to the gateway; - the gateway transmitting the first multimedia session information to the second-end terminal.

In another embodiment the method comprises the steps of: -the second-end terminal transmitting second multimedia session information to the gateway; - the gateway transmitting the second multimedia session information to the first-end terminal. The first multimedia session information and/or second multimedia session information is in a further embodiment transmitted using the Session Description Protocol (SDP).

In yet another embodiment the first end-terminal comprises a SIP client and/or the second end-terminal comprises an RTSP client.

In a further embodiment the invention relates to a method for transmitting a multimedia stream from a first end-terminal to a second end-terminal, wherein the first and second end-terminal are connected to a first and a second gateway respectively. The gateways are capable of setting up a multimedia session between the first and second end-terminal. The method comprises the steps of: (i) the first gateway preparing the first end-terminal for setting up a multimedia session with the second end-terminal, wherein a first protocol is used for the preparation of the first end-terminal; (ii) the first gateway inviting the second gateway to set up the multimedia session between the first end-terminal and the second end-terminal, the multimedia session being set up by a second protocol; (iii) the second gateway notifying - in response to the invitation - the second end-terminal to prepare the multimedia session with the first end-terminal wherein the first protocol is used for preparation of the second end-terminal; (iv) setting up - in response to the invitation - a multimedia session between first end-terminal

and the second end-terminal; and (v) transmitting a multimedia stream from the first end-terminal to the second end-terminal.

In this embodiment the purpose of the first SIP-RTSP gateway at the user location and the second SIP-RTSP gateway at the studio location is to exchange the correct RTP information (IP addresses, port number, SDP session description, etc.) between the legacy SIP and RTSP functions. This allows the RTP stream to be set-up and controlled by the SIP session and enables the user to trigger the TV studio to retrieve the streamed user-generated content. The RTSP protocol may be used to control the RTP stream.

In one embodiment the first protocol may be the Real Time Streaming Protocol (RTSP). In another embodiment the second protocol is the Session Initiation Protocol (SIP).

In a further embodiment the second gateway transmits a notification message, preferably an RTSP TRIGGER message, to the second-end terminal in response to the invitation of the first gateway, in order to activate the second end-terminal to set up the multimedia session between the first end-terminal and the second end-terminal.

In one embodiment the method further comprises the steps of: -the first gateway receiving first multimedia session information from the first end-terminal using the SDP protocol encapsulated in the first protocol and transmitting the first multimedia session information to the second gateway using the SPD protocol encapsulated in the second protocol; and -the second gateway receiving the first multimedia session information from the first gateway and transmitting the first multimedia session information to the second end- terminal using the SDP protocol encapsulated in the first protocol.

In another embodiment the method further comprises the steps of: - the second gateway receiving in response to the receipt of the first multi media session information second multimedia session information from the second end-terminal using the SDP protocol encapsulated in the first protocol and transmitting the second multimedia session information to the first gateway using the SPD protocol encapsulated in the second protocol; - the second gateway

receiving the second multimedia session information from the second gateway and transmitting the second multimedia session information to the first end-terminal using the SDP protocol encapsulated in the first protocol.

The transmission of the multimedia stream from the first end-terminal to the second end-terminal is in one embodiment controlled by the RTSP protocol.

In a further embodiment the first end-terminal comprises a RTSP server connected to the first gateway and/or the second end-terminal comprises an RTSP client connected to the second gateway.

In further aspect the invention relates to a system for transmitting a multimedia stream from a first end-terminal to a second end-terminal. In one embodiment the system comprises: a first end-terminal and second end-terminal connected to at least one gateway, wherein the first end-terminal comprises (i) means for inviting the gateway to set up a first multimedia session with the first end-terminal, wherein the first multimedia session is controlled by a first protocol and (ii) means for transmitting a multimedia stream in the first multimedia session to the gateway; and wherein the gateway comprises (iii) means for notifying - in response to the invitation of the first end-terminal - to set up a second multimedia session between the gateway and the second end-terminal, the second multimedia session being controlled by a second protocol, (iv) means for setting up - in response to the invitation - the first multimedia session and (v) means for transmitting a multimedia stream to the second end-terminal.

In a further embodiment a system is provided for transmitting a multimedia stream from a first end-terminal to a second end-terminal. The system comprises a first end-terminal and second end-terminal connected to a first and a second gateway respectively. The gateways are capable of setting up a multimedia session between the first and second end-terminal, wherein the first gateway comprises: (i) means for preparing the first end-terminal for setting up a multimedia session with the second end-terminal wherein a

first protocol is used for the preparation of the first end-terminal; (ii) means for inviting the second gateway to set up the multimedia session between the first end-terminal, the multimedia session being set up using a second protocol; wherein the second gateway comprises: (iii) means for notifying the second end-terminal - in response to the invitation - to prepare the multimedia session with the first end-terminal, wherein the first protocol is used for the preparation of the second end-terminal and (iv) means for setting up - in response to the invitation - a multimedia session between first end-terminal and the second end-terminal.

The invention will be further illustrated with reference to the attached drawing, which schematically show embodiments according to the invention. It will be understood that the invention is not in any way restricted to these specific embodiments.

Brief description of the drawings

Fig. 1 illustrates an exemplary system in which the present invention may be used.

Fig. 2 depicts a simplified exemplary flow of information using the SIP protocol.

Fig. 3 depicts an exemplary flow of information using the RTSP protocol.

Fig. 4 depicts an exemplary embodiment of the invention.

Fig. 5 depicts the flow of information between a SIP client, a SIP-RTSP gateway and a RTSP client in exemplary embodiments of the invention.

Fig. 6 depicts another exemplary embodiment of the invention.

Fig. 7 illustrates the protocol flow of a session call in an exemplary embodiment of the invention.

Fig. 8 schematically depicts exemplary embodiments of a gateway at the user location and the studio location respectively.

Detailed description

Fig. 1 illustrates an exemplary system in which the present invention may be used. At the home-location a first end-terminal **1**, e.g. a set-top box, is connected to display device, e.g. a television. Further, the end-terminal receives a TV signal **2**, which is broadcasted by the television studio and which comprises a programme providing live multimedia participation with home-located user. In one embodiment the multimedia participation of the user may be realized using e.g. a web-cam **3** connected to the end-terminal. The multimedia stream **4** generated by the web-cam is streamed over an IP network **5** to a second end-terminal **6** located at the TV studio. At the TV studio the second end-terminal 6 receives the user-generated multimedia stream 4. This way a live video feed from the user to the studio is provided.

Such a service requires (i) a home-located user to be able to set up a multimedia session between the home-located, first end-terminal **1** and the second end-terminal **6** located at the studio, wherein the multimedia session allows transportation of the user-generated multimedia stream **4** to the studio, and (ii) to allow the studio to control (e.g. play, pause, stop) the multimedia stream send by the home-located end-terminals.

It is understood that the system at the home location allowing multimedia participation as described in connection with Fig. 1 may be realized in various alternative ways. Those skilled in the art will understand that the end-terminal, the display device and the web-cam may be for instance integrated in a personal computer, a digital assistant (PDA), a mobile telephone with multi-media capabilities.

In an IMS architecture SIP is used to set up a multimedia session between two SIP clients e.g. two IP phones. An exemplary flow using the SIP protocol is depicted in **Fig. 2**. Typically a first SIP client sends a SIP INVITE 7 to the second SIP client, which in return accepts the invention by transmitting a SIP 200 OK **8** message to the first SIP client.

Both messages may carry information about the multimedia session. This information is exchanged using the Session Description Protocol (SDP), which may be encapsulated in the SIP protocol. The multimedia session information includes amongst others IP addresses, port numbers for the RTP streams, the type of media (voice, audio, video, etc.) and codec information. Thereafter, multimedia streams are transported between the SIP clients using the RTP protocol **9**.

SIP however is designed for setting up and supporting interactive media sessions. Although SIP also provide a form of aggregate streaming control (i.e. the ability to control multiple streams from different locations with one control session), it does not provide an efficient control as provided by the RTSP protocol used in streaming applications such as Video on Demand (VoD). RTSP allows a client to remotely control a streaming media server by issuing VCR-like commands e.g. play, pause, stop, etc. and allows time-based access to files on a server. Moreover, legacy equipment requires the use of RTSP.

Fig. 3 schematically depicts an exemplary flow using the RTSP protocol. In order to set up an RTSP multimedia session between an RTSP client and an RTSP server, standard RTSP messages **10** (OPTIONS, DESCRIBE, SETUP, PLAY) are exchanged between the client and the server in order to provide both sides with information required for an RTSP session. Similar to SIP this information is exchanged using the Session Description Protocol (SDP), which may be encapsulated in the RTSP protocol. Once the session is set up a stream is transported from the server to the client **11**, using the RTP protocol, wherein RTSP allows the client to control the streaming.

Fig. 4 depicts a schematic of system representing an exemplary embodiment according to the invention. In this embodiment a home located first end-terminal **12** comprises a SIP client **13**, which is capable to set up a SIP session **14** with an SIP-RTSP gateway **15**. The SIP-RTSP gateway may be located in a second end-terminal **16** at the TV studio.

Towards the (originating) SIP client at the user side, the gateway acts as a (terminating) SIP client. The gateway confirms that it is able to receive the multimedia session from the user and informs the SIP client at the user side on the session details and the RTP port number. This session information may be exchanged using the SDP protocol, which may be encapsulated in the SIP messages.

The gateway is further capable of setting up an RTSP session **17** with an RTSP client **18** at the location of the studio. To this end, the gateway is able to send a trigger message to the RTSP client in response to the invitation to set-up the SIP session. This RTSP client may be located in the second end-terminal, or, alternatively, may be located at a server connected to the second end-terminal.

Hence, towards the RTSP client 18 at the studio, the SIP-RTSP gateway acts as an RTSP server on behalf of the user, thereby allowing the studio to have RTSP session control over the RTP stream **19**, which is transported from the home-located end-terminal to the end-terminal at the studio.

Fig 5 illustrates the flow of information between the SIP client, the SIP-RTSP gateway and the RTSP client in more detail. Figure 5(a) represents an embodiment wherein the session between the user and the studio is initiated by the user.

In a first step **20**, the SIP client in the first end-terminal at the user side sends an SIP INVITE to the gateway indicating that it wants to stream a multimedia stream to the studio. In a second step **21** the gateway accepts the invitation and in response triggers the RTSP client, which may be located in the second end-terminal at the studio, to start an RTSP session with the SIP-RTSP gateway. This trigger may have the form of a trigger message, for example an RTSP TRIGGER message, which may be an extension of the existing RTSP protocol.

Alternatively, the trigger message may be passed to the RTSP client using a proprietary application programming interface (API) or a control interface on the RTSP client.

Such interfaces may simulate a "user" requesting a multimedia stream.

Thereafter, in a third step **22**, the gateway handles the usual RTSP information exchanges with the RTSP client transmitting the SDP information to the RTSP client and retrieving from the RTSP client the correct RTP port to which the RTP stream should be sent to. In a fourth step **23**, the gateway confirms the SIP session to the SIP client using a SIP 200 OK message and provides the SIP client with the RTP port number and confirms the SDP information. Finally, in the fifth and last step **24**, the SIP client starts streaming the RTP multimedia stream to the RTSP client.

The termination of the combined SIP/RTSP session (not depicted in Fig. 5) may be handled in a similar way as the initiation of such session described above. If the user indicates that he wants to terminate the session, the gateway may convert an SIP BYE message to an RTSP REDIRECT message (without location header). The RTSP REDIRECT message can be found in a draft of a updated RTSP version (see Internet draft RFC 2326 version 16 of the Real Time Streaming Protocol 2.0 dated 19 November 2007 by Schulzrinne et al). If the studio indicates that it wants to terminate the session, the gateway converts an RTSP REDIRECT message to a SIP BYE message.

In an further embodiment the session may initiated by the gateway in the studio. In that case the gateway sends upon reception of an indication by the studio to set up a session the trigger message to the RTSP client and invites the SIP client at the user location to set up a SIP session. The flow of information between the SIP client, the gateway and the RTSP client is schematically depicted in Fig. 5(b).

In yet a further embodiment the gateway may be located in the first end-terminal. In that case the first protocol may be an internal protocol. The session may be triggered by a stimulus of the user interface of the first end-terminal. This scheme is schematically depicted in Fig. 5(c), wherein the first end-terminal may be an mobile device. Alternatively, the stimulus received by the first end-terminal may also come from an external source. In that case for

example an SMS message received by the mobile device may trigger a session.

In addition to the gateway present at the studio an SIP-RTSP gateway may be present at the user side. This additional gateway may be located in the home-located first end-terminal. **Fig. 6** depicts the architecture of a system according to this embodiment. The first end-terminal comprises an SIP client to set up SIP sessions with the gateway at the studio, wherein the SIP client has SIP-RTSP gateway functionality **25**. Further, first end-terminal comprises a legacy RTSP server **26** to stream user-generated content to the studio. Optionally, the user-generated content may be controlled by the RTSP protocol (as indicated by the dotted line in Fig.6). The RTSP server may be located in the first end-terminal or, alternatively, located externally to the end-terminal in a server connected to the first end-terminal. The configuration of the SIP/RTSP functionality at the TV studio is the same as the embodiment described above in connection with Fig.5.

In this embodiment the purpose of the first SIP-RTSP gateway at the user location and the second SIP-RTSP gateway at the studio location is to exchange the correct RTP information (IP addresses, port number, SDP session description, etc.) between the legacy SIP and RTSP functions. This allows the RTP stream to be set-up and controlled by the SIP session and enables the user to trigger the TV studio to retrieve the streamed user-generated content. Optionally, the RTSP protocol may be used to control the RTP stream.

Fig. 7 illustrates the information flow of a session call in a system as schematically depicted in Fig. 6. In a first step **27**, the first SIP-RTSP gateway at the user-side prepares the RTSP server at the user location to set-up a session with the RTSP client at the studio location. In a second step **28**, the RTSP server confirms the invitation of the first gateway with an RTSP 200 OK message and provides the gateway with the required SDP information. Then, in a third step **29**, the first gateway at the user-side sends an SIP INVITE with SDP multimedia session information to the second

SIP-RTSP gateway at the studio location. This SIP message may be routed through one or more SIP proxy's. In a fourth step **30**, the gateway at the studio-side sends an TRIGGER message to RTSP client at the studio location and provides the RTSP client in a fifth step **31** with the SDP information. Thereafter, in a sixth step **32**, the RTSP client provides the second gateway with SDP multimedia session information, e.g. RTP port information required to set-up the multimedia session. Further, the second gateway sends the SDP multimedia session information in a seventh step **33** using an SIP OK message to the first gateway at the user-side. The first gateway forwards the session information to the RTSP server.

Once the SIP and RTSP sessions are set up, an RTP stream is sent from the RTSP server to the RTSP client. The first and second gateway may go into an RTSP proxy mode, wherein the gateways just monitors the RTSP messages. The studio can control the user-generated RTP stream using SIP or, preferably, using RTSP by using the proxyed RTSP link between the RTSP client comprised in the end-terminal at the studio-side and the RTSP server comprised in the end-terminal at the user side. Either side, user or studio, can release the combined SIP/RTSP session using an SIP BYE and an RTSP REDIRECT message respectively.

Fig. 8 (a) and (b) schematically depict exemplary embodiments of a gateway at the user side and the studio side respectively. Both gateways have SIP client functionality **34a,34b**, RTSP server logic **35a,35b** and RTSP client logic **36a,36b**.

The gateways have both their own different service logic **37a,37b**. The user gateway may be triggered by actions of the user or other external sources. Its service logic enables the user to set up a combined SIP/RTSP session with the studio. The studio gateway has an external control function, which enables the studio to turn the gateway on when it is ready to receive user-generated content, and turn it off when the show is over. The studio RTSP client is a normal RTSP client. The studio may instruct the client to request the user's RTSP server to play, pause or stop.

The invention is not limited to the embodiments described above, which may be varied within the scope of the accompanying claims. For instance, the term studio should not be interpreted as only meaning a professional broadcast studio. A studio within the meaning of this invention relates to all systems which could provide multimedia functionality similar to a studio, e.g. a personal computer system or another multimedia system which is capable of streaming live content to a user at a home location and in response receiving user-generated content from the user.

CLAIMS

1. Method for transmitting a multimedia stream from a first end-terminal to a second end-terminal, wherein the first and second end-terminal are connected to at least one gateway for enabling the multimedia stream to be transmitted from the first end-terminal to the second end-terminal, the method comprising the steps of:

- the first end-terminal inviting the gateway to set up a first multimedia session between the first end-terminal and the gateway, the first multimedia session being controlled by a first protocol;
- the gateway notifying - in response to the invitation - the second end-terminal of the pending invitation;
- the second end-terminal setting up - in response to the notification - a second multimedia session between the second end-terminal and the gateway, the second multimedia session being controlled by a second protocol;
- the gateway setting up - in response to the invitation - the first multimedia session;
- transmitting a multimedia stream from the first end-terminal to the second end-terminal.

2. Method according to claim 1, wherein the first protocol is the Session Initiation Protocol (SIP).

3. Method according to claim 2, wherein the first-end terminal transmits a SIP INVITE to the gateway.

4. Method according to claim 1, wherein the second protocol is the Real Time Streaming Protocol (RTSP).

5. Method according to any of claims 1-4, wherein the gateway transmits a notification message, preferably an RTSP notification message, to the second-end terminal in response to invitation of the first end-terminal, in order to activate

the second end-terminal to set up the second multimedia session between the second end-terminal and the gateway.

6. Method according to any of claims 1 to 5, method further comprising:

- the first-end terminal transmitting first multimedia session information to the gateway;
- the gateway transmitting the first multimedia session information to the second-end terminal.

7. Method according to any of claims 1 to 6, method further comprising:

- the second-end terminal transmitting second multimedia session information to the gateway;
- the gateway transmitting the second multimedia session information to the first-end terminal.

8. Method according to claims 6 or 7, wherein the first multimedia session information and/or second multimedia session information is transmitted using the Session Description Protocol (SDP).

9. Method according to any of claims 1 to 8 wherein the first end-terminal comprises a SIP client and/or the second end-terminal comprises an RTSP client.

10. Method for transmitting a multimedia stream from a first end-terminal to a second end-terminal, wherein the first and second end-terminal are connected to a first and a second gateway respectively, the gateways being capable of setting up a multimedia session between the first and second end-terminal, the method comprising the steps of:

- the first gateway preparing the first end-terminal for setting up a multimedia session with the second end-terminal, wherein a first protocol is used for the preparation of the first end-terminal;
- the first gateway inviting the second gateway to set up the multimedia session between the first end-terminal and

the second end-terminal, the multimedia session being set up by a second protocol;

- the second gateway notifying - in response to the invitation - the second end-terminal to prepare the multimedia session with the first end-terminal wherein the first protocol is used for preparation of the second end-terminal;
- setting up - in response to the invitation - a multimedia session between first end-terminal and the second end-terminal;
- transmitting a multimedia stream from the first end-terminal to the second end-terminal.

11. Method according to claim 10, wherein the first protocol is the Real Time Streaming Protocol (RTSP).

12. Method according to claims 10 or 11, wherein the second protocol is the Session Initiation Protocol (SIP).

13. Method according to any of claims 10-12, wherein the second gateway transmits a notification message, preferably an RTSP TRIGGER message, to the second-end terminal in response to the invitation of the first gateway, in order to activate the second end-terminal to set up the multimedia session between the first end-terminal and the second end-terminal.

14. Method according to any of claims 10 to 13, the method further comprising:

- the first gateway receiving first multimedia session information from the first end-terminal using the SDP protocol encapsulated in the first protocol and transmitting the first multimedia session information to the second gateway using the SPD protocol encapsulated in the second protocol;
- the second gateway receiving the first multimedia session information from the first gateway and transmitting the first multimedia session information to the second end-

terminal using the SDP protocol encapsulated in the first protocol.

15. Method according to 14, the method further comprising:

- the second gateway receiving in response to the receipt of the first multi media session information second multimedia session information from the second end-terminal using the SDP protocol encapsulated in the first protocol and transmitting the second multimedia session information to the first gateway using the SPD protocol encapsulated in the second protocol;
- the second gateway receiving the second multimedia session information from the second gateway and transmitting the second multimedia session information to the first end-terminal using the SDP protocol encapsulated in the first protocol.

16. Method according to any of claims 10 to 15 wherein the transmission of the multimedia stream from the first end-terminal to the second end-terminal is controlled by the RTSP protocol.

17. Method according to any of claims 10 to 16 wherein the first end-terminal comprises a RTSP server connected to the first gateway and/or the second end-terminal comprises an RTSP client connected to the second gateway.

18. System for transmitting a multimedia stream from a first end-terminal to a second end-terminal, comprising:

a first end-terminal and second end-terminal connected to at least one gateway,

wherein the first end-terminal comprises (i) means for inviting the gateway to set up a first multimedia session with the first end-terminal, wherein the first multimedia session is controlled by a first protocol and (ii) means for transmitting a multimedia stream in the first multimedia session to the gateway;

wherein the gateway comprises (iii) means for notifying - in response to the invitation of the first end-terminal - to set up a second multimedia session between the gateway and the second end-terminal, the second multimedia session being controlled by a second protocol, (iv) means for setting up - in response to the invitation - the first multimedia session and (v) means for transmitting a multimedia stream to the second end-terminal.

19. System for transmitting a multimedia stream from a first end-terminal to a second end-terminal, comprising a first end-terminal and second end-terminal connected to a first and a second gateway respectively, the gateways being capable of setting up a multimedia session between the first and second end-terminal,

wherein the first gateway comprises means for preparing the first end-terminal for setting up a multimedia session with the second end-terminal wherein a first protocol is used for the preparation of the first end-terminal;

means for inviting the second gateway to set up the multimedia session between the first end-terminal, the multimedia session being set up using a second protocol;

wherein the second gateway comprises means for notifying the second end-terminal - in response to the invitation - to prepare the multimedia session with the first end-terminal, wherein the first protocol is used for the preparation of the second end-terminal and means for setting up - in response to the invitation - a multimedia session between first end-terminal and the second end-terminal.

ABSTRACT

A method is described for transmitting a multimedia stream from a first end-terminal to a second end-terminal. The first and second end-terminal are connected to at least one gateway for enabling the multimedia stream to be transmitted from the first end-terminal to the second end-terminal. The method comprising the steps of: the first end-terminal inviting the gateway to set up a first multimedia session between the first end-terminal and the gateway, the first multimedia session being controlled by a first protocol; the gateway notifying - in response to the invitation - the second end-terminal of the pending invitation; the second end-terminal setting up - in response to the notification - a second multimedia session between the second end-terminal and the gateway, the second multimedia session being controlled by a second protocol; the gateway setting up - in response to the invitation -the first multimedia session; and transmitting a multimedia stream from the first end-terminal to the second end-terminal.

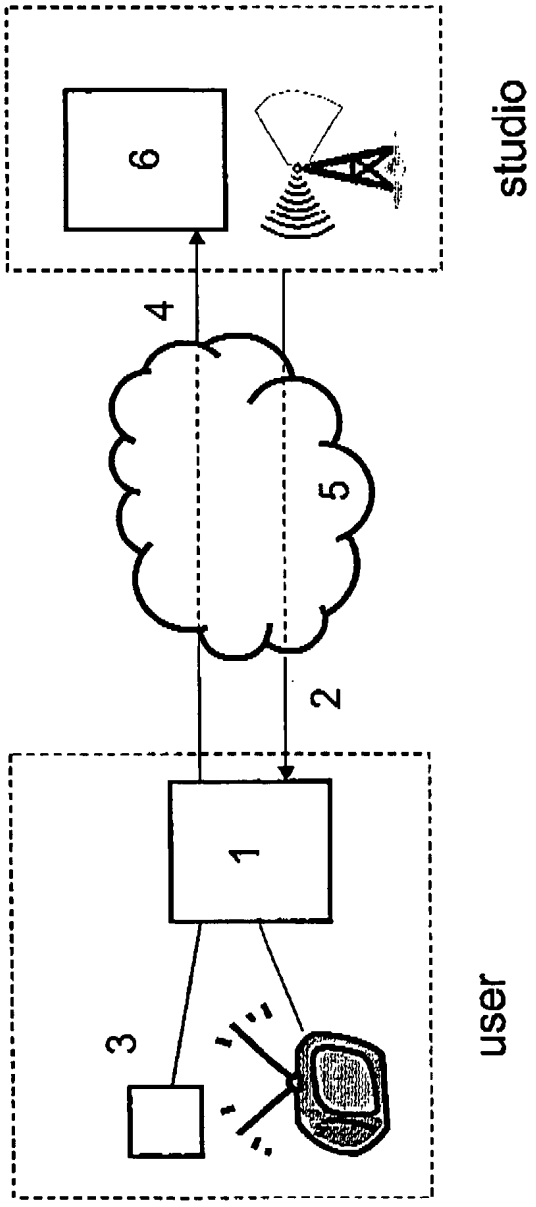


Figure 1

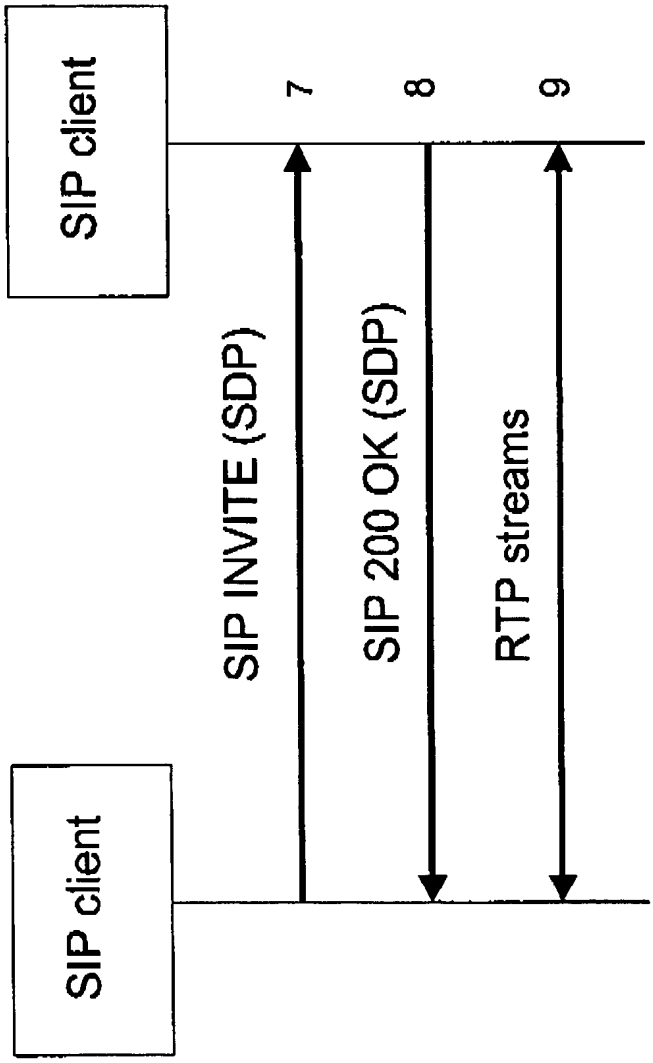

SIP client
SIP client
7
8
9
SIP INVITE (SDP)
SIP 200 OK (SDP)
RTP streams

Figure 2

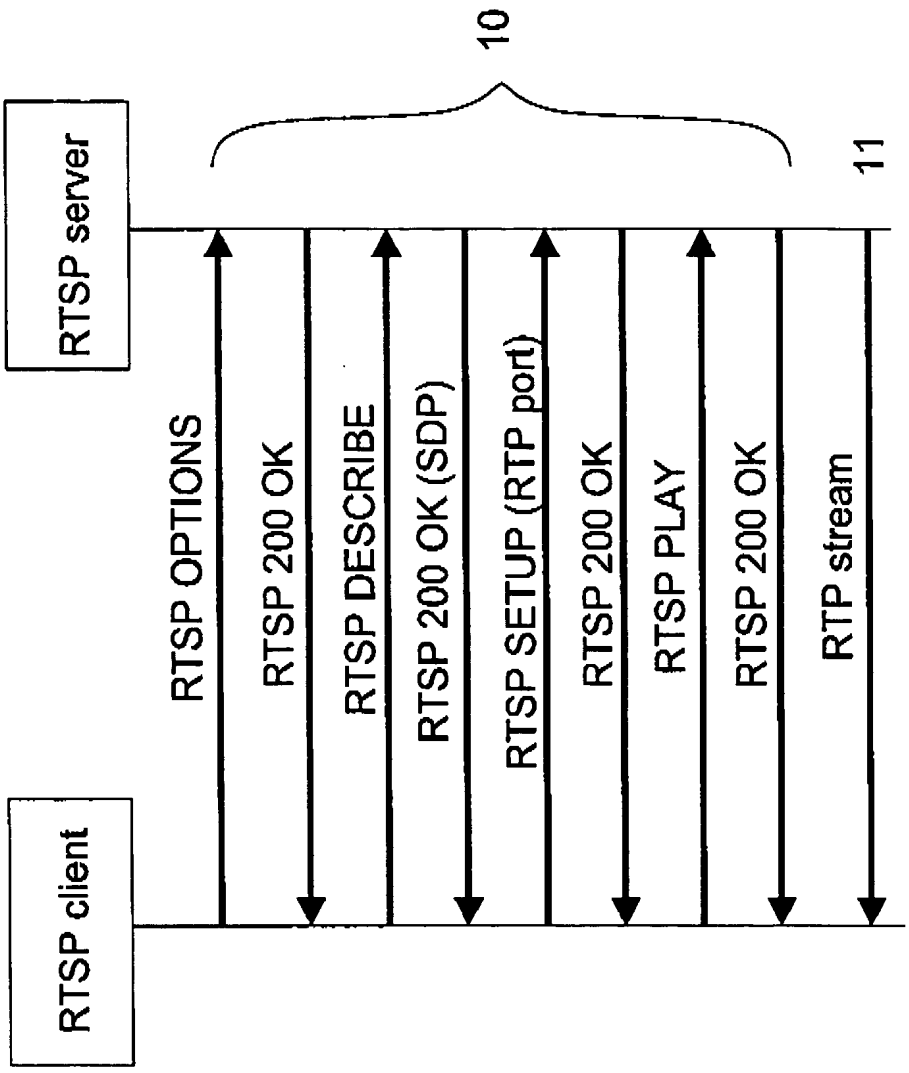

10
11
RTSP server
RTSP client
RTSP OPTIONS
RTSP 200 OK
RTSP DESCRIBE
RTSP 200 OK (SDP)
RTSP SETUP (RTP port)
RTSP 200 OK
RTSP PLAY
RTSP 200 OK
RTP stream

Figure 3

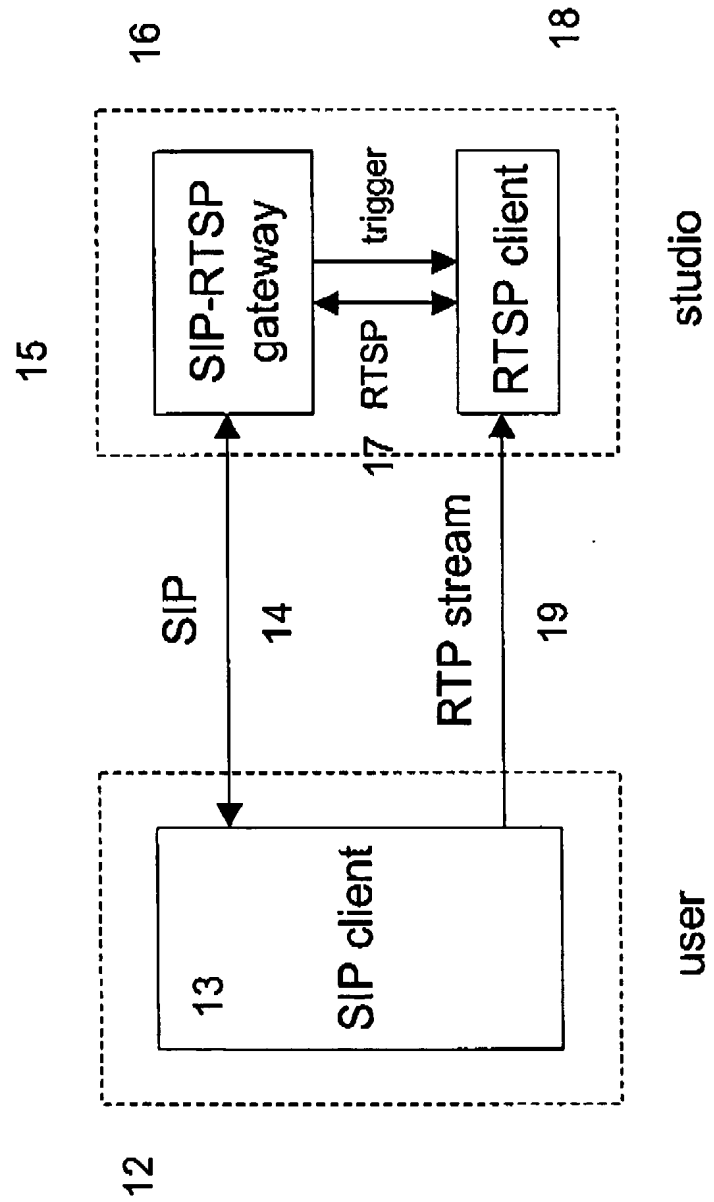

16
18
15
SIP-RTSP gateway
trigger
RTSP client
RTSP
17
studio
SIP
14
RTP stream
19
13
SIP client
user
12

Figure 4

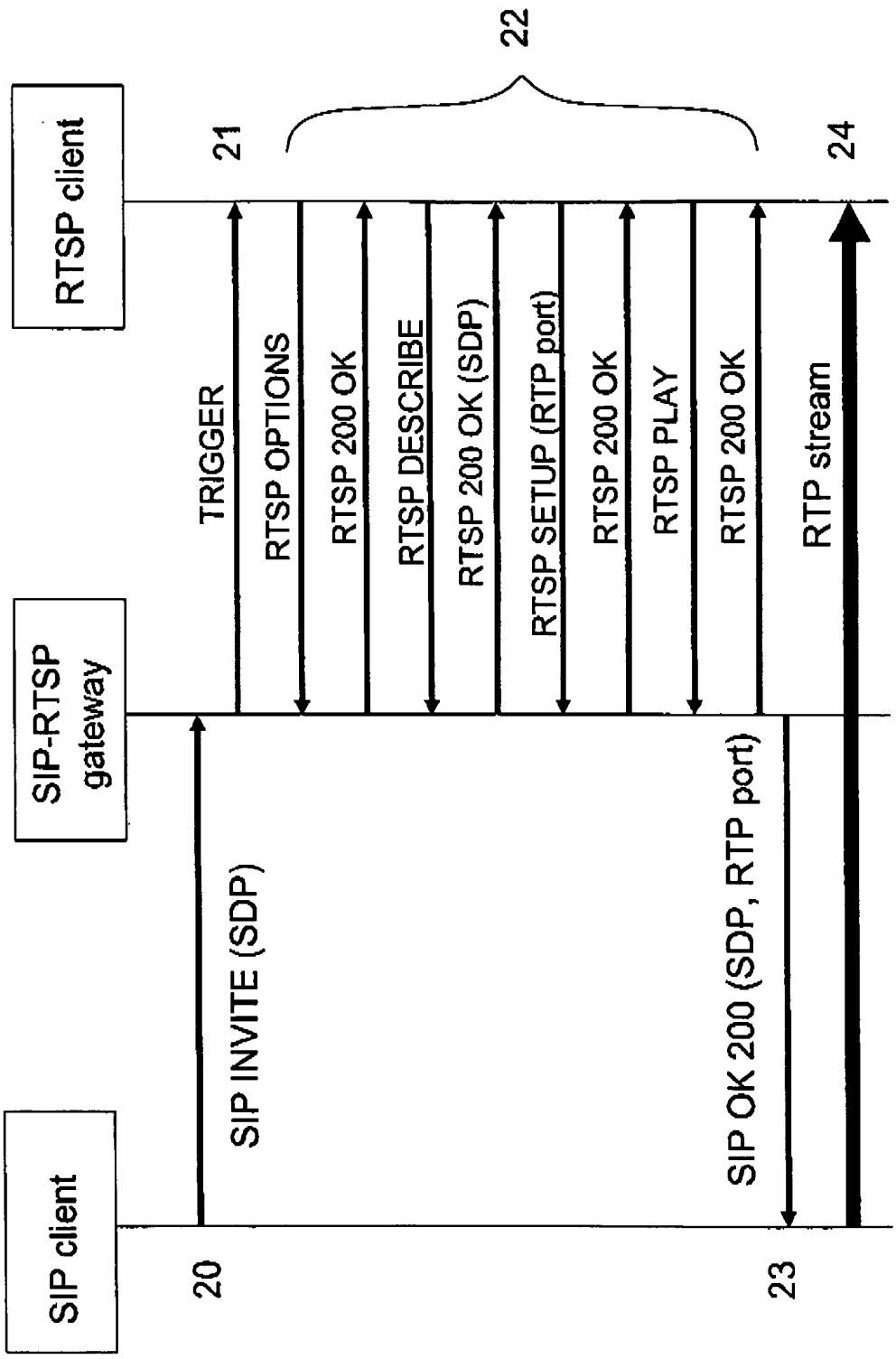

RTSP client
SIP-RTSP gateway
SIP client
22
21
24
20
23
TRIGGER
RTSP OPTIONS
RTSP 200 OK
RTSP DESCRIBE
RTSP 200 OK (SDP)
RTSP SETUP (RTP port)
RTSP 200 OK
RTSP PLAY
RTSP 200 OK
RTP stream
SIP INVITE (SDP)
SIP OK 200 (SDP, RTP port)

Figure 5 (a)

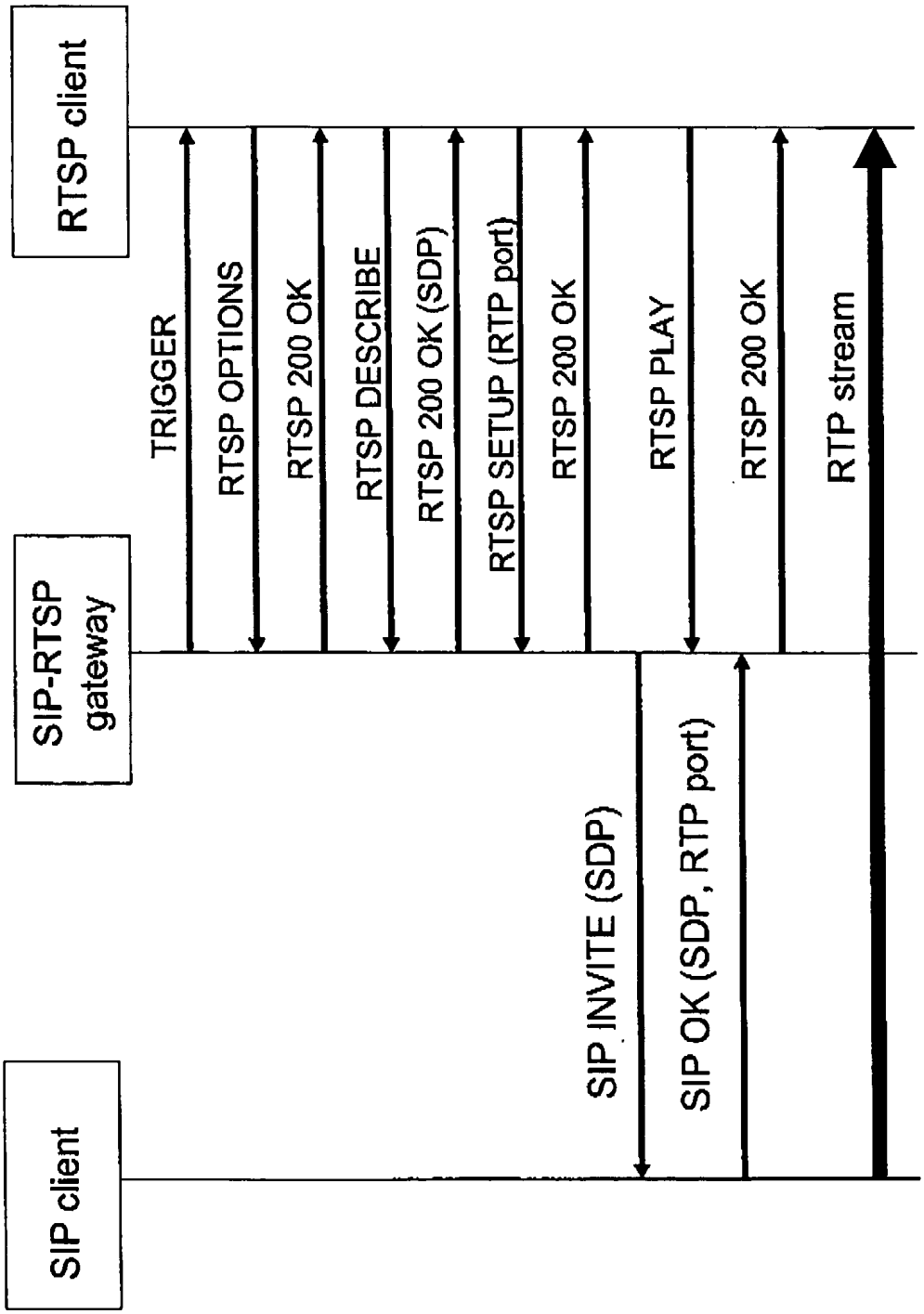

RTSP client
SIP-RTSP gateway
SIP client
TRIGGER
RTSP OPTIONS
RTSP 200 OK
RTSP DESCRIBE
RTSP 200 OK (SDP)
RTSP SETUP (RTP port)
RTSP 200 OK
RTSP PLAY
RTSP 200 OK
RTP stream
SIP INVITE (SDP)
SIP OK (SDP, RTP port)

Figure 5 (b)

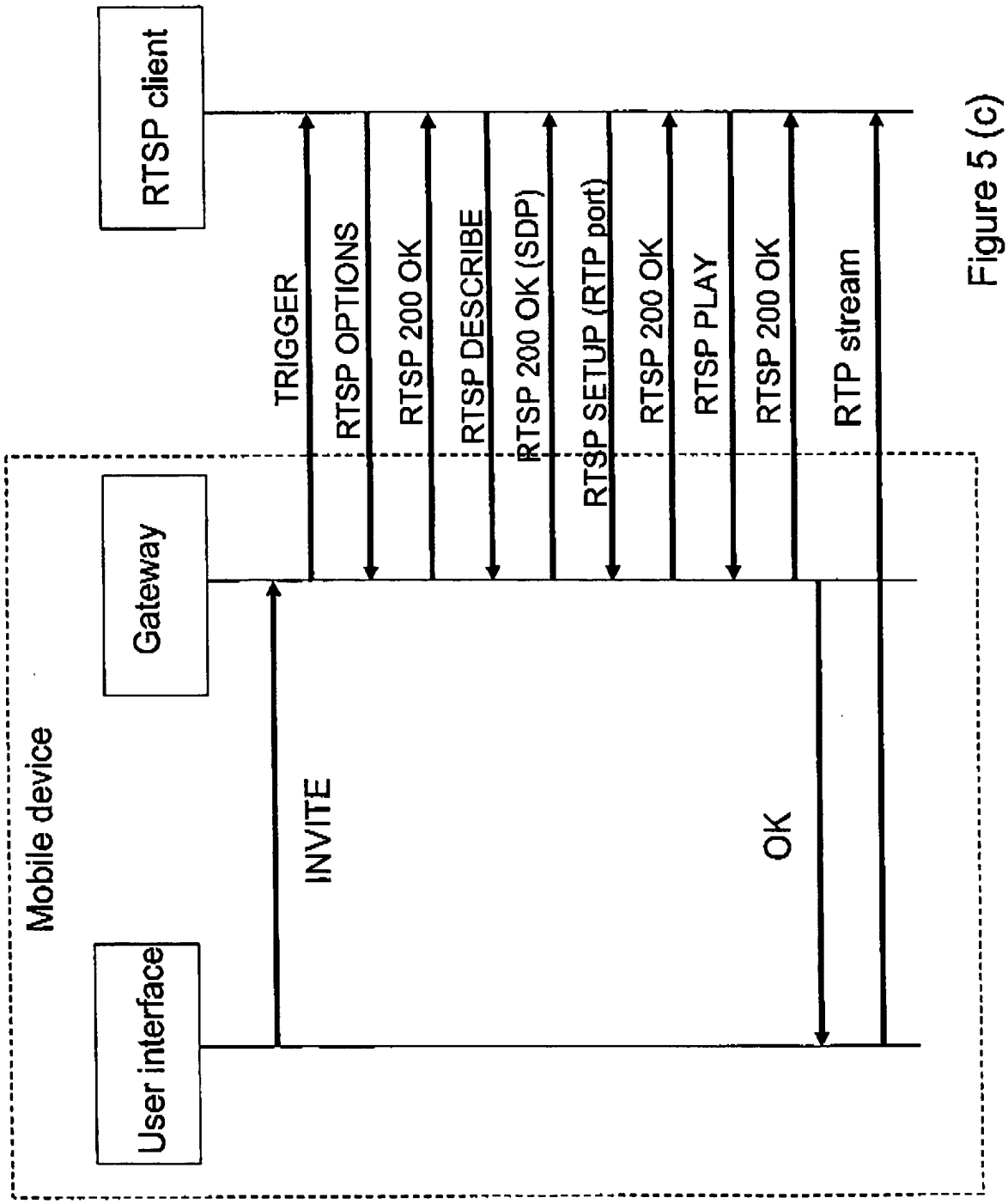

RTSP client
Gateway
Mobile device
User interface
TRIGGER
RTSP OPTIONS
RTSP 200 OK
RTSP DESCRIBE
RTSP 200 OK (SDP)
RTSP SETUP (RTP port)
RTSP 200 OK
RTSP PLAY
RTSP 200 OK
RTP stream
INVITE
OK

Figure 5 (c)

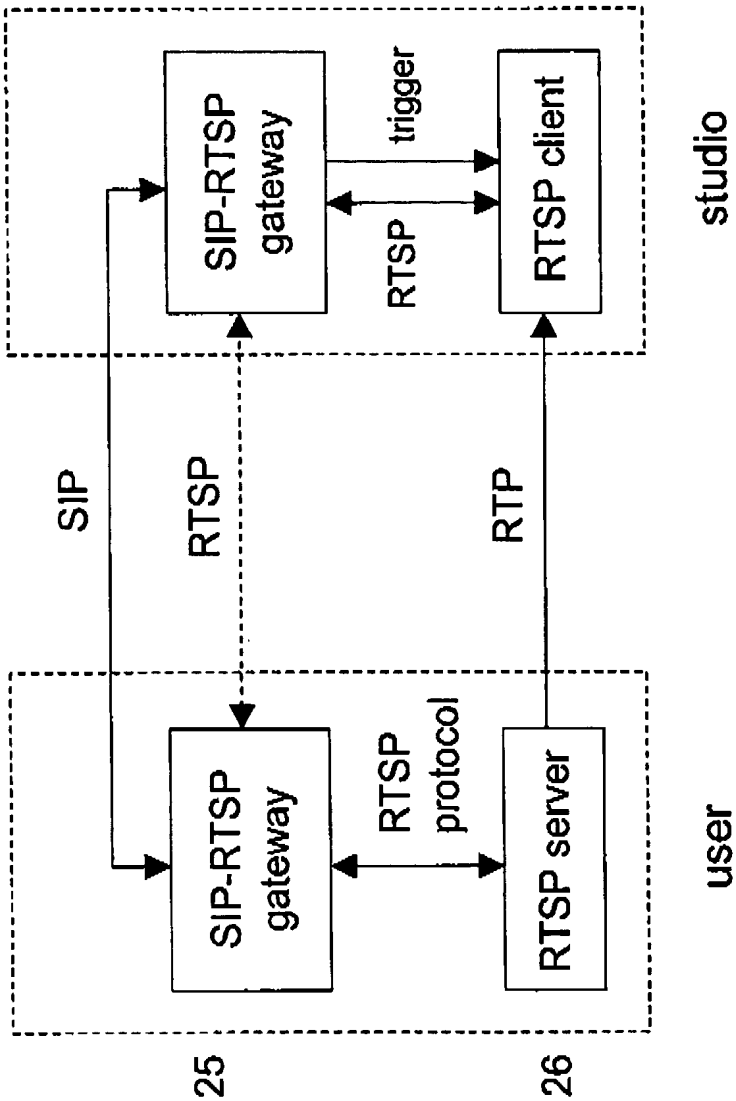

studio
SIP-RTSP gateway
trigger
RTSP client
RTSP
SIP
RTSP
RTP
user
SIP-RTSP gateway
RTSP protocol
RTSP server
25
26

Figure 6

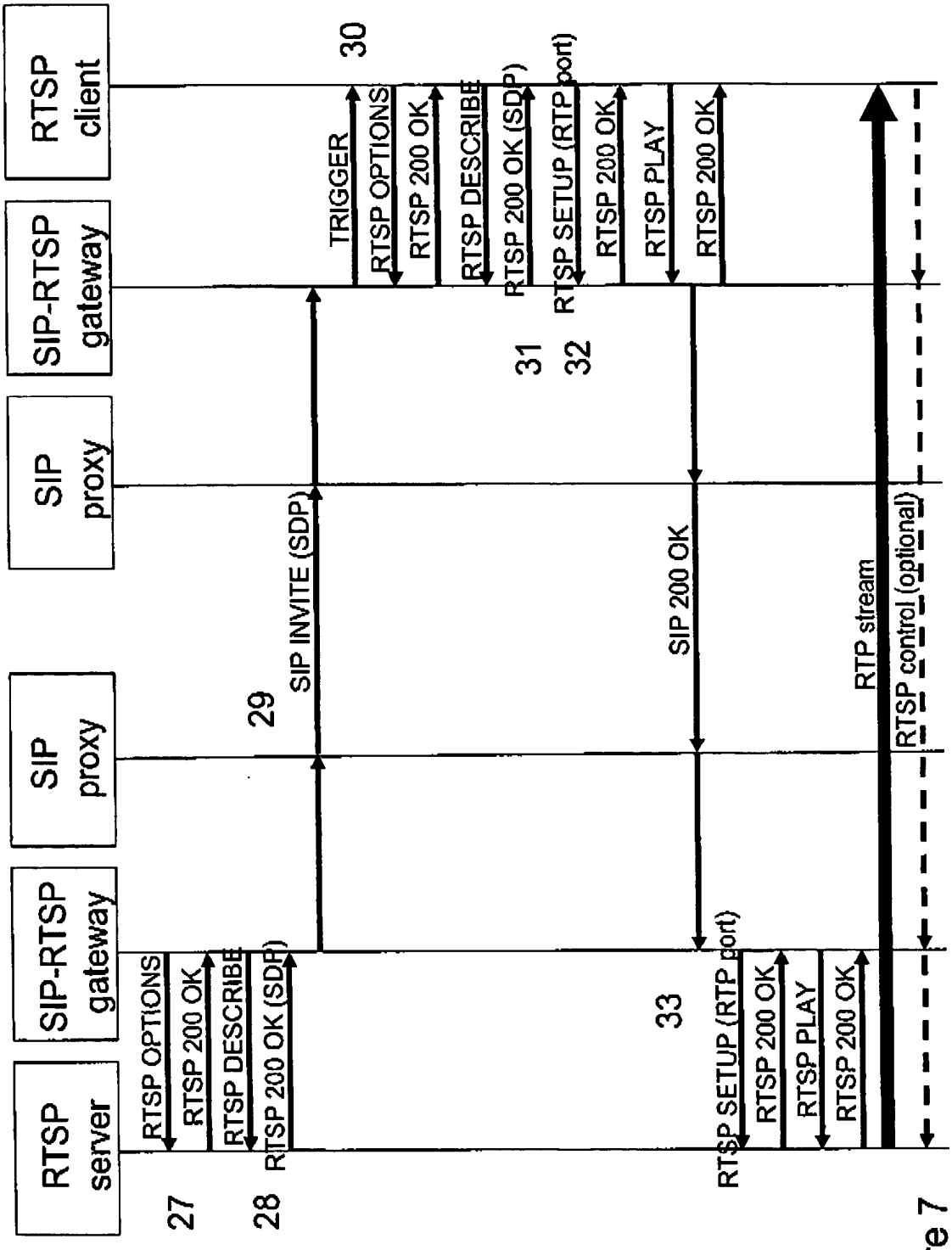
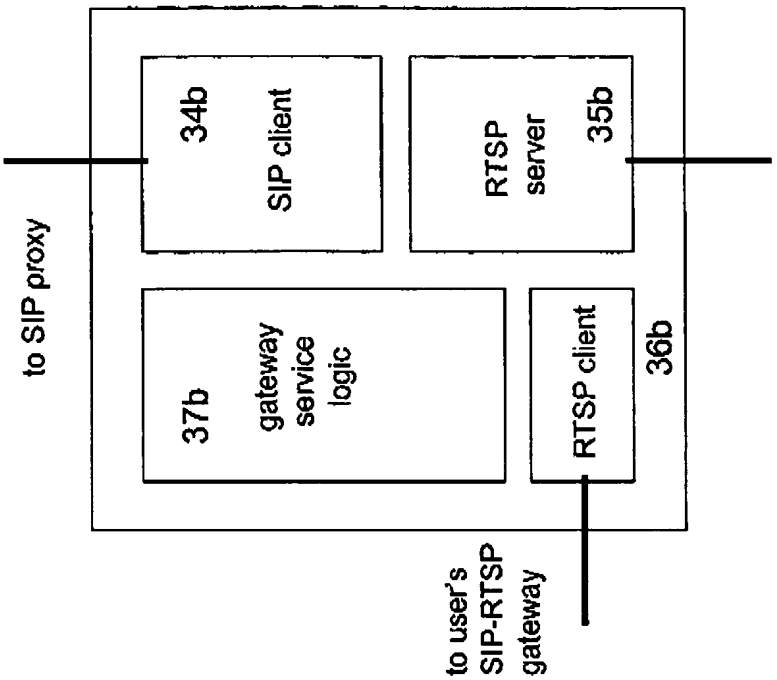

RTSP server
SIP-RTSP gateway
SIP proxy
SIP proxy
SIP-RTSP gateway
RTSP client
RTSP OPTIONS
RTSP 200 OK
RTSP DESCRIBE
RTSP 200 OK (SDP)
SIP INVITE (SDP)
SIP 200 OK
RTSP SETUP (RTP port)
RTSP 200 OK
RTSP PLAY
RTSP 200 OK
RTP stream
RTSP control (optional)
TRIGGER
RTSP OPTIONS
RTSP 200 OK
RTSP DESCRIBE
RTSP 200 OK (SDP)
RTSP SETUP (RTP port)
RTSP 200 OK
RTSP PLAY
RTSP 200 OK
27
28
29
30
31
32
33

Figure 7


to SIP proxy
34b
SIP client
RTSP server
35b
37b
gateway service logic
RTSP client
36b
to user's SIP-RTSP gateway
(b)

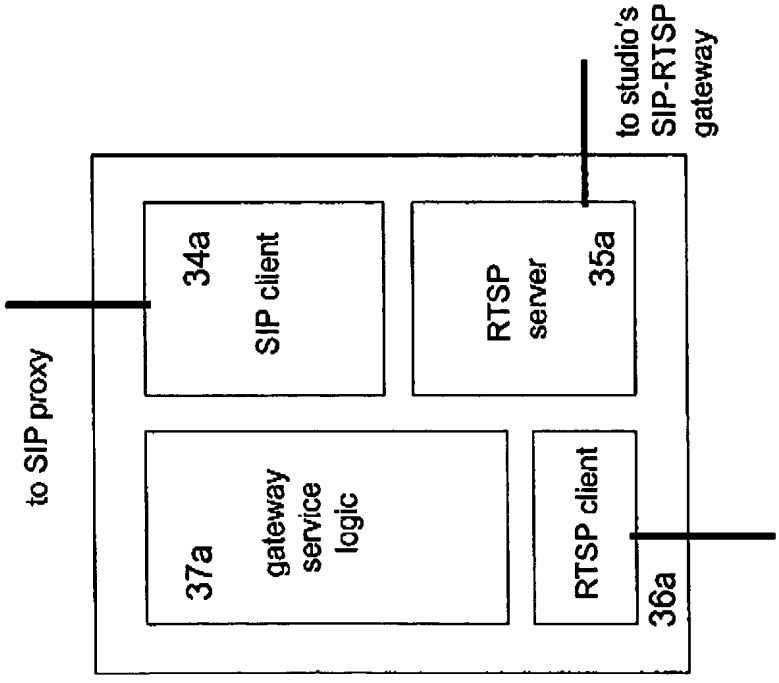

to SIP proxy
34a
SIP client
RTSP server
35a
to studio's SIP-RTSP gateway
37a
gateway service logic
RTSP client
36a
(a)

Figure 8

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Inventor(s)

Hans Maarten Stokking, The Hague, NETHERLANDS;
Mattijs Oskar Van Deventer, Leidschendam, NETHERLANDS;
Fabian Arthur Walraven, Groningen, NETHERLANDS;
Omar Aziz Niamut, Vlaardingen, NETHERLANDS;

Applicant(s)

Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO, Delft, NETHERLANDS
Koninkijke KPN N.V., The Hague, NETHERLANDS

Assignment For Published Patent Application

Koninkijke KPN N.V., The Hague, NETHERLANDS
Nederlandse Organisatie Voor Toegepast-Natuurwetenschappelijk Onderzoek TNO, Delft, NETHERLANDS

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Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)
EUROPEAN PATENT OFFICE (EPO) 08002517.4 02/12/2008

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Projected Publication Date: 02/06/2014

Non-Publication Request: No

Early Publication Request: No

Title

Method And System For Transmitting A Multimedia Stream

Preliminary Class

709

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop

technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 14/015,765

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	280
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	600
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	720
TOTAL CLAIMS (37 CFR 1.16(i))	23 minus 20 =	* 3			OR	x 80 =	240
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*				x 420 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1840

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/015,765	08/30/2013	Hans Maarten Stokking	10-406-CON

CONFIRMATION NO. 6519

20306
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

POA ACCEPTANCE LETTER

OC000000064280301

Date Mailed: 10/15/2013

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 10/07/2013.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/tchaka/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Case No. 10-406-CON)

In the Application of:	)	
	)	
Hans Maarten Stokking et al.	)	
	)	**Examiner: TBD**
Serial No.: 14/015,765	)	
	)	**Group Art Unit: 6519**
Filing Date: August 30, 2013	)	
	)	**Confirmation No.: 1864**
For: Method and System for Transmitting a Multimedia Stream	)	

REQUEST FOR CORRECTED FILING RECEIPT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attention: Application Processing Division
Customer Correction Branch

Dear Sir:

Attached is a copy of the official filing receipt received from the PTO in the above-referenced application which issuance of a corrected filing receipt is respectfully requested.

There is an error with respect to the following data, which is incorrectly entered. Applicant(s) should be listed in the following order:

Applicant(s):

KONINKLIJKE KPN N.V., The Hague, NL
NEDERLANDSE ORGANISATIE VOOR TOEGEPAST-NATUURWETENSCHAPPELIJK ONDERZOEK TNO, Delft, NL

The Application Data Sheet submitted on August 30, 2013 correctly reflects this information.

Respectfully submitted,

Date: October 10, 2013

By: /Scott M. Miller/
Scott M. Miller
Registration No. 62,967

McDonnell Boehnen Hulbert & Berghoff LLP
300 South Wacker Drive, 32nd Floor
Chicago, IL 60606
(312)913-0001

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/015,765	08/30/2013	2447	1840	10-406-CON	23	3

CONFIRMATION NO. 6519

20306
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

FILING RECEIPT

OC000000063850413

Date Mailed: 09/19/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Hans Maarten Stokking, The Hague, NETHERLANDS;
Mattijs Oskar Van Deventer, Leidschendam, NETHERLANDS;
Fabian Arthur Walraven, Groningen, NETHERLANDS;
Omar Aziz Niamut, Vlaardingen, NETHERLANDS;

Applicant(s)

Koninklijke KPN N.V., The Hague, NETHERLANDS
Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO, Delft, NETHERLANDS
Koninklijke KPN N.V., The Hague, NETHERLANDS

Assignment For Published Patent Application

Koninkijke KPN N.V., The Hague, NETHERLANDS
Nederlandse Organisatie Voor Toegepast-Natuurwetenschappelijk Onderzoek TNO, Delft, NETHERLANDS

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 12/808,665 06/16/2010 PAT 8549151
which is a 371 of PCT/EP08/11014 12/22/2008
which claims benefit of 61/008,644 12/21/2007

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)
EUROPEAN PATENT OFFICE (EPO) 08002517.4 02/12/2008

Request to Retrieve - This application either claims priority to one or more applications filed in an intellectual property Office that participates in the Priority Document Exchange (PDX) program or contains a proper **Request to Retrieve Electronic Priority Application(s)** (PTO/SB/38 or its equivalent). Consequently, the USPTO will attempt to electronically retrieve these priority documents.

If Required, Foreign Filing License Granted: 09/17/2013

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/015,765**

Projected Publication Date: To Be Determined - pending completion of Corrected Papers

Non-Publication Request: No

Early Publication Request: No

Title

Method And System For Transmitting A Multimedia Stream

Preliminary Class

709

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

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countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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Title 37, Code of Federal Regulations, 5.11 & 5.15

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NOT GRANTED

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technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

Electronic Acknowledgement Receipt

EFS ID:	17087037
Application Number:	14015765
International Application Number:	
Confirmation Number:	6519
Title of Invention:	Method And System For Transmitting A Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Customer Number:	20306
Filer:	Scott Michael Miller
Filer Authorized By:	
Attorney Docket Number:	10-406-CON
Receipt Date:	10-OCT-2013
Filing Date:	30-AUG-2013
Time Stamp:	11:19:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Corrected Filing Receipt	10_406_CON_Request_Correct_Filing_Receipt.pdf	70504 08a0c422fe34e4dcc42333925f4fc885aa3f4149	no	1

Warnings:	
Information:	

2	Request for Corrected Filing Receipt	10_406_CON_Filing_Receipt_Corrected.pdf	191663 719c1532d8a2b035e0127a6b5346fc54c8d7eedb	no	4

Warnings:	
Information:	
Total Files Size (in bytes):	262167

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Docket No. 10-406-CON)

In re Application of:	)	
	)	
Hans Maarten Stokking et al.	)	
	)	
Serial No. 14/015,765	)	
	)	**Examiner: TBD**
Filed: August 30, 2013	)	
	)	
Conf. No. 6519	)	**Group Art Unit: TBD**
	)	
For: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM	)	

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS

Dear Sir:

In response to the Notice to File Corrected Application Papers mailed September 19, 2013, Applicant submits the following amendments and remarks. Amendments to the Specification begin on page 2, and remarks begin on page 3.

Applicant authorizes the Office to charge any underpayment or credit any overpayment to Deposit Account No. 132490. Further, Applicant authorizes the Office to treat any filing in this matter that requires an extension of time as incorporating a request for such an extension.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Amendments to the Specification

Please replace the ABSTRACT paragraph on page 35 of the specification with the following replacement paragraph.

A method is described for transmitting a multimedia stream from a first terminal and receiving an associated second multimedia stream at a second terminal. ~~, wherein the~~ The first and second terminal are connected to at least one gateway for enabling the transmission of the ~~first multimedia~~ stream and the receiving of the ~~second~~ associated stream. [[, the]] The method comprises ~~the steps of~~:-initiating the exchange of first multimedia session information between the first terminal and the gateway, using a first protocol;-providing a trigger to the second terminal to initiate the exchange of second multimedia session information between the second terminal and the gateway, using a second protocol;-in response to [[the]] providing [[of]] the trigger, the second terminal initiating the exchange of second multimedia session information between the second terminal and the gateway, using a third protocol~~, the third protocol being different from the second protocol~~;-transmitting a first multimedia stream from the first terminal and receiving a second associated multimedia stream at the second terminal.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Remarks

The Notice to File Corrected Application Papers mailed September 19, 2013, indicated that a replacement abstract not exceeding 150 words in length is required. Applicant has amended the abstract so that the abstract is less than 150 words. Accordingly, Applicant submits that the response to the Notice is complete. Prompt consideration and entry of these amendments and remarks are respectfully requested.

Applicant believes that no fee is required at this time. However, please charge any underpayment or credit any overpayment to Deposit Account No. 132490.

The undersigned is available at 312-913-3350 to answer questions regarding this amendment, should they arise.

Respectfully submitted,

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP

Date: October 7, 2013

By: /Scott M. Miller/
Scott M. Miller
Reg. No. 62,967

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

PTO/AIA/80 (07-12)
Approved for use through 11/30/2014. OMB 0651-0035
U.S. Patent and Trademark Office; U.S DEPARTMENT OF COMMERCE
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POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

■ Practitioners associated with Customer Number: 20306

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignments documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

■ The address associated with Customer Number: 20306

OR

☐	Firm or Individual Name			
	Address			
	City		State	Zip
	Country			
	Telephone		Email	

Assignee Name and Address: Koninklijke KPN N.V.
Maanplein 55
2516 CK, The Hague, Netherlands

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be Filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of The practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	23 November 2012
Name	K.M. Wuyts	Telephone	+31 70 3433955
Title	Chief Intellectual Property Office		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
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STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Koninklijke KPN N.V.

Application No./Patent No.: 14/015,765 Filed/Issue Date: August 30, 2013

Titled: Method and System for Transmitting a Multimedia Stream

Koninklijke KPN N.V., a corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☐ The assignee of the entire right, title, and interest.

2. ☑ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☑ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☑ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 031143, Frame 0824, or for which a copy thereof is attached.

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

   The document was recorded in the United States Patent and Trademark Office at

   Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

   The document was recorded in the United States Patent and Trademark Office at

   Reel _____, Frame _____, or for which a copy thereof is attached.

This collection of information is required by37 CFR3.73(b). The information is required toobtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentialityis governed by35 U.S.C. 122and 37 CFR1.11 and1.14. Thiscollection is estimated to take 12 minutes to complete, including gathering, preparing, and submittingthe completed application form to the USPTO.Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent tothe Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.**SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
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STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Scott M. Miller/	October 7, 2013
Signature	Date
Scott M. Miller	62,967
Printed or Typed Name	Title or Registration Number

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that yoube given certain informationin connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, pleasebe advised that: (1) the general authority forthe collection of thisinformation is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and(3) the principal purpose forwhich the information isused by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent applicationor patent. If you do not furnish the requested information,the U.S. Patent and Trademark Office may not be able to process and/or examineyour submission,which may result in termination of proceedings or abandonment of the applicationor expiration of the patent.

The informationprovided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the informationin order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an InternationalApplication filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, arecord may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from thissystem of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/AIA/80 (07-12)
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POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

■ Practitioners associated with Customer Number: 20306

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignments documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

■ The address associated with Customer Number: 20306

OR

☐	Firm or Individual Name			
	Address			
	City		State	Zip
	Country			
	Telephone		Email	

Assignee Name and Address: Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO
Schoemakerstraat 97
2628 VK, Delft, The Netherlands

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be Filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of The practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature	[signature]	Date	23 November 2012
Name	J. Hoogerwerf	Telephone	+31 88 8660000
Title	Director patents & licensing		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO

Application No./Patent No.: 14/015,765 Filed/Issue Date: August 30, 2013

Titled: Method and System for Transmitting a Multimedia Stream

Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO, a corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☐ The assignee of the entire right, title, and interest.

2. ☑ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☑ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Koninklijke KPN N.V.

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☑ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 031143, Frame 0824, or for which a copy thereof is attached.

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

   1. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

   2. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

This collection of information is required by37 CFR3.73(b). The information is required toobtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentialityis governed by35 U.S.C. 122and 37 CFR1.11 and1.14. Thiscollection is estimated to take 12 minutes to complete, including gathering, preparing, and submittingthe completed application form to the USPTO.Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent tothe Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.**SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Scott M. Miller/	October 7, 2013
Signature	Date
Scott M. Miller	62,967
Printed or Typed Name	Title or Registration Number

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that yoube given certain informationin connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, pleasebe advised that: (1) the general authority forthe collection of thisinformation is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and(3) the principal purpose forwhich the information isused by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent applicationor patent. If you do not furnish the requested information,the U.S. Patent and Trademark Office may not be able to process and/or examineyour submission,which may result in termination of proceedings or abandonment of the applicationor expiration of the patent.

The informationprovided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the informationin order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an InternationalApplication filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, arecord may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from thissystem of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	17054931
Application Number:	14015765
International Application Number:	
Confirmation Number:	6519
Title of Invention:	Method And System For Transmitting A Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Customer Number:	20306
Filer:	Scott Michael Miller
Filer Authorized By:	
Attorney Docket Number:	10-406-CON
Receipt Date:	07-OCT-2013
Filing Date:	30-AUG-2013
Time Stamp:	14:43:08
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		10_406_CON_Response.pdf	86453 cfbd83cac6c922cd2a4b48e66154c35ee869ba62	yes	3

	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Applicant Response to Pre-Exam Formalities Notice		1	1	
	Abstract		2	2	
	Applicant Arguments/Remarks Made in an Amendment		3	3	
Warnings:					
Information:					
2	Power of Attorney	10_406_CON_Power_KPN.pdf	145299 87c046100dae4110c3714b54a3c3e88a1749d32e	no	1
Warnings:					
Information:					
3	Assignee showing of ownership per 37 CFR 3.73.	10_406_CON_Statement_KPN.pdf	118990 1aea824ebabbbc31ec7b8f3d437bad2543b570c7	no	3
Warnings:					
Information:					
4	Power of Attorney	10_406_CON_Power_Nederlandse.pdf	140400 45f2e649ad124cb4c94eb863abe3121a376153f9	no	1
Warnings:					
Information:					
5	Assignee showing of ownership per 37 CFR 3.73.	10_406_CON_Statement_Nederlandse.pdf	119121 2cc8f25df8b0c761db93a0bc22b01c1b46b0c09d	no	3
Warnings:					
Information:					
		Total Files Size (in bytes):	610263		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/015,765	08/30/2013	2447	1840	10-406-CON	23	3

CONFIRMATION NO. 6519

20306
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

FILING RECEIPT

OC000000063850413

Date Mailed: 09/19/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Hans Maarten Stokking, The Hague, NETHERLANDS;
Mattijs Oskar Van Deventer, Leidschendam, NETHERLANDS;
Fabian Arthur Walraven, Groningen, NETHERLANDS;
Omar Aziz Niamut, Vlaardingen, NETHERLANDS;

Applicant(s)

Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO, Delft, NETHERLANDS
Koninkijke KPN N.V., The Hague, NETHERLANDS

Assignment For Published Patent Application

Koninkijke KPN N.V., The Hague, NETHERLANDS
Nederlandse Organisatie Voor Toegepast-Natuurwetenschappelijk Onderzoek TNO, Delft, NETHERLANDS

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 12/808,665 06/16/2010 PAT 8549151
which is a 371 of PCT/EP08/11014 12/22/2008
which claims benefit of 61/008,644 12/21/2007

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)
EUROPEAN PATENT OFFICE (EPO) 08002517.4 02/12/2008

Request to Retrieve - This application either claims priority to one or more applications filed in an intellectual property Office that participates in the Priority Document Exchange (PDX) program or contains a proper **Request to Retrieve Electronic Priority Application(s)** (PTO/SB/38 or its equivalent). Consequently, the USPTO will attempt to electronically retrieve these priority documents.

If Required, Foreign Filing License Granted: 09/17/2013

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/015,765**

Projected Publication Date: To Be Determined - pending completion of Corrected Papers

Non-Publication Request: No

Early Publication Request: No

Title

Method And System For Transmitting A Multimedia Stream

Preliminary Class

709

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/015,765	08/30/2013	Hans Maarten Stokking	10-406-CON

CONFIRMATION NO. 6519

20306
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

FORMALITIES LETTER

OC000000063850414

Date Mailed: 09/19/2013

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Filing Date Granted

An application number and filing date have been accorded to this application. The application is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given TWO MONTHS from the date of this Notice within which to correct the informalities indicated below. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

The required item(s) identified below must be timely submitted to avoid abandonment:

- A replacement abstract not exceeding 150 words in length and commencing on a separate sheet in compliance with 37 CFR 1.72(b) and 37 CFR 1.121 is required.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

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/mhaile/

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 14/015,765

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	280
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	600
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	720
TOTAL CLAIMS (37 CFR 1.16(i))	23 minus 20 =	* 3			OR	x 80 =	240
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*				x 420 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1840

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
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The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Docket No. 10-406-CON)

In re Application of:	)	
	)	
Hans Maarten Stokking et al.	)	
	)	
Serial No. 14/015,765	)	
	)	**Examiner: TBD**
Filed: August 30, 2013	)	
	)	
Conf. No. 6519	)	**Group Art Unit: TBD**
	)	
For: METHOD AND SYSTEM FOR TRANSMITTING A MULTIMEDIA STREAM	)	

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313

PRELIMINARY AMENDMENT

Dear Sir:

Preliminary to examination of this application, Applicant submits the following amendments and remarks. Amendments to the specification begin on page 2, claim amendments begin on page 3, and remarks appear on page 8.

Applicant believes that no fee is required at this time. However, please charge any underpayment or credit any overpayment to Deposit Account No. 132490. In addition, please treat any filing in this matter that requires an extension of time as incorporating a request for such an extension.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

AMENDMENT TO THE SPECIFICATION

Please amend the first full paragraph on page 1 of the specification (i.e., the "Cross Reference to Related Applications" paragraph spanning lines 2-10) as follows:

The present patent application is a continuation of U.S. Patent Application Serial No. 12/808,665, entitled "Method and system for transmitting a multimedia stream," filed June 16, 2010, which is a national stage entry of PCT/EP2008/11014, filed December 22, 2008, which claims priority to U.S. Provisional Patent Application Serial No. 61/008,644, filed December 21, 2007, and to European Patent Application No. 08002517.4, filed February 12, 2008. The full disclosure of U.S. Patent Application Serial No. 12/808,665 is incorporated herein by reference.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

AMENDMENTS TO THE CLAIMS

1-13. (Canceled)

14. (New) A method, wherein a gateway is capable of communicating with a first terminal and a second terminal, the method comprising:

the gateway or the first terminal using a first protocol to exchange first media session information between the first terminal and the gateway, wherein the exchange of the first media session information sets up a first media stream from the first terminal;

the second terminal using a second protocol to receive a trigger provided by the gateway or first terminal, wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal;

in response to receiving the trigger, the second terminal using a third protocol to initiate the exchange of the second media session information between the gateway and the second terminal, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates; and

the second terminal receiving the second media stream, wherein the second media stream is associated with the first media stream.

15. (New) The method according to claim 14, wherein the exchange of the first media session information comprises:

the gateway providing to the first terminal at least part of the second media session information.

16. (New) The method according to claim 14, wherein the exchange of the second media session information comprises:

the gateway providing to the second terminal at least part of the first media session information.

17. (New) The method according to claim 14, wherein the exchange of the first media session information comprises:

the gateway receiving, from the first terminal, an identifier of the second terminal.

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18. (New) The method according to claim 17, further comprising:

before using the second protocol to provide the trigger to the second terminal, the gateway resolving the identifier of the second terminal into a network address of the second terminal.

19. (New) The method according to claim 18, wherein providing the trigger to the second terminal comprises the gateway transmitting the trigger to the resolved network address of the second terminal.

20. (New) The method of claim 14, wherein the third protocol is different from the second protocol.

21. (New) The method of claim 14, wherein the first multimedia stream is the second multimedia stream.

22. (New) The method of claim 14, wherein the trigger serves to inform the second terminal of availability of a new multimedia stream.

23. (New) The method of claim 14, wherein the first protocol is a peer-to-peer protocol.

24. (New) The method of claim 14, wherein the third protocol is a client-server protocol, and wherein the second receiving terminal has client capabilities of the third protocol and not server capabilities of the third protocol.

25. (New) The method of claim 14, wherein the trigger comprises a network address of the gateway.

26. (New) The method of claim 25, wherein the network address is a URI or a URI reference.

27. (New) The method of claim 14, wherein the first protocol and the second protocol are identical.

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28. (New) The method of claim 27, wherein the first protocol and the second protocol are the Session Initiation Protocol (SIP).

29. (New) The method of claim 14, wherein the gateway is configured to associate the first multimedia session information with the second multimedia session information.

30. (New) An article of manufacture including a non-transitory computer-readable medium, having stored thereon software instructions that, if executed by a computing device, cause the computing device to perform operations comprising:

using a first protocol to initiate an exchange of first media session information between a first terminal and a gateway, wherein the exchange of the first media session information sets up a first media stream from the first terminal;

using a second protocol to provide a trigger to a second terminal, wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal;

using the second protocol to conduct the exchange of the second media session information between the gateway and the second terminal, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates; and

using the first protocol to transmit a response to the first terminal, wherein the response causes the first terminal to begin transmission of the first media stream.

31. (New) A gateway comprising:

a communication interface; and

memory that stores software instructions that, when executed by the gateway, cause the gateway to:

(i) exchange first multimedia session information with a first terminal using a first protocol, wherein the exchange of the first media session information sets up a first media stream from the first terminal,

(ii) provide a trigger to a second terminal, wherein the trigger is provided using a second protocol, in response to which the second terminal is able to initiate the exchange of second multimedia session information with the gateway, and

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(iii) exchange second multimedia session information with the second terminal, using a third protocol, wherein the third protocol is different from the first protocol, wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates.

32. (New) The gateway of claim 31, wherein the gateway is configured to connect to a first terminal supporting a first protocol and to a second terminal supporting a second protocol,

wherein the first protocol is Session Initiation Protocol (SIP) and the second protocol is Real Time Streaming Protocol (RTSP),

wherein the first terminal is an originating SIP client of a user at a user side,

wherein the gateway acts as a terminating SIP client,

wherein the gateway is configured to confirm that the gateway is able to receive a multimedia session from the user and to provide the first terminal with multimedia session information,

wherein the second terminal is an RTSP client,

wherein the gateway acts as an RTSP server on behalf of the user,

wherein the second terminal uses RTSP for session control, and

wherein the gateway is configured to inform the second terminal that an incoming session is pending and notify the RTSP client to connect to an RTSP server function of the gateway.

33. (New) The gateway of claim 31, wherein the gateway is configured to transmit a notification message to the second terminal in response to an invitation of the first terminal, in order to activate the second terminal to set up the second multimedia session between the second terminal and the gateway.

34. (New) The gateway of claim 31, wherein the gateway is embedded in an IP Multi-Media Subsystem (IMS) network architecture, wherein the first protocol is Session Initiation Protocol (SIP), wherein the third protocol is Real Time Streaming Protocol (RTSP), the IMS network architecture comprising a service-control-function component and a media-function component, wherein the memory of the gateway is distributed in the IMS network architecture, such that:

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HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

exchanging the first multimedia session information is handled by the service-control-function component within the IMS network architecture;

triggering the second terminal is controlled by the service-control-function component within the IMS network architecture; and

exchanging second multimedia session information is handled by the media-function component within the IMS network architecture.

35. (New) The gateway of claim 31, wherein the gateway is configured to associate the first multimedia session information and the second multimedia session information with each other.

36. (New) The gateway of claim 31, wherein the gateway further comprises Session Initiation Protocol (SIP) client functionality and Real Time Streaming Protocol (RTSP) server functionality.

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Remarks

Preliminary to the examination of this application, please enter the above amendments to the specification and the claims. No new matter has been introduced into the present application as a result of the above amendments.

Applicant notes that the present patent application is a continuation of U.S. Patent Application Serial No. 12/808,665, entitled "Method and system for transmitting a multimedia stream," filed June 16, 2010, which is a national stage entry of PCT/EP2008/11014, filed December 22, 2008, which claims priority to U.S. Provisional Patent Application Serial No. 61/008,644, filed December 21, 2007, and to European Patent Application No. 08002517.4, filed February 12, 2008. Applicant notes that the claim for priority to European Patent Application No. 08002517.4 was provided in the Application Data Sheet (ADS) filed along with the application on August 30, 2013.

Prompt consideration and entry of this amendment prior to examination is respectfully requested. If there are any questions or comments regarding this Amendment or application, the Examiner is encouraged to contact the undersigned attorney.

Respectfully submitted,

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP

Dated: September 5, 2013

By: /Scott M. Miller/
Scott M. Miller
Reg. No. 62,967

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

Electronic Acknowledgement Receipt

EFS ID:	16771412
Application Number:	14015765
International Application Number:	
Confirmation Number:	6519
Title of Invention:	Method And System For Transmitting A Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Customer Number:	20306
Filer:	Scott Michael Miller
Filer Authorized By:	
Attorney Docket Number:	10-406-CON
Receipt Date:	05-SEP-2013
Filing Date:	
Time Stamp:	14:16:15
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		10_406_CON_Pre_Amend.pdf	69511 3c9c4c32e036f8519645c2af229cdc702d015a78	yes	8

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Preliminary Amendment	1	1
	Specification	2	2
	Claims	3	7
	Applicant Arguments/Remarks Made in an Amendment	8	8
Warnings:			
Information:			
	Total Files Size (in bytes):	69511	

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New International Application Filed with the USPTO as a Receiving Office
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/015,765	Filing Date 08/30/2013	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT

09/05/2013	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 23	Minus	** 23	= 0	X $80 =	0
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $420 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

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/JOY J. DOBBS/

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	
Filing Date	2013-08-30
First Named Inventor	Hans Maarten Stokking
Art Unit	
Examiner Name	TBD
Attorney Docket Number	10-406-CON

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7043528	B2	2006-05-09	Schmitt et al.	
	2	7231658	B2	2007-06-12	Kunito et al.	
	3	7286521	B1	2007-10-23	Jackson et al.	
	4	7440440	B1	2008-10-21	Abichandani et al.	
	5	7643411	B2	2010-01-05	Andreasen et al.	
	6	7716310	B2	2010-05-11	Foti	
	7	7792025	B2	2010-09-07	Segel et al.	
	8	7953867	B1	2011-05-31	Andreasen	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2013-08-30
	First Named Inventor	Hans Maarten Stokking
	Art Unit	
	Examiner Name	TBD
	Attorney Docket Number	10-406-CON

	9	8032589	B2	2011-10-04	Foti	
	10	8046479	B2	2011-10-25	Einarsson et al.	
	11	6895439	B2	2005-05-17	Isomaki et al.	
	12	7724691	B2	2010-05-25	Mela et al.	
	13	7804848	B2	2010-09-28	Mirtorabi et al.	
	14	8027353	B2	2011-09-27	Damola et al.	

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Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20070025301	A1	2007-02-01	Petersson et al.	
	2	20070177616	A1	2007-08-02	Jabri et al.	
	3	20080092178	A1	2008-04-17	McNamara et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2013-08-30
	First Named Inventor	Hans Maarten Stokking
	Art Unit	
	Examiner Name	TBD
	Attorney Docket Number	10-406-CON

	4	20090100147	A1	2009-04-16	Igarashi	
	5	20090180484	A1	2009-07-16	Igarashi	
	6	20090190603	A1	2009-07-30	Damola et al.	
	7	20090193469	A1	2009-07-30	Igarashi	
	8	20090217337	A1	2009-08-27	Aström	
	9	20090235317	A1	2009-09-17	Igarashi	
	10	20090307307	A1	2009-12-10	Igarashi	
	11	20090313376	A1	2009-12-17	Cedervall et al.	
	12	20100005177	A1	2010-01-07	Cagenius	
	13	20100005501	A1	2010-01-07	Stokking et al.	
	14	20110209188	A1	2011-08-25	Petersson et al.	

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	Examiner Name	TBD
	Attorney Docket Number	10-406-CON

	15	20060291472	A1	2006-12-28	Guo et al.	
	16	20050135366	A1	2005-06-23	Trappeniers et al.	
	17	20060128376	A1	2006-06-15	Alexis	

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FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2007140812	WO		2007-12-13	Telefonaktiebolaget LM Ericsson		☐
	2	1890463	EP		2008-02-20	Converse, Ltd.		☐

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NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	Schulzrinne, H. et al., RFC 2326: Real Time Streaming Protocol (RTSP), April 1998, IETF, Pages 1-92.	☐
	2	International Search Report and Written Opinion, PCT International Application NO. PCT/EP2008/011014 dated December 22, 2008.	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2013-08-30
	First Named Inventor	Hans Maarten Stokking
	Art Unit	
	Examiner Name	TBD
	Attorney Docket Number	10-406-CON

	3	European Extended Search Report, European Patent Application No. 08002517.4 dated July 4, 2008.	☐
	4	Fresa, A. et al., "A Testbed for Experimentation of Innovative Services in the B3G Framework", Testbeds and Research Infrastructures for the Development of Networks and Communities, February 23-25, 2005, pp. 110-119.	☐
	5	Whitehead, S. et al., "An Evaluation of Session Initiation Protocol (SIP) for Use in Streaming Media Applications", Standard-Working-Draft, Internet Engineering Task Force, IETF, No. 2, October 22, 2006, whole document.	☐
	6	Friedrich, O. et al., "Next Generation IPTV Services for an Extended IMS Architecture", Autonomous Decentralized Systems, 2007, Eight International Symposium on IEEE, March 1, 2007, 6 pages.	☐
	7	Takei, Kentaro et al., "Design of Gateway System Between Different Signaling Protocols of the Multimedia Session on the Internet", Information Networking, 2001, Proceedings 15th International Conference, pp. 297-302.	☐
	8	Singh, K. et al., "Interworking Between SIP/SDP and H.323", Internet Engineering Task Force Internet Draft, January 2000, pp. 1-39.	☐
	9	Khan, S. et al., "Experiences with Blending HTTP, RTSP, and IMS", IEEE Communications Magazine IEEE USA, Vol. 45, No. 3, March 2007, pp. 122-128.	☐
	10	Bodzinga, Anne et al., "Interworking IPTV Services with IMS", Telecommunications Network Strategy and Planning Symposium, November 2006, pp. 1-5.	☐
	11	Anonymous, "MoFu IVAS Interactive Video Applicatino Server", Whitepaper, Mobilfuture, [Online], December 2006, pp. 1-21, http://mobilfuture.kei.pl/files/MoFu_IVAS_whitepaper_v1.0.pdf.	☐
	12	Weldon, "IMS and IPTV, Perfect Together", Internet Citation [online], January 17, 2006, http://ipcommunications.tmcnet.com/hot-topics/ims/articles/280-ims-iptv-perfect-together.htm, pp. 1-4.	☐
	13	Singh, Kundan et al., "Interworking Between SIP/SDP and H.323", IP Telecom Services Workshop, September 2000, whole document.	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	Art Unit	
	Examiner Name	TBD
	Attorney Docket Number	10-406-CON

	14	Burger, E., "A Mechanism for Content Indirection in Session Initiation Protocol (SIP) Messages", Network Working Group, Request for Comments 4483, www.rfc-editor.org/rfc/rfc4483.txt, May 2006.	☐
	15	Schulzrinne, H. et al., "Real Time Streaming Protocol 2.0 (RTSP)", MMUSIC Working Group, Internet-Draft, November 19, 2007, draft-ietf-mmusic-rfc2326bis-16.txt.	☐
	16	ETSI, "Telecommunications and Internet Converged Services and Protocols for Advanced Networking (TISPAN); IPTV Architecture; IPTV Functions Supported by the IMS Subsystem", ETSI TS 182 027 V2.0.0 (2008), pp. 1-57.	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2013-08-30
	First Named Inventor	Hans Maarten Stokking
	Art Unit	
	Examiner Name	TBD
	Attorney Docket Number	10-406-CON

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Scott M. Miller/	Date (YYYY-MM-DD)	2013-08-30
Name/Print	Scott M. Miller	Registration Number	62967

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Attorney Docket No.: 10-406-CON)

Applicant:	Hans Maarten Stokking *et al.*	
Appl. No.:	TBD	
Filed:	August 30, 2013	
Title:	Method And System For Transmitting A Multimedia Stream	**FILED VIA EFS-WEB ON AUGUST 30, 2013**
TC/A.U.:	TBD	
Confirmation No.:	TBD	
Examiner:	TBD	

INFORMATION DISCLOSURE STATEMENT TRANSMITTAL LETTER

Mail Stop: AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Examiner,

In accordance with the duty of candor provisions set forth under 37 C.F.R. §1.56, submitted herewith on Form PTO/SB/08 is a listing of documents that Applicant wishes to make of record in the above-identified application.

The submission of any document herewith is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 C.F.R. § 1.56(b). Applicant does not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* art reference against the claims of the present application.

In compliance with 37 C.F.R. §1.97(b), the listed documents are being submitted concurrently with the filing of the present application.

In compliance with the provisions set forth under 37 C.F.R. §1.98(d), a copy of any reference that was previously submitted and/or provided by the Examiner in the parent application for the above-identified Continuation application are not being resubmitted herewith. For the Examiner's

convenience, the parent application serial number to which the above-identified application claims priority to under 35 U.S.C. §120 is 12/808,665.

Applicant respectfully requests that the listed document(s) be considered by the Examiner and be made of record in the present application, and that a copy of Form PTO/SB/08 be returned in accordance with M.P.E.P. §609.

Although Applicant believes that no fee is required for this submission, the Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 13-2490.

Respectfully submitted,
McDonnell Boehnen Hulbert & Berghoff LLP

Dated: August 30, 2013

By: /Scott M. Miller/
Scott M. Miller
Registration No. 62,967

McDonnell Boehnen
Hulbert & Berghoff LLP
300 South Wacker Drive
Chicago, IL 60606
Tel: 312-913-0001

Samsung Ex. 1012, Page 622 of 691

PTO/SB/38 (04-13)
Approved for use through 05/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Request to Retrieve Electronic Priority Application(s)

Send completed form to: Commissioner for Patents
P.O. Box 1450, Alexandria, VA 22313-1450

COMPLETE IF KNOWN	
Application Number	
Filing Date	August 30, 2013
First Named Inventor	Hans Maarten Stokking
Art Unit	TBA
Examiner Name	TBA
Attorney Docket Number	10-406-CON

Pursuant to 37 CFR 1.55(h), the undersigned hereby requests that the USPTO retrieve an electronic copy of each of the following foreign applications for which priority has been claimed under 35 U.S.C. 119(a)-(d) from a foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement. This Request must be submitted:

- within the later of sixteen months from the filing date of the prior foreign application or four months from the actual filing date of an application under 35 U.S.C. 111(a),
- within four months from the later of the date of commencement (37 CFR 1.491(a)) or the date of the initial submission under 35 U.S.C. 371 of an application entering the national stage under 35 U.S.C. 371, or
- with a petition under 37 CFR 1.55(e).

☑ **OPTION A**

Please retrieve the priority application identified in Column C, a certified copy of which is contained in the EP or JP application identified in Columns A and B:

	A	B		C	
	Code for Participating Office (EP or JP only)	Application containing the non-participating priority application		Non-participating priority application to be retrieved	
		App. No.	Filing Date	Country Code	App. No.
1	EP	08002517.4	February 12, 2008		

☐ **OPTION B**

This Request may be used for the infrequent circumstance when a claim for priority to an application filed in a participating foreign intellectual property office was made prior to that foreign intellectual property office becoming a participating foreign intellectual property office.

Please retrieve the priority application identified in Columns A and B:

	A	B		
	Code for Participating Office (e.g., EP, JP, KR) or WIPO DAS Depositing Office (e.g., AU, DK, ES, FI)	Application to be retrieved		
		App. No.	Filing Date	Access Code (for WIPO DAS Depositing Office)
1				
2				

The USPTO will not attempt to retrieve the identified priority application(s) unless an identical claim for foreign priority to the application identified above is made pursuant to 37 CFR 1.55(c) or (d) or a petition is granted under 37 CFR 1.55(e). Applicants are advised to consult Private PAIR (accessed through www.uspto.gov) to assure that the retrieval has been successful. The applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period set forth in 37 CFR 1.55(g)(1).

I hereby declare that I have the authority to grant access to the above-identified foreign application(s).

/Scott M. Miller/	August 30, 2013
Signature	Date
Scott M. Miller	312-913-0001
Printed or Typed Name	Telephone Number
Attorney	62,967
Title	Registration Number, if applicable

This collection of information is required by 37 CFR 1.55(d). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process an application). Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 8 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	Method and System for Transmitting a Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Filer:	Scott Michael Miller
Attorney Docket Number:	10-406-CON

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility application filing	1011	1	280	280
Utility Search Fee	1111	1	600	600
Utility Examination Fee	1311	1	720	720
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**1600**

Electronic Acknowledgement Receipt

EFS ID:	16731522
Application Number:	14015765
International Application Number:	
Confirmation Number:	6519
Title of Invention:	Method and System for Transmitting a Multimedia Stream
First Named Inventor/Applicant Name:	Hans Maarten Stokking
Customer Number:	20306
Filer:	Scott Michael Miller
Filer Authorized By:	
Attorney Docket Number:	10-406-CON
Receipt Date:	30-AUG-2013
Filing Date:	
Time Stamp:	18:26:52
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$1600
RAM confirmation Number	6448
Deposit Account	132490
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		10_406_CON_Specification.pdf	117615 353724b6cdfbbffff1a54c5d67dcb9eb17e25540	yes	35

Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	30
Claims	31	34
Abstract	35	35

Warnings:

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2	Drawings-only black and white line drawings	10_406_CON_Figures.pdf	597498 734de99b440cc8d17ef2df485d159c41e6cd02fe	no	9

Warnings:

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3	Oath or Declaration filed	10_406_CON_Declaration.pdf	596465 2c96fe572d06af0f34ae192fb0eb8adac44cfd9e	no	8

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4	Application Data Sheet	10-406-CON_ADS.pdf	1256239 dfb302fb5fc417c8318d338466e19a54d80cf291	no	8

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5	Authorization for Extension of Time all replies	10-406-CON_GeneralAuthorization.pdf	68609 ffdc166b93ad9a7a28217ae3b15026228b45b3be	no	1

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6	Information Disclosure Statement (IDS) Form (SB08)	10-406-CON_IDS.pdf	530545 6fef04314deff83fa6d1d1ba19fea278979965a9	no	8

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Warnings:					
Information:					
8	Request for USPTO to retrieve priority docs	10-406-CON_RequestToRetrieve.pdf	1425965 a230fd9a85679455554fee094d154bdbc88a666f	no	2
Warnings:					
Information:					
9	Fee Worksheet (SB06)	fee-info.pdf	32347 c41e0440be1c788fc22f26f2dd21ea10418bba93	no	2
Warnings:					
Information:					
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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Method and system for transmitting a multimedia stream

CROSS REFERENCE TO RELATED APPLICATIONS

The present patent application is a continuation of U.S. Patent Application Serial No. 12/808,665, entitled "Method and system for transmitting a multimedia stream," filed June 16, 2010, which is a national stage entry of PCT/EP2008/11014, filed December 22, 2008, which claims priority to U.S. Provisional Patent Application Serial No. 61/008,644, filed December 21, 2007. The full disclosure of U.S. Patent Application Serial No. 12/808,665 is incorporated herein by reference.

Field of the invention

The invention relates to a method and a system for transmitting a multimedia stream from a first terminal to a second terminal. In particular, the invention relates to a method and system for transmitting a first multimedia stream from a first terminal and receiving a second associated stream at a second terminal. The invention further relates to a gateway and a device for use in such system.

Background of the invention

IP Multi-Media Subsystem (IMS) defined by the 3GPP and 3GPP2 standards open the door to a whole range of new multimedia services, such as Voice over IP (VoIP) and IPTV. The IMS service architecture enables to combine multimedia services of various types.

One type of services may enable viewers at home to participate real-time in a live TV show using e.g. a webcam at home. The multimedia streams generated by the webcam are transported from the home-located user over an IP network to

the TV studio using the Real-time Transport Protocol (RTP). In an IMS based architecture such multimedia streaming sessions between clients are set up using the Session Initiation Protocol (SIP), whereas the Real Time Streaming Protocol (RTSP) is typically used for streaming multimedia content from a server to a client.

Systems that provide an interface between SIP and RTSP domains, usually referred to as SIP-RTSP gateways, are known in the art. Within ETSI TISPAN Standardization (WI2048, TS 182 027) an architecture is proposed in which a terminal, comprised in a device such as for example a set-top box, a personal computer, a personal digital assistant (PDA) or a mobile telephone with multi-media capabilities, uses SIP to set up a multimedia session with a selected content provider. After establishment of the session, RTSP is used to select, retrieve and control the streamed content. Further, the University of Colombia (Kundan Singh and Henning Schulzrinne, "Unified Messaging using SIP and RTSP", IP Telecom Services Workshop, Sept 2000, Atlanta, Georgia, US) has developed a SIP-RTSP Gateway for multimedia unified messaging.

These systems use SIP and RTSP clients at the user side and SIP clients and RTSP servers in the network, thereby enabling a user to initiate the set up multimedia session in which multimedia content is streamed from the RTSP servers to the user.

Another gateway system that may be used to stream multimedia between different protocol domains is described in TAKEI K ET AL "Design of gateway system between different signaling protocols of the multimedia session on the internet" INFORMATION NETWORKING, 2001. PROCEEDINGS. 15TH INTERNATIONALCONFERENCE ON 31 JANUARY-2 FEBRUARY, PISCATAWAY, NJ, USA, IEEE, 2001, PAGES 297-302, ISBN: 0-7695-0951-7/01. This system is used to interwork the SIP and the H323 protocol

domains. Both protocols are peer-to-peer type protocols and allow for bidirectional set-up/initiation of sessions.

One problem related to these known systems is that they do not provide all the functionality needed for the above mentioned services, which require the user to initiate the set up a multimedia session such that user-generated content is streamed from the user (the transmitting-end) to the studio (the receiving-end), whereby the studio may want to control the stream of user generated content. A known protocol for controlling a stream is RTSP, whereby the receiving-end, with RTSP client functionality, may be able to pause, or forward or backward a stream, or play a stream at a different speed. If the transmitting-end on the other hand is only capable of using the SIP protocol for setting up and maintaining the multimedia streaming session, the mentioned services cannot be realized with the known prior art systems, since the SIP protocol does not provide the means for controlling a stream in the way that for instance the RTSP protocol is capable of.

Another problem related to the streaming of multimedia, that may arise with prior art systems, is that when the receiving-end is only equipped with client functionality of a client-server type of protocol for receiving multimedia, it may only be capable of initiating a multimedia session. If the transmitting-end, using for example a peer-to-peer type of protocol, such as the SIP protocol, wants to initiate a multimedia streaming session, the receiving-end is not capable to respond to such an invitation. Prior-art systems, such as the known SIP-RTSP gateways and the known SIP-H323 gateways do not provide a solution for this problem.

A variety of additional problems may arise with prior art systems, when the user generated multimedia has to be streamed to a multiple of receiving-ends. These receiving-ends may all have different capabilities or preferences when it

comes to receiving a multimedia stream. One receiving-end may want to receive a live stream, whereas the other may want to be able to control the stream as described above. Additionally these preferences and capabilities, as well as the network addresses of the receiving-ends, may not be known to the transmitting-end.

Summary of the invention

It is an object of the invention to reduce or eliminate at least one of the drawbacks known in the prior art and to provide a method and system for transmitting a first multimedia stream from a first terminal and receiving a second associated multimedia stream at a second terminal.

In an embodiment the first and second terminal are connected to at least one gateway for enabling the transmission of the first multimedia stream and the receiving of the second associated stream. The method comprises the steps of:

- initiating the exchange of first multimedia session information between the first terminal and the gateway, using a first protocol;
- providing a trigger to the second terminal to initiate the exchange of second multimedia session information between the second terminal and the gateway, using a second protocol;
- in response to the providing of the trigger, the second terminal initiating the exchange of second multimedia session information between the second terminal and the gateway, using a third protocol, the third protocol being different from the second protocol;
- transmitting a first multimedia stream from the first terminal and receiving a second associated multimedia stream at the second terminal.

The method thus allows the user of a first terminal to transmit a multimedia stream of real-time user-generated content to a second terminal, whereby the first terminal uses a different multimedia protocol to set up a multimedia stream as that the second terminal uses to receive the associated multimedia stream.

In the method according to the embodiment a gateway is capable of connecting a first terminal supporting a first protocol, e.g. SIP, to a second terminal supporting a different (third) protocol, e.g. RTSP. Towards the first terminal, i.e. the (originating) SIP client at the user side, the gateway acts as (terminating) SIP client. The gateway exchanges information about the specifications of the first multimedia session with the first terminal. In the first multimedia session a multimedia stream is transmitted from the first terminal. Towards the second terminal, i.e. the RTSP client, the gateway acts as RTSP server on behalf of the user, whereby the second terminal uses RTSP for exchanging information about the specifications of the second multimedia session with the gateway. In the second multimedia session a multimedia stream is received by the second terminal.

The second terminal is triggered, using a second protocol that is different from the protocol used by the second terminal to exchange second multimedia session information, informing the second terminal of the availability of a new multimedia stream and activating the RTSP client to connect to the RTSP server function of the gateway. Optionally the activation of the RTSP client may occur only after approval of the user of the second terminal. The approval step is then simply part of the fully automated process.

The gateway acts both as a SIP client and RTSP server and may provide a trigger to the second terminal for connecting the second terminal to the gateway. The invention is based on the idea that the trigger is provided using a different protocol then the protocol used by the second terminal to arrange the receipt of multimedia. This idea is based on the insight that some protocols are only capable of initiating a multimedia session in one direction. The trigger (message) ensures that SIP clients from the user and RTSP clients from the studio can be connected in order to enable

user-generated content to be transmitted from the first terminal to the second terminal.

In a further embodiment of the method according to the invention, the exchange of first multimedia session information comprises the providing to the first terminal of at least part of the second multimedia session information and whereby transmitting of the first multimedia stream from the first terminal is started in response to said providing. This has the advantage of providing additional flexibility to the method. It is no longer the gateway that supplies preconfigured specifications of both related multimedia sessions to the terminals involved in the transmitting and receiving of the stream, but the gateway may use (requested by) settings from the second receiving terminal, and supply these to the first, transmitting, terminal. Vice versa, and for the same benefit, the gateway may use (requested by) settings from the first transmitting terminal, and supply these to the second, receiving, terminal. In both situations the transmitting, respectively receiving of multimedia streams may only start after the exchange of these settings.

In an embodiment of the method, the first protocol is a peer to peer type protocol, preferably the Session Initiation Protocol (SIP). The advantage of the peer-to-peer protocol is that both sides may initiate the set-up of a streaming session. So in the invention, it may be the first terminal offering a multimedia stream or it may be the gateway first requesting the first terminal to offer a multimedia stream. The SIP protocol is a very commonly used protocol in multimedia sessions, and therefore a lot of devices and network architecture support this protocol.

In a further embodiment of the method the third protocol is a client-server type protocol, preferably the Real Time Streaming Protocol (RTSP). Typically a client-server type of protocol is a protocol that is designed to support only one

way initiation of the set up of a multimedia session. Only the client can typically initiate the set-up. Therefore the invention is advantageously used when the second receiving terminal has only client capabilities of such a protocol and therefore is unable to receive an invitation via such a protocol. The use of the RTSP protocol, may be advantageous, when the receiving second terminal wants to control the incoming stream and use the special control options of this protocol.

In a further embodiment of the method, the step of providing a trigger to the second terminal is initiated by the gateway. Having the gateway and not for example the first terminal provide the trigger, may be advantageous when the first terminal does not have the right trigger capabilities, does not know how to reach the second terminal, and in case of a multiple of receiving terminals, that need to be reached.

In yet a further embodiment of the method, the trigger comprises a network address, preferably an URI or URI reference, of the gateway. This may be advantageous, if the second terminal is not configured with a default address, or the default (proxy) address normally used for receiving multimedia streams is not applicable.

In another embodiment of the method, the exchange of first multimedia session information comprises the provisioning of an identifier of the second terminal to the gateway. This may be advantageous, if it is the gateway that provides the trigger to the second terminal. In that situation, it is the gateway that needs to be able to identify the address of the second terminal to be reached.

In a further embodiment of the method, the method comprises the addition step of resolving the identifier of the second terminal into a network address, before provisioning of the trigger to the second terminal. This may be the situation,

when the trigger is sent by the gateway and the identifier does not comprise of a network address of the second terminal. The identifier may be a closed user group ID, in which case all network addresses of all receiving terminals need to be identified first.

In another embodiment according to the method, the first and the second protocol are identical. This simplifies the implementation of the invention. A situation like this may occur when the receiving terminal has both RTSP and SIP client capabilities. The trigger may then be provided using the SIP protocol, whereas the initiation and set up of the receipt of the multimedia stream may be done, using the RTSP client, thus enabling control functionalities (trickplay) that SIP lacks.

In another embodiment of the method, the second associated multimedia stream is a multicast stream. This may be advantageous when a multiple of receiving terminals may be offered the live multimedia stream. They may, after being provided with the trigger, and having received a multicast address from the gateway in the exchange of second multimedia session information, use IGMP to sign-up for the multicast.

In a further embodiment of the method the first multimedia stream is a multicast stream. This is advantageous when the first transmitting terminal has (received) a multicast address it can use to multicast its multi-media stream.

In yet a further embodiment of the method, the first multimedia stream is the same multimedia stream as the second associated multimedia stream. In this case the (live) content may also be received live/without any substantial delay from the transmitting first terminal. For enabling additional trickplay (control) functionality, the transmitted multimedia stream needs to be streamed and buffered first to a location under the control of a multimedia server such as a RTSP server, before it is retransmitted as a second associated

stream to a second terminal. The additional control functions (e.g. forward, backward, pause) may then be exerted on this second associated stream.

In another embodiment of the method, the first terminal and the gateway are both comprised in the same device and the first protocol is an internal protocol. This may be an advantageous implementation when the network (or studio/receiving-end) does not have the gateway functionality according to the invention. Preferably this situation may occur when there exist a one-to-one relationship between the transmitting and receiving terminal, and both terminals are comprised in mobile devices.

In an aspect the invention relates to a system for transmitting a multimedia stream from a first terminal and receiving an associated second multimedia stream at a second terminal, wherein the system comprises:

a first terminal and second terminal connected to at least one gateway,

wherein the first terminal comprises (i) means for exchanging first multimedia session information with the gateway, using a first protocol, and (ii) means for transmitting a first multimedia stream;

wherein the gateway or first terminal comprises (iii) means for triggering a second terminal, using a second protocol, – to initiate the exchange of second multimedia session information between the second terminal and the gateway, using a third protocol,

wherein the second terminal comprises (iv) means for receiving a trigger, using a second protocol, and v) means for initiating the exchange of second multimedia session information with the gateway in response to said trigger, using a third protocol, and (vi) means for receiving a second multimedia stream, associated with the first multimedia stream;

In a further embodiment of the system according to the invention, the gateway further comprises means for associating the first multimedia session information to the second multimedia session information. This may be advantageous, when the gateway does not have a default configuration, how to instruct transmitting and receiving terminals, but when a more flexible arrangement is required, whereby the setting requests and capabilities of the terminals involved is taken into account when setting up the multi-media sessions.

Yet another aspect of the invention relates to a gateway configured for use in the system according to the invention, wherein the gateway comprises:

- means for exchanging first multimedia session information with a first terminal, using a first protocol
- means for triggering the second terminal, the trigger being provided using a second protocol, in response to which the second terminal is able to initiate the exchange of second multimedia session information with the gateway, and
- means for exchanging second multimedia session information with the second terminal, using the third protocol, the third protocol being different from the first protocol

In a further embodiment of the gateway according to the invention, the gateway further comprises means to associate the first multimedia session information and the second multimedia session information with each other

In yet a further embodiment of the gateway according to the invention, the gateway comprises SIP client functionality and RTSP server functionality.

In yet a further embodiment of the gateway according to the invention, the gateway is embedded in an IMS network architecture, wherein the first protocol is SIP, the third protocol is RTSP, and wherein

- means for exchanging first multimedia session information are part of the Service Control Function within IMS

- means for the triggering of the second terminal are part of the Service Control Function within IMS

- means for exchanging second multimedia session information are part of the Media Function within IMS

IMS is an architecture that is becoming more and more popular among operators to be used for the provisioning of multimedia services to its customers. The distributed gateway according to an embodiment of the invention, is particular advantageous, because it may be implemented using standard(ized) components and functionalities already present in the IMS architecture.

In one embodiment of the invention a first terminal is connected to a second terminal. Further, the first and second terminal are connected to at least one gateway for enabling the multimedia stream to be transmitted from the first terminal to the second terminal. The method comprises the steps of: (i) the first terminal inviting the gateway to set up a first multimedia session between the first terminal and the gateway, the first multimedia session being controlled by a first protocol; (ii) the gateway notifying – in response to the invitation – the second terminal of the pending invitation; (iii) the second terminal setting up – in response to the notification - a second multimedia session between the second terminal and the gateway, the second multimedia session being controlled by a second protocol; (iv) the gateway setting up – in response to the invitation - the first multimedia session; and (v) transmitting a multimedia stream from the first terminal to the second terminal.

The method according to the embodiment thus allows the user of a first terminal, which uses a first multimedia protocol, to stream real-time user-generated content to a

second terminal, which uses a second multimedia protocol, where both the first and second terminal act as a client.

In the method according to the embodiment a gateway is capable of connecting a first terminal supporting a first protocol, e.g. SIP, to a second terminal supporting a second protocol, e.g. RTSP. Towards the first terminal, i.e. the (originating) SIP client at the user side, the gateway acts as (terminating) SIP client. The gateway confirms that it is able to receive the multimedia session from the user and provides first terminal with multimedia session information. Towards the second terminal, i.e. the RTSP client, the gateway acts as RTSP server on behalf of the user, whereby the second terminal uses RTSP for session control.

The gateway informs the second terminal that an incoming session is pending and notifies the RTSP client to connect to the RTSP server function of the gateway.

The gateway thus acts as a server for both SIP and RTSP and uses a notification message for connecting to the second terminal RTSP client. This message acts as a trigger message and ensures that legacy SIP clients from the user and RTSP clients from the studio can be connected in order to enable user-generated content to be transmitted from the first terminal to the second terminal.

In one embodiment the first protocol is the Session Initiation Protocol (SIP). In a further embodiment the first terminal transmits an SIP INVITE to the gateway.

In a further embodiment the second protocol is the Real Time Streaming Protocol (RTSP).

In yet another embodiment the gateway transmits a notification message to the second terminal in response to invitation of the first terminal, in order to activate the second terminal to set up the second multimedia session between the second terminal and the gateway.

In one embodiment the method comprises the steps of: - the first terminal transmitting first multimedia session information to the gateway; - the gateway transmitting the first multimedia session information to the second terminal.

In another embodiment the method comprises the steps of: -the second terminal transmitting second multimedia session information to the gateway; - the gateway transmitting the second multimedia session information to the first terminal. The first multimedia session information and/or second multimedia session information is in a further embodiment transmitted using the Session Description Protocol (SDP).

In yet another embodiment the first terminal comprises a SIP client and/or the second terminal comprises an RTSP client.

In a further embodiment the invention relates to a method for transmitting a multimedia stream from a first terminal to a second terminal, wherein the first and second terminal are connected to a first and a second gateway respectively. The gateways are capable of setting up a multimedia session between the first and second terminal. The method comprises the steps of: (i) the first gateway preparing the first terminal for setting up a multimedia session with the second terminal, wherein a first protocol is used for the preparation of the first terminal; (ii) the first gateway inviting the second gateway to set up the multimedia session between the first terminal and the second terminal, the multimedia session being set up by a second protocol; (iii) the second gateway notifying – in response to the invitation – the second terminal to prepare the multimedia session with the first terminal wherein the first protocol is used for preparation of the second terminal; (iv) setting up – in response to the invitation – a multimedia session between first terminal and the second terminal; and (v) transmitting a

multimedia stream from the first terminal to the second terminal.

In this embodiment the purpose of the first SIP-RTSP gateway at the user location and the second SIP-RTSP gateway at the studio location is to exchange the correct RTP information (IP addresses, port number, SDP session description, etc.) between the legacy SIP and RTSP functions. This allows the RTP stream to be set-up and controlled by the SIP session and enables the user to trigger the TV studio to retrieve the streamed user-generated content. The RTSP protocol may be used to control the RTP stream.

In one embodiment the first protocol may be the Real Time Streaming Protocol (RTSP). In another embodiment the second protocol is the Session Initiation Protocol (SIP).

In a further embodiment the second gateway transmits a notification message to the second terminal in response to the invitation of the first gateway, in order to activate the second terminal to set up the multimedia session between the first terminal and the second terminal.

In one embodiment the method further comprises the steps of: -the first gateway receiving first multimedia session information from the first terminal using the SDP protocol encapsulated in the first protocol and transmitting the first multimedia session information to the second gateway using the SPD protocol encapsulated in the second protocol; and -the second gateway receiving the first multimedia session information from the first gateway and transmitting the first multimedia session information to the second terminal using the SDP protocol encapsulated in the first protocol.

In another embodiment the method further comprises the steps of: - the second gateway receiving in response to the receipt of the first multi media session information second multimedia session information from the second terminal using the SDP protocol encapsulated in the first protocol and

transmitting the second multimedia session information to the first gateway using the SPD protocol encapsulated in the second protocol; - the second gateway receiving the second multimedia session information from the second gateway and transmitting the second multimedia session information to the first terminal using the SDP protocol encapsulated in the first protocol.

The transmission of the multimedia stream from the first terminal to the second terminal is in one embodiment controlled by the RTSP protocol.

In a further embodiment the first terminal comprises a RTSP server connected to the first gateway and/or the second terminal comprises an RTSP client connected to the second gateway.

In a further aspect the invention relates to a system for transmitting a multimedia stream from a first terminal to a second terminal. In one embodiment the system comprises: a first terminal and second terminal connected to at least one gateway, wherein the first terminal comprises (i) means for inviting the gateway to set up a first multimedia session with the first terminal, wherein the first multimedia session is controlled by a first protocol and (ii) means for transmitting a multimedia stream in the first multimedia session to the gateway; and wherein the gateway comprises (iii) means for notifying – in response to the invitation of the first terminal – to set up a second multimedia session between the gateway and the second terminal, the second multimedia session being controlled by a second protocol, (iv) means for setting up – in response to the invitation - the first multimedia session and (v) means for transmitting a multimedia stream to the second terminal.

In a further embodiment a system is provided for transmitting a multimedia stream from a first terminal to a second terminal. The system comprises a first terminal and

second terminal connected to a first and a second gateway respectively. The gateways are capable of setting up a multimedia session between the first and second terminal, wherein the first gateway comprises: (i) means for preparing the first terminal for setting up a multimedia session with the second terminal wherein a first protocol is used for the preparation of the first terminal; (ii) means for inviting the second gateway to set up the multimedia session between the first terminal, the multimedia session being set up using a second protocol;
wherein the second gateway comprises: (iii) means for notifying the second terminal – in response to the invitation – to prepare the multimedia session with the first terminal, wherein the first protocol is used for the preparation of the second terminal and (iv) means for setting up – in response to the invitation – a multimedia session between first terminal and the second terminal.

In yet a further aspect the invention relates to a device comprising a first terminal configured for use in the method according to the invention, the device further comprising a gateway according to the invention. This may be advantageous when the (operator) network does not comprise or support a gateway according to the invention. The device may for instance be a first mobile device wanting to offer a live stream to a home computer reachable via the internet.

In another aspect of the invention a device is claimed, comprising a second terminal configured for use in the method according to the invention, the second terminal comprising:

- means for receiving a trigger, provided under the use of a second protocol

- means for initiating the exchange of second multimedia session information with the gateway, in response to the providing of the trigger to the second terminal, said

initiating and exchange executed under the use of a third protocol, said third protocol being different from said second protocol.

- means for receiving a second multimedia stream associated to a first multimedia stream

Preferably this device is configured in such a way that the second terminal comprises a RTSP client and the third protocol used to initiate the exchange of second multimedia stream session information, is the RTSP protocol. This has the advantage that this device may now be able to control the receipt of a multimedia stream and thereby use the available trick play functionality provided by the RTSP protocol.

In a further aspect the invention also relates to a computer program product comprising software code portions configured for, when run in the memory of a terminal or gateway, executing the method steps according to the invention.

The invention will be further illustrated with reference to the attached drawing, which schematically show embodiments according to the invention. It will be understood that the invention is not in any way restricted to these specific embodiments.

Brief description of the drawings

Fig. 1 illustrates an exemplary system in which the present invention may be used.

Fig. 2 depicts a simplified exemplary flow of information using the SIP protocol.

Fig. 3 depicts an exemplary flow of information using the RTSP protocol.

Fig. 4 depicts an exemplary embodiment of the invention.

Fig. 5a depicts the flow of information between a SIP client, a SIP-RTSP gateway and a RTSP client in an exemplary embodiment of the invention.

Fig. 5b depicts the flow of information between a SIP client, a SIP-RTSP gateway and a RTSP client in another exemplary embodiment of the invention.

Fig. 5c depicts the flow of information between a SIP client, a SIP-RTSP gateway and a RTSP client in an exemplary embodiment of the invention, whereby the first terminal and the gateway are both comprised in a mobile device

Fig. 6 depicts an IMS architecture configured for use in the invention.

Fig. 7 depicts the flow of information in an exemplary IMS architecture configured for use in the invention.

Detailed description

Fig. 1 illustrates an exemplary system in which the present invention may be used. At the home-location a first terminal **1**, e.g. comprised in a set-top box, is connected to display device, e.g. a television. Further, the first terminal receives a TV signal **2**, which is broadcasted by the television studio and which comprises a program providing live multimedia participation of home-located user. In one embodiment the multimedia participation of the user may be realized using e.g. a web-cam **3** connected to the terminal. The multimedia stream **4** generated by the web-cam is streamed over an IP network **5** to a second terminal **6** located at the TV studio. At the TV studio the second terminal 6 receives the user-generated multimedia stream 4. This way a live video feed from the user to the studio may be provided.

Such a service requires (i) a home-located user to be able to set up a multimedia session between the home-located, first terminal **1** and the second terminal **6** located at the studio, wherein the multimedia session enables the streaming of user-generated multimedia content **4** to the studio, and (ii) to enable the studio to control (e.g. play, pause, stop) the multimedia stream sent by the home-located terminal.

It is understood that the system at the home location allowing multimedia participation as described in connection with Fig. 1 may be realized in various alternative ways. Those skilled in the art will understand that the first terminal 1, the display device and the web-cam may be for instance integrated in one device such as a personal computer, a digital assistant (PDA), a mobile telephone with multi-media capabilities. Similarly, the system at the studio may for example be a media server comprising the second terminal, wherein the second terminal comprises a RTSP client for multimedia stream retrieval. Alternatively, the second

terminal may be located in a mixer or a transcoder and configured for multimedia stream adaptation.

In a further variant, the second terminal may be part of device, that is located at another (home) location, and may be used for user-to-user multimedia stream transmission. The device comprising the second terminal may be a dedicated Set-Top Box (STB), a personal computer or mobile phone containing media player software.

The first terminal may be regarded as a functional unit in a device, or a device capable of managing (initiating, negotiating, monitoring and controlling) the transmission of a multimedia stream. Similarly, the second terminal may be regarded as a functional unit in a device, or a device capable of managing (initiating, negotiating, monitoring and controlling) the receipt of a multimedia stream.

In an IMS architecture the SIP protocol is used to set up and/or negotiate a multimedia session between two SIP clients e.g. two IP phones. Here, the term client may indicate a certain capability of a device or terminal. For example a SIP client may refer to a device configured for using the SIP protocol or to a terminal having SIP capability.

An exemplary flow using the SIP protocol is depicted in **Fig. 2**. Typically a first SIP client sends a SIP INVITE 7 to the second SIP client, which in return accepts the invitation by transmitting a SIP 200 OK **8** message to the first SIP client. Both messages may carry information about the multimedia session. This information is exchanged using the Session Description Protocol (SDP), which may be encapsulated in the SIP protocol. The multimedia session information may include amongst others IP addresses, port numbers for the RTP streams, the type of media (voice, audio, video, etc.) and codec information. Thereafter, multimedia may be streamed between the SIP clients using the RTP protocol **9**.

SIP however is designed for setting up and supporting interactive media sessions. Although SIP also provides a form of aggregate streaming control (i.e. the ability to control multiple streams from different locations with one control session), it does not provide for an efficient control as provided by the RTSP protocol used in streaming applications such as Video on Demand (VoD). RTSP allows a client to remotely control a streaming media (RTSP) server by issuing VCR-like commands e.g. play, pause, stop, skip forward, skip backward etc. and allows time-based access to files on a server. Moreover, legacy equipment may require the use of RTSP, since legacy equipment may not be provided with a SIP client.

Fig. 3 schematically depicts an exemplary flow using the RTSP protocol. In setting up and controlling a RTSP multimedia session between an RTSP client and an RTSP server, standard RTSP messages **10** (OPTIONS, DESCRIBE, SETUP, PLAY) are exchanged between the client and the server in order to provide both sides with information required for an RTSP session. The way the RTSP protocol is designed to operate, it is always the RTSP client and not RTSP server that initiates the set up of such a session. Similar to SIP, RTSP session information is exchanged using the Session Description Protocol (SDP), which may be encapsulated in the RTSP protocol. Once the session is set up, multimedia may be streamed from the server to the client **11**, using the RTP protocol, wherein RTSP allows the client to control the streaming.

Fig. 4 depicts a schematic view of a system representing an exemplary embodiment according to the invention. In this embodiment a home located first terminal **12** comprises a SIP client **13**, which is capable to set up a SIP session **14** with an SIP-RTSP gateway **15**. The SIP-RTSP gateway may be located in a device that may also comprise the second

terminal **16** at the TV studio. The second terminal **16** comprises a RTSP client.

Towards the (originating) SIP client of the first terminal at the user side, the gateway acts as a (terminating) SIP client. The gateway confirms that it is able to receive the multimedia session from the first terminal and informs the first terminal at the user side on the session details and the RTP port number. This first multimedia stream session information may be exchanged using the SDP protocol, which may be encapsulated in the SIP messages.

The gateway may further be capable of resolving an identifier received from the first terminal, used to identify the second terminal, into a network address of the second terminal. The resolution process may be performed by the gateway or under the control of the gateway by another module. The identifier may already be a suitable network address of the second terminal, in case of which the resolving is not required.

In response to the initiation of the exchange of first multimedia stream session information, after being provided with a suitable network address, the gateway may send a trigger message to the second terminal. The trigger message instructs the RTSP client to initiate an RTSP session with the gateway. The gateway does not have to send the trigger itself, but may also instruct another module (such as a Short Message Service Center SMSC) to do so on its behalf.

Hence, towards the second terminal comprising the RTSP client 18, the SIP-RTSP gateway acts as an RTSP server, thereby allowing the RTSP client to have RTSP session control over the RTP stream **19**, which is transmitted from the first terminal (SIP client) and received as an associated second multimedia stream at the second terminal (comprising the RTSP client).

The first multimedia stream may be the same multimedia stream as the second associated multimedia stream. In that case content is streamed directly from the first to the second terminal. The transmitted first stream is not buffered under the control of a RTSP server before being further transmitted as a second associated stream to the second terminal. This has the advantage that the content is being presented in 'live modus' to the second terminal. In this modus the trickplay functionalities (pause, fast forward etc.) of the RTSP client can not be used to control the stream.

Fig 5(a) illustrates an exemplary embodiment of the flow of information between the SIP client(comprised in the first terminal), the SIP-RTSP gateway and the RTSP client (comprised in the second terminal). In a first step **20** the exchange of first multimedia stream session information (SIP session) is initiated by the SIP client in the first terminal, which sends an SIP INVITE to the gateway indicating that it wants to stream a first multimedia stream to the second terminal. In further variants, the first terminal may use another protocol to initiate the exchange of first multimedia stream session information, such as H.323 or MPEG-4 Delivery Multimedia Integration Framework (DMIF) Default Signaling Protocol (DDSP).

In a second step **21** the gateway accepts the invitation and in response, provides the second terminal with a trigger to start an RTSP session with the SIP-RTSP gateway. Optionally, the gateway may first need to resolve an identifier of the second terminal transmitted by the SIP client in the first terminal, before it provides the trigger. The resolving process to obtain the network address of the second terminal may include a DNS, ENUM or other database query.

The gateway may add extra information to the trigger, such as a gateway generated identifier, that can be used by the gateway to associate the incoming RTSP request from the second terminal (the RTSP request being part of the exchange of second multimedia stream session information) with the SIP session. The information in the trigger may be included in an RTSP URI.

The trigger may have the form of a trigger message, for example a SIP content indirection request (RFC 4483), a Short Message Service (SMS) message, or an Unstructured Supplementary Service Data (USSD) message. Further, the trigger message may be passed to the RTSP client using a proprietary application programming interface (API) or a control interface on the RTSP client, for example a Web Service interface using SOAP, a Remote Procedure Call (RPC), or a telnet interface. Such interfaces may simulate a "manual user input" requesting a multimedia stream.

The incoming trigger message may be interpreted by the trigger protocol stack (for example an SOAP stack or RPC stack) which may be configured to instruct the RTSP client to request a multimedia stream or instruct another module to do so. Alternatively, the second terminal may use another protocol to request a multimedia stream, such as Microsoft Media Server protocol MMS, or Hypertext Transfer Protocol HTTP.

Thereafter, in a third step **22**, the gateway handles the exchange of second multimedia session information with the RTSP client comprised in the second terminal, through transmitting the SDP information to the RTSP client and retrieving from the RTSP client the correct RTP port to which the RTP stream should be sent to. During this exchange the gateway give instructions to the RTSP client, including for example the RTP port number that should be used for receiving the (second associated) multimedia stream or for example a

multicast- or other address where the stream can be retrieved from.

In a fourth step **23**, the gateway confirms the SIP session to the SIP client using a SIP 200 OK message and provides the SIP client with the RTP port number, to be used for transmitting the first multimedia stream and confirms the SDP information. Finally, in the fifth and last step **24**, the first terminal starts streaming the RTP multimedia stream to the second terminal.

The termination of the combined SIP/RTSP session (not depicted in **Fig. 5(a)**) may be handled in a similar way as the initiation of such session described above. If the SIP client (of the first terminal) indicates that it wants to terminate the session, the gateway may translate an SIP BYE message into an RTSP REDIRECT message (without location header). The RTSP REDIRECT message can be found in a draft of an updated RTSP version (see Internet draft RFC 2326 version 16 of the Real Time Streaming Protocol 2.0 dated 19 November 2007 by Schulzrinne et al). If the RTSP client (of the second terminal) indicates that it wants to terminate the session, the gateway translates an RTSP TEARDOWN message into a SIP BYE message (which is then subsequently to be sent to the SIP client comprised in the first terminal)

In a further embodiment the streaming of multimedia may be first initiated by the gateway. In that case the gateway provides the RTSP client comprised in the second terminal with the trigger message and invites through its own SIP client functionality the SIP client of the first terminal to set up a SIP session. The flow of information between the SIP client, the gateway and the RTSP client is schematically depicted in **Fig. 5(b)**.

In yet a further embodiment the gateway may be located in the first terminal. In that case the first protocol, used for the exchange of first multimedia stream

session information may just be an internal protocol. The session may then be triggered by a stimulus of the user interface of the first terminal. This scheme is schematically depicted in **Fig. 5(c)**, wherein the first terminal may be comprised in a mobile device. Alternatively, the stimulus received by the first terminal may also come from an external source. In that case for example an SMS message received by the mobile device may trigger a session.

Fig. 6 depicts an implementation of the invention in an IMS-based IPTV architecture as defined by ETSI TISPAN. The architecture may for example be used for a scenario, wherein a first subscriber of an IMS based (user-generated) content service, commanding a first terminal (UE1 601), wants to stream his multimedia stream to a second subscriber, commanding a second terminal (UE2 602).

In this embodiment the gateway according to the invention is of the distributed type, wherein the exchange of first multimedia stream session information with the UE1 is typically handled by the Service Control Function (SCF 603) and the exchange of second multimedia stream session information with the UE2 is handled by the Media Function (MF 605). The provisioning of the trigger to the UE2 may be controlled and/or executed by the SCF 603. In a variant, the Media Control Function MCF 606 in the MF can send the trigger and instruct the Media Delivery Function MDF 607 on how to deliver the multimedia stream. In this example the first subscriber uses SIP to setup a multimedia session for transmitting a first multimedia stream, whereas the second subscriber uses RTSP to receive the associated second multimedia stream.

In order for the first subscriber to invite the second subscriber to receive the multimedia stream the following steps illustrated by the flow diagram of **Fig. 7** are performed. In a first step **701** a first subscriber (using UE1

601) may want to share his multimedia stream with a second subscriber (using UE2 **602**) by setting up a SIP session with the Service Control Function SCF **603** through the IMS core **604**. The SIP INVITE request may comprise a list of subscriber terminal addresses, for example using an URI-contained list, or a list may be sent to the Service Control Function (SCF) outside the session, for example using XML Configuration Access Protocol XCAP, of which an identifier may be included in the SIP INVITE request. Alternatively, in case of a service such as Community (closed user group) TV, in which a large number of subscribers need to be addressed at once, the SIP INVITE request may just comprise a reference to the community, in the form of a Community (closed user group) Identifier, which will need to be resolved before providing multiple triggers to all community subscribers.

In a second step **702** the SCF may act as a back-to-back user agent (B2BUA) and sends a session request to the Media Control Function MCF **606**, possibly through the IMS core. The session request to the MCF includes information on where to receive the multimedia stream and how to distribute it. Alternatively, the SCF may use another protocol towards the MCF such as MEGACO/H.248 or SOAP.

In a third step the MCF may send multimedia stream information to the MDF **607** to setup an RTP port and address for the first multimedia stream and associate it with a RTSP URI. The MCF may for example use SIP or MEGACO/H.248 to exchange multimedia stream information.

In a fourth step **704** the MCF response to the SCF may comprise information such as the address or RTP port, where the first multimedia stream should be transmitted to, and/or the RTSP URI to be used by the UE2 for contacting the RTSP server functionality of the gateway.

In a fifth step **705** the SCF sends a response back to the UE1, during the exchange of first multimedia stream session information, using its SIP client functionality

In a sixth step **706** UE1 601 transmits the multimedia stream in the manner and/or to the location indicated by the MCF.

In a seventh step **707** the SCF uses the information from the MCF to provide a trigger to the UE2 . The trigger may be a SIP content indirection request. The request may include the RTSP URL provided by the MF or another indication for the UE2 how to contact the gateway. The trigger may also be sent within an existing SIP session with the UE2, or by using a SIP REFER request.

In a eighth step **708** the invited UE2 **602** initiates, in response to the SIP content indirection request, a RTSP session with the MDF (exchange of second multimedia stream session information, **708** in Fig. 7) for receive the multimedia content (second associated multimedia stream **709**). The RTSP URI may include an identifier provided in the trigger message for the MDF to associate the RTSP session with the SIP session. The RTSP session (second associated multimedia stream) may be unicast or multicast. When multicast is used the MF distributes the incoming (unicast) first multimedia stream of UE1 as a multicast stream. UE2 then sends, in response to the established RTSP session, an IGMP request to receive the second associated multimedia stream.

In a ninth step the MF may send SIP NOTIFY messages to the SCF to keep the SCF informed of the status of the RTSP session, if the SCF indicated interest by sending a SIP SUBSCRIBE message to the MF (not shown in Fig. 7).

The invention is not limited to the embodiments described above, which may be varied within the scope of the accompanying claims. For instance, the term studio should not be interpreted as only meaning a professional broadcast

studio. A studio within the meaning of this invention relates to all systems which could provide multimedia functionality similar to a studio, e.g. a personal computer system or another multimedia system which is capable of streaming live content to a user at a home location and in response receiving user-generated content from the user.

CLAIMS

1. Method for transmitting a multimedia stream from a first terminal and receiving an associated second multimedia stream at a second terminal, wherein the first and second terminal are connected to at least one gateway for enabling the transmission of the first multimedia stream and the receiving of the second associated stream, the method comprising the steps of:

- initiating the exchange of first multimedia session information between the first terminal and the gateway, using a first protocol;
- providing a trigger to the second terminal to initiate the exchange of second multimedia session information between the second terminal and the gateway, using a second protocol;
- in response to the providing of the trigger, the second terminal initiating the exchange of second multimedia session information between the second terminal and the gateway, using a third protocol, the third protocol being different from the second protocol;
- transmitting a first multimedia stream from the first terminal and receiving a second associated multimedia stream at the second terminal.

2. Method according to claim 1, whereby the exchange of first multimedia session information comprises the providing to the first terminal of at least part of the second multimedia session information and whereby transmitting of the first multimedia stream from the first terminal is started in response to said providing.

3. Method according to claim 1, whereby the exchange of second multimedia session information comprises the providing to the second terminal of at least part of the first multimedia session information, and whereby receiving of the second associated multimedia stream by the second terminal is started in response to said providing.

4. Method according to claim 1, wherein the first protocol is a peer to peer type protocol, preferably the Session Initiation Protocol (SIP).

5. Method according to claim 1, wherein the third protocol is a client-server type protocol, preferably the Real Time Streaming Protocol (RTSP).

6. Method according to claim 1, wherein the step of providing a trigger to the second terminal is initiated by the gateway

7. Method according to claim 1 wherein the exchange of first multimedia session information comprises the provisioning of an identifier of the second terminal to the gateway.

8. Method according to claim 7, wherein the method comprises the addition step of resolving the identifier of the second terminal into a network address, before provisioning of the trigger to the second terminal

9. Method according to claim 1, wherein the first and the second protocol are identical.

10. Method according to claim 1, wherein the first multimedia stream is the same multimedia stream as the second associated multimedia stream.

11. System for transmitting a multimedia stream from a first terminal and receiving an associated second multimedia stream at a second terminal, comprising:

a first terminal and second terminal connected to at least one gateway,

wherein the first terminal comprises (i) means for exchanging first multimedia session information with the gateway, using a first protocol, and (ii) means for transmitting a first multimedia stream;

wherein the gateway or first terminal comprises (iii) means for triggering a second terminal, using a second protocol, – to initiate the exchange of second multimedia session information between the second terminal and the gateway, using a third protocol,

wherein the second terminal comprises (iv) means for receiving a trigger, using a second protocol, and v) means for initiating the exchange of second multimedia session information with the gateway in response to said trigger, using a third protocol, and (vi) means for receiving a second multimedia stream, associated with the first multimedia stream;

12. A gateway configured for use in a system according to claim 11, comprising

- means for exchanging first multimedia session information with the gateway, using a first protocol

- means for triggering the second terminal, the trigger being provided using a second protocol, in response to which the second terminal is able to initiate the exchange of second multimedia session information with the gateway.

- means for exchanging second multimedia session information with the second terminal, using the third protocol, the third protocol being different from the first protocol

13. A gateway according to claim 12, embedded in an IMS network architecture, wherein the first protocol is SIP, the third protocol is RTSP, and wherein

- means for exchanging first multimedia session information are part of the Service Control Function within IMS

- means for the triggering of the second terminal are part of the Service Control Function within IMS

- means for exchanging second multimedia session information are part of the Media Function within IMS

ABSTRACT

A method is described for transmitting a multimedia stream from a first terminal and receiving an associated second multimedia stream at a second terminal, wherein the first and second terminal are connected to at least one gateway for enabling the transmission of the first multimedia stream and the receiving of the second associated stream, the method comprises the steps of:-initiating the exchange of first multimedia session information between the first terminal and the gateway, using a first protocol;-providing a trigger to the second terminal to initiate the exchange of second multimedia session information between the second terminal and the gateway, using a second protocol;-in response to the providing of the trigger, the second terminal initiating the exchange of second multimedia session information between the second terminal and the gateway, using a third protocol, the third protocol being different from the second protocol;-transmitting a first multimedia stream from the first terminal and receiving a second associated multimedia stream at the second terminal.

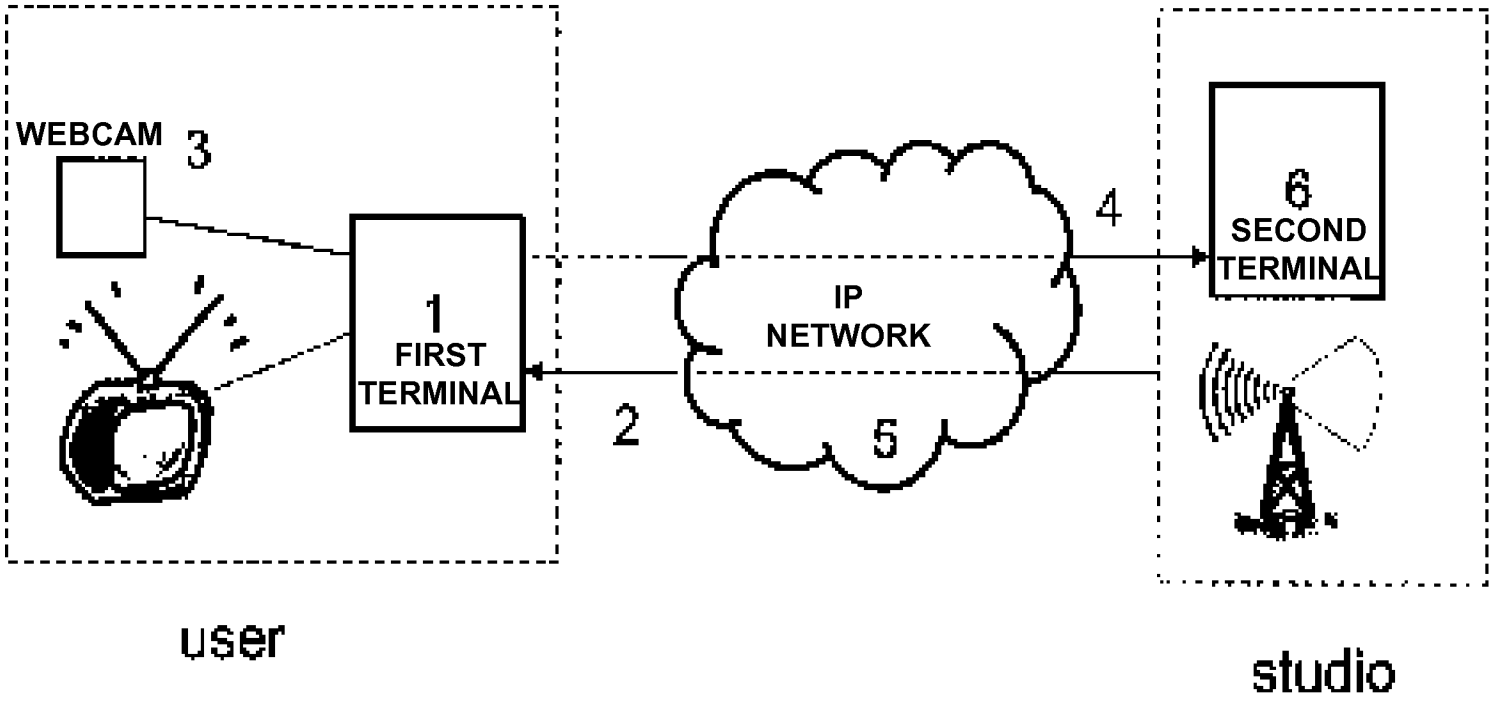


Figure 1

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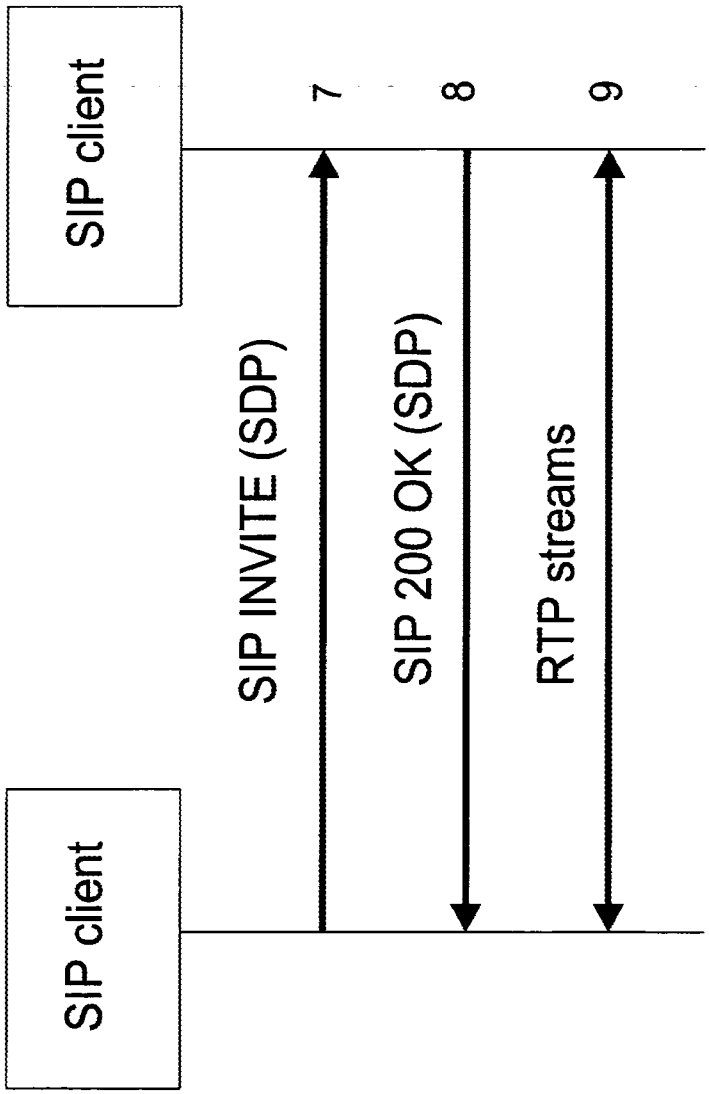

SIP client
SIP client
7
8
9
SIP INVITE (SDP)
SIP 200 OK (SDP)
RTP streams

Figure 2

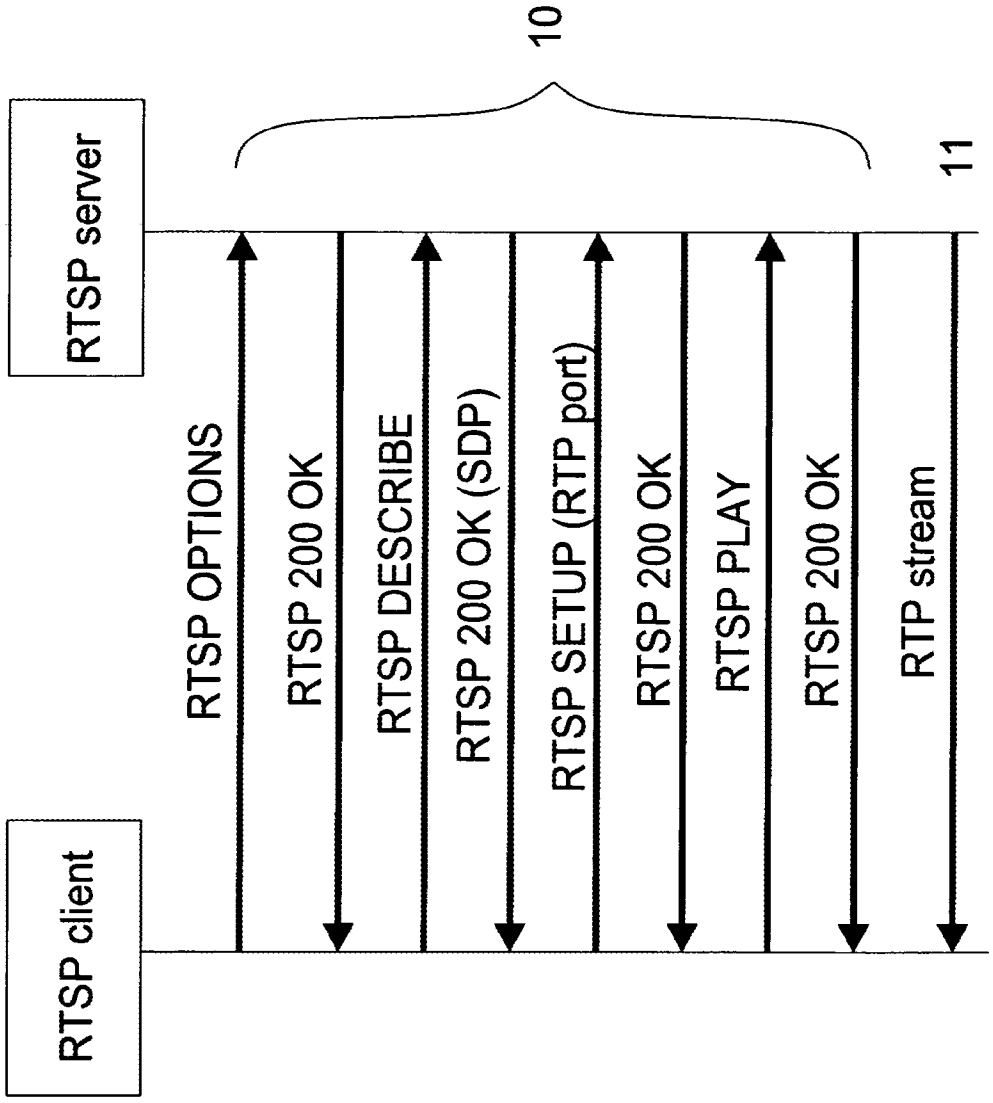

RTSP client
RTSP server
RTSP OPTIONS
RTSP 200 OK
RTSP DESCRIBE
RTSP 200 OK (SDP)
RTSP SETUP (RTP port)
RTSP 200 OK
RTSP PLAY
RTSP 200 OK
RTP stream
10
11

Figure 3

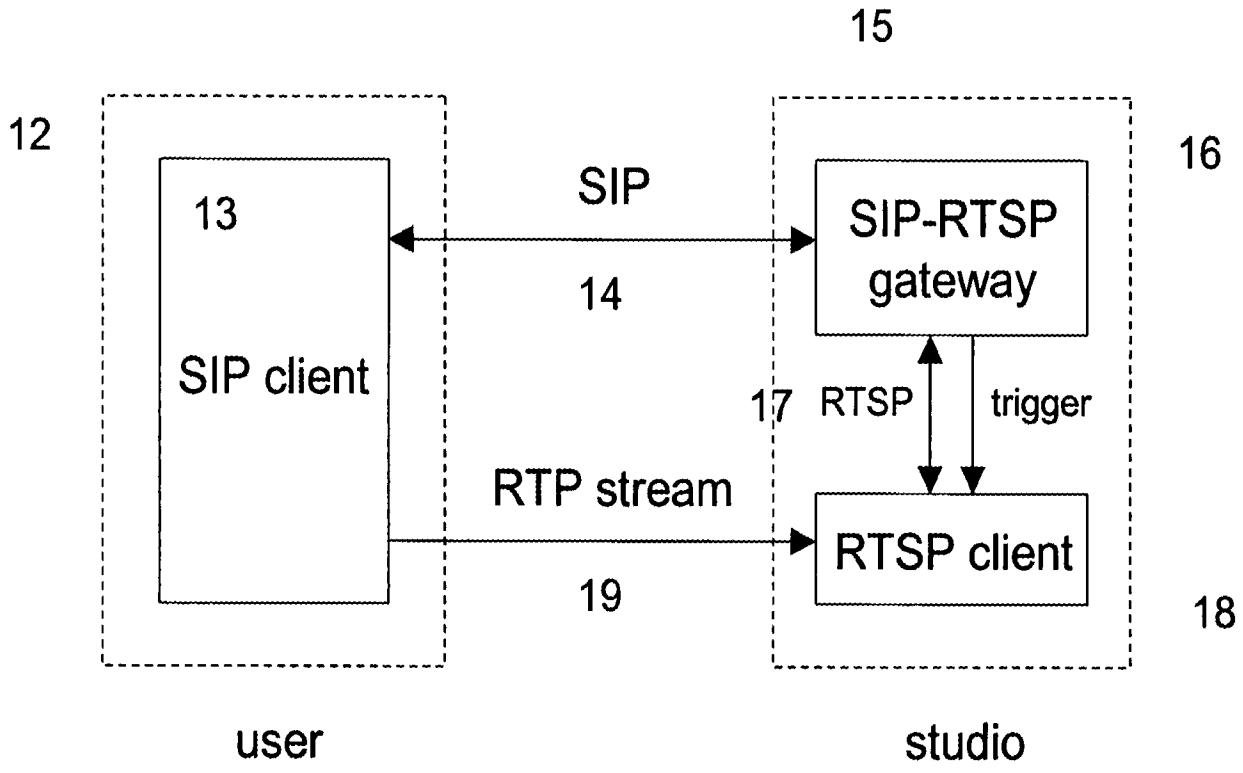


Figure 4

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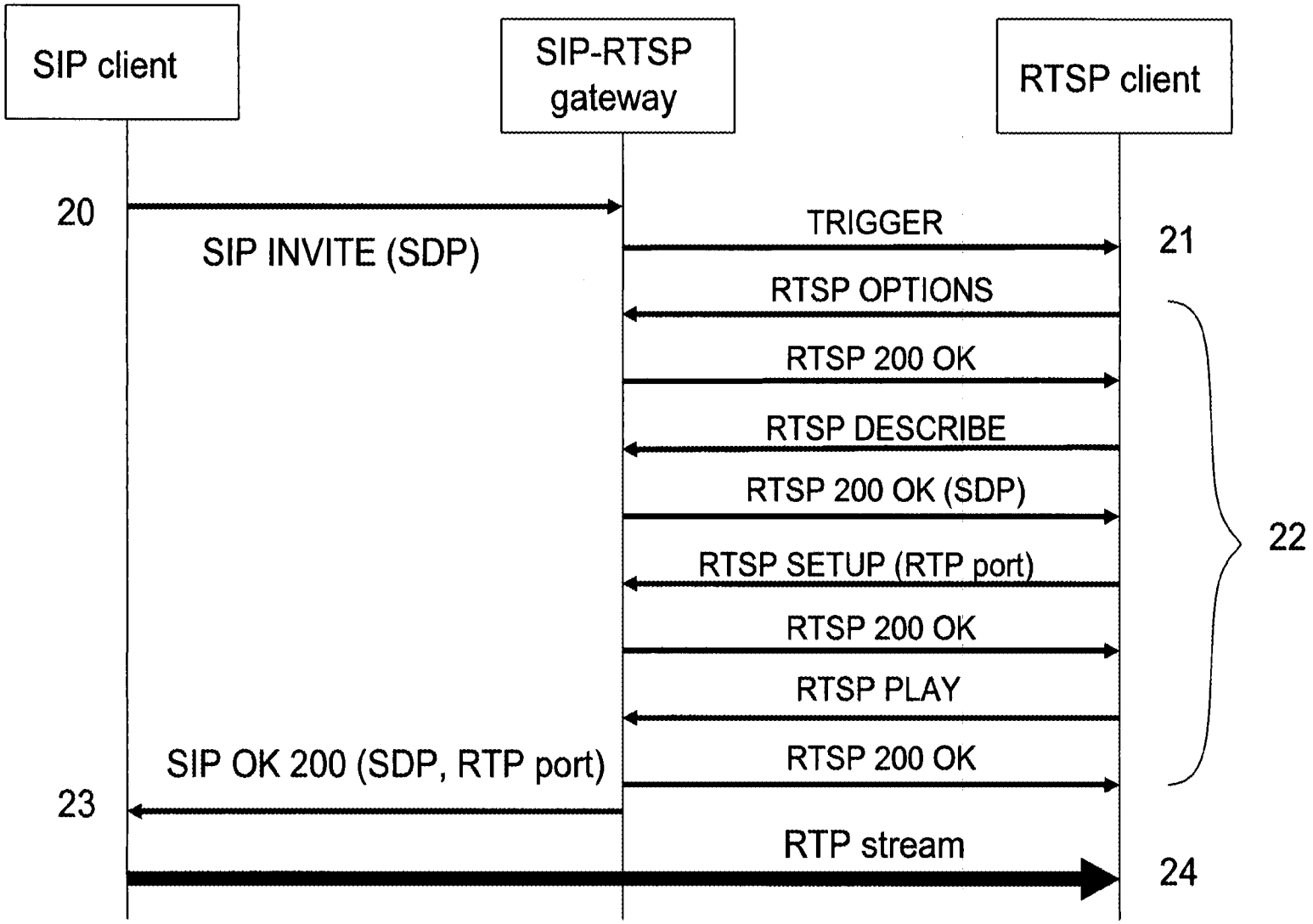


Figure 5 (a)

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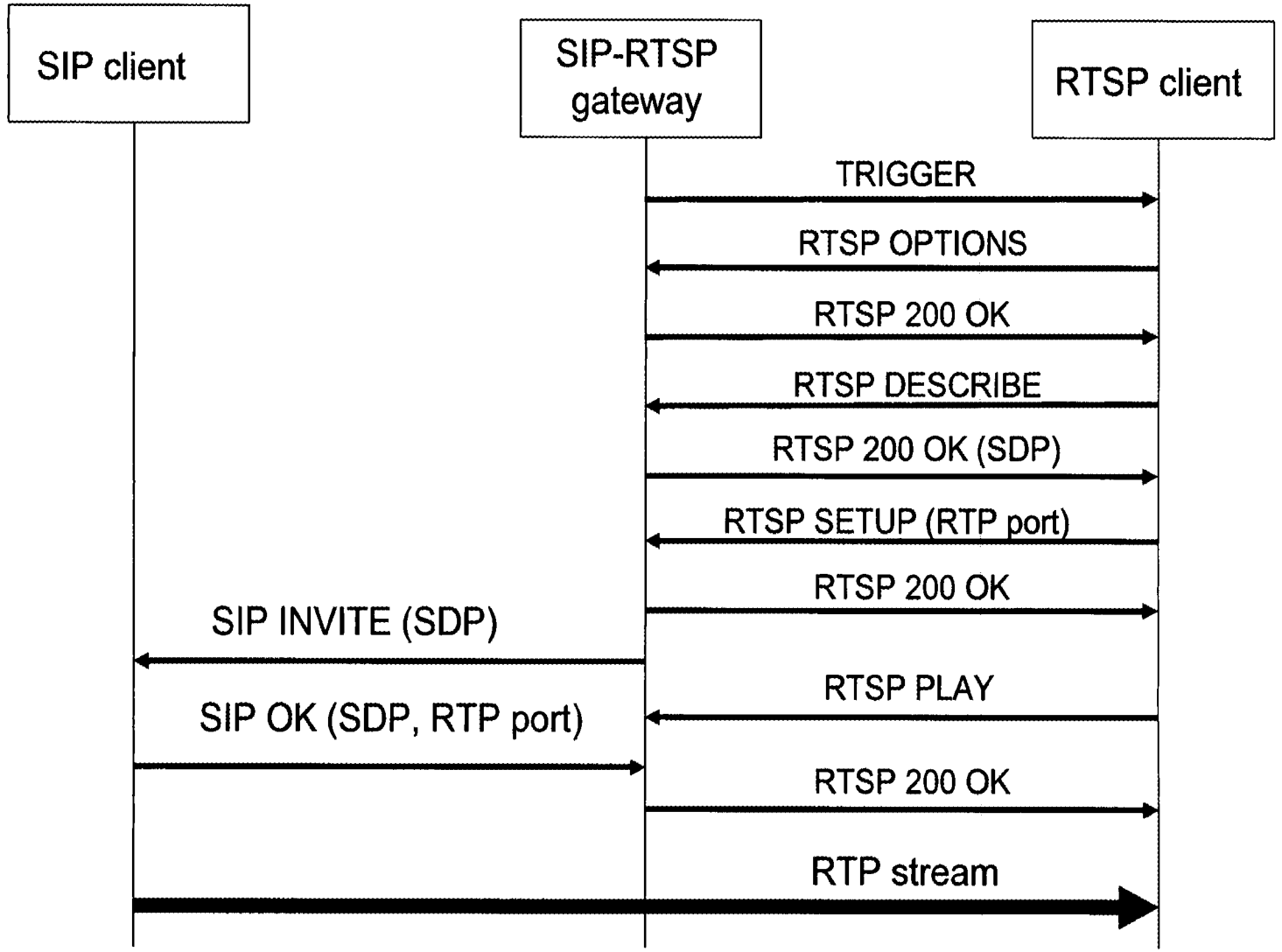


Figure 5 (b)

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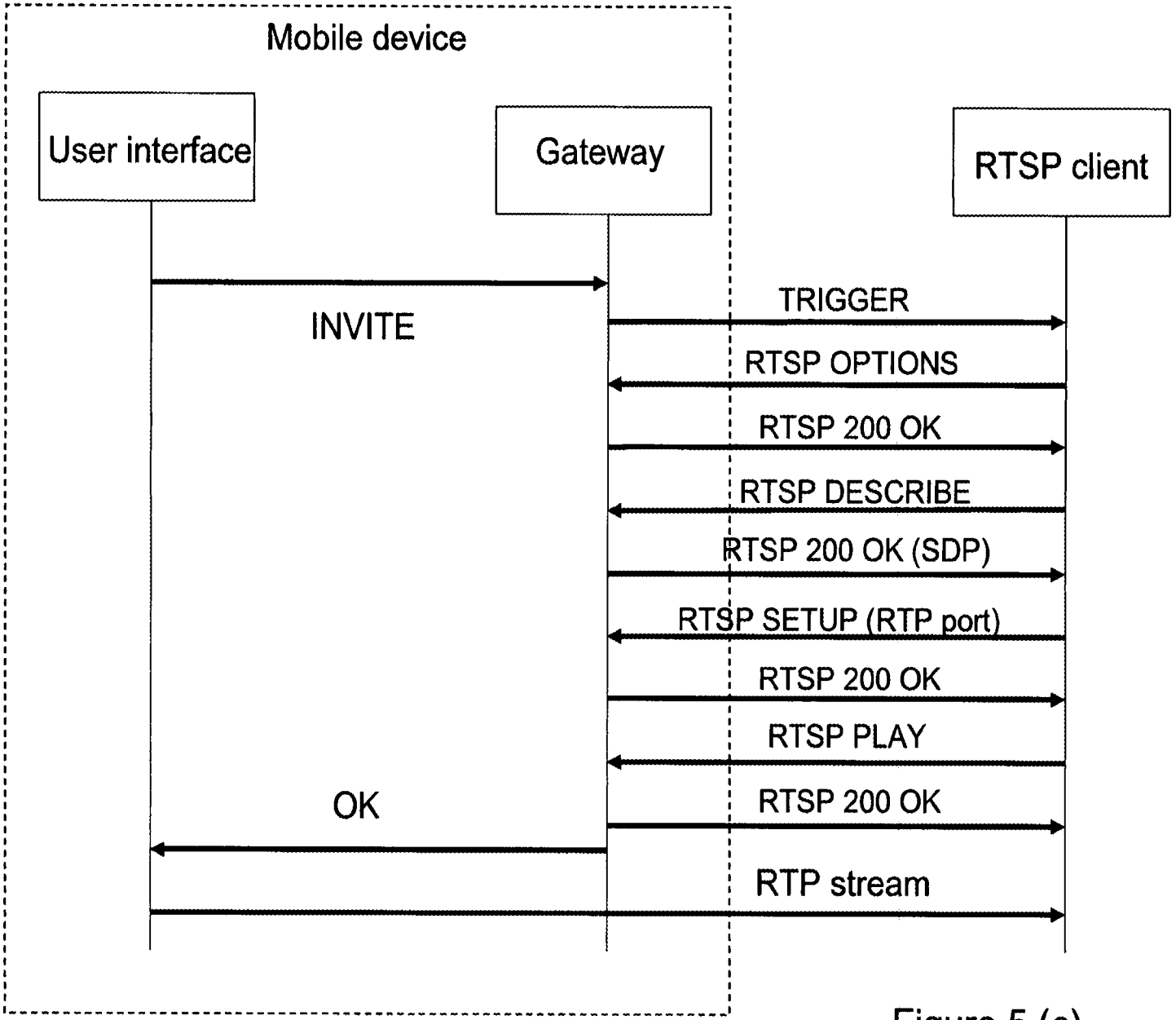


Figure 5 (c)

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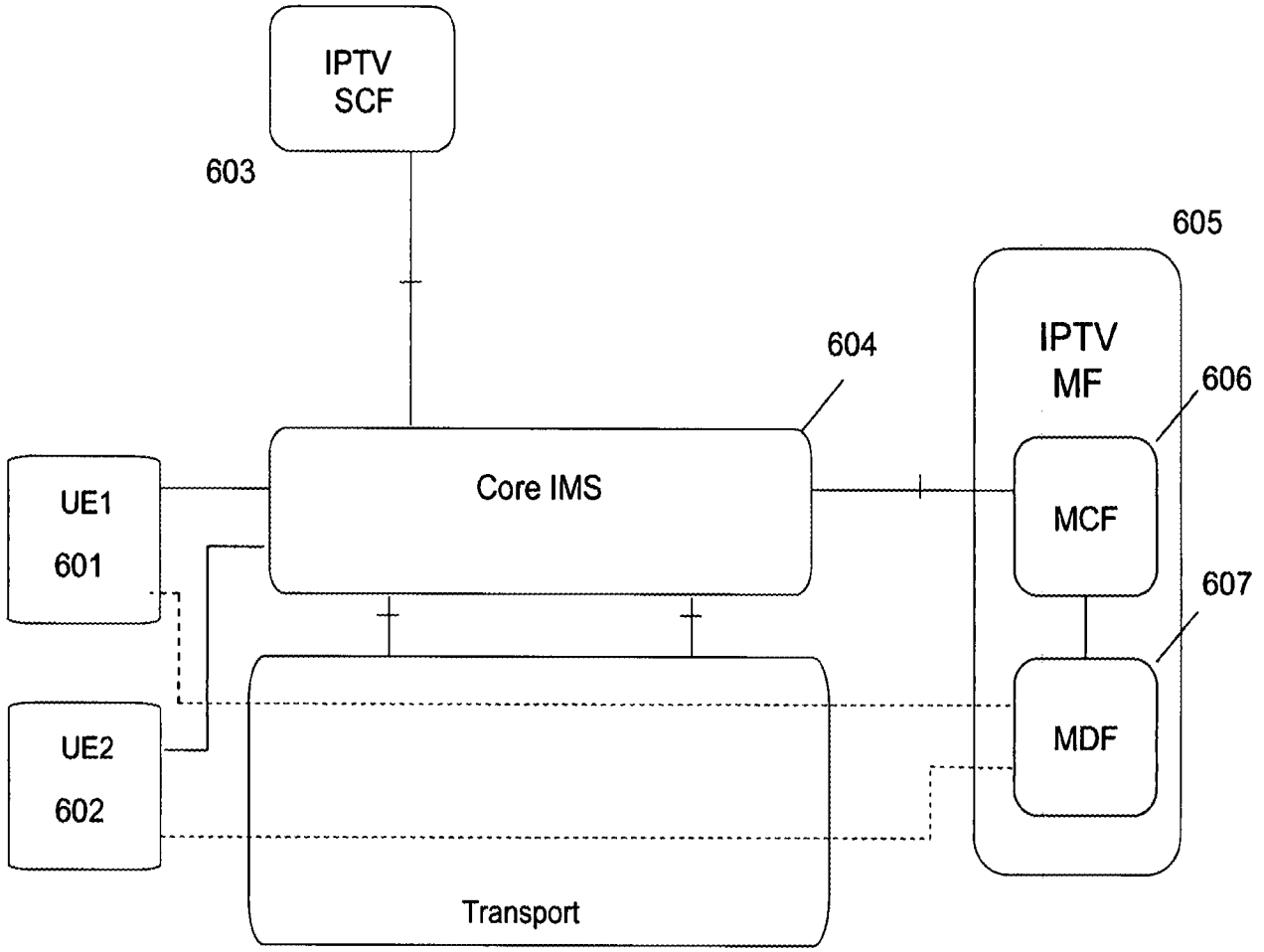


Figure 6

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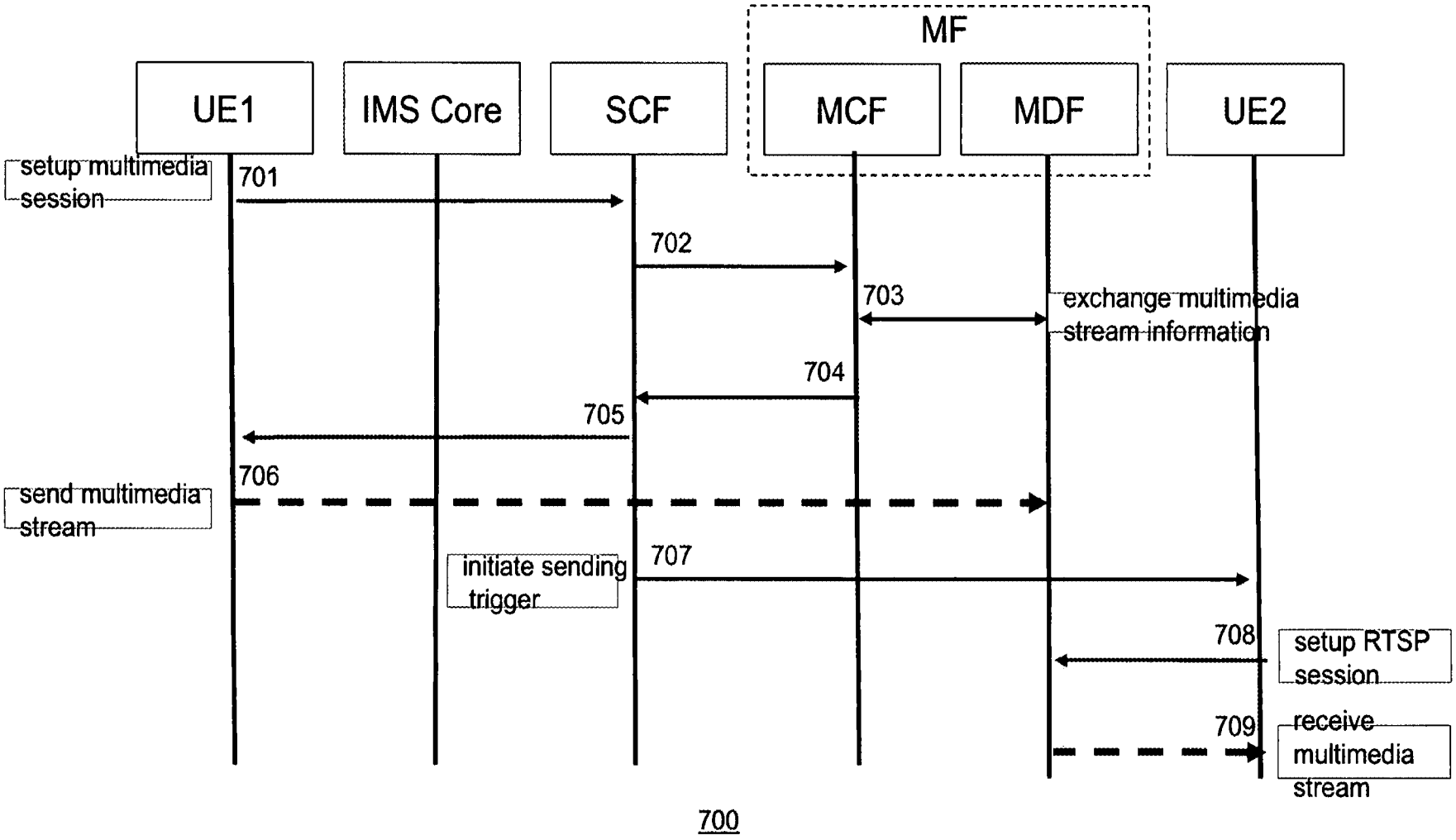


Figure 7

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Title of Invention	Method and system for transmitting a multimedia stream

As the below named inventor, I hereby declare that:

This declaration is directed to:

- [x] The attached application, or
- [ ] United States application or PCT international application number _____

filed on _____.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

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LEGAL NAME OF INVENTOR

Inventor: Hans Maarten Stokking Date (Optional): 2/10/2013

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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LEGAL NAME OF INVENTOR

Inventor: Mattijs Oskar van Deventer Date (Optional): 26-2-2012

Signature: _____

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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	Method and system for transmitting a multimedia stream

As the below named inventor, I hereby declare that:

This declaration is directed to:

- [x] The attached application, or
- [ ] United States application or PCT international application number _____

filed on _____.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Fabian Arthur Walraven Date (Optional): 26-08-2013

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	Method and system for transmitting a multimedia stream

As the below named inventor, I hereby declare that:

This declaration is directed to:

- [x] The attached application, or
- [ ] United States application or PCT international application number _____

filed on _____.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Omar Aziz Niamut Date (Optional): 26/3/13

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	10-406-CON
	Application Number	
Title of Invention	Method And System For Transmitting A Multimedia Stream	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Hans	Maarten	Stokking	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	The Hague	Country of Residence i	NL

Mailing Address of Inventor:

Address 1	Leyweg 1298N		
Address 2			
City	The Hague	**State/Province**	
Postal Code	NL-2545 HK	**Country** i	NL

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Mattijs	Oskar	Van Deventer	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Leidschendam	Country of Residence i	NL

Mailing Address of Inventor:

Address 1	Hannie Schaftstraat 62		
Address 2			
City	Leidschendam	**State/Province**	
Postal Code	NL-2264 DL	**Country** i	NL

Inventor 3 Remove

Legal Name

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	10-406-CON
	Application Number	
Title of Invention	Method And System For Transmitting A Multimedia Stream	

Prefix	Given Name	Middle Name	Family Name	Suffix
	Fabian	Arthur	Walraven	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Groningen	Country of Residence i	NL

Mailing Address of Inventor:

Address 1	Kruitgracht 6B		
Address 2			
City	Groningen	State/Province	
Postal Code	NL-9711 VM	Country i	NL

Inventor 4 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Omar	Aziz	Niamut	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Vlaardingen	Country of Residence i	NL

Mailing Address of Inventor:

Address 1	Vaartweg 104b		
Address 2			
City	Vlaardingen	State/Province	
Postal Code	NL-3131 HV	Country i	NL

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	20306		
Email Address	docketing@mbhb.com	Add Email	Remove Email

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	10-406-CON
	Application Number	
Title of Invention	Method And System For Transmitting A Multimedia Stream	

Application Information:

Title of the Invention	Method And System For Transmitting A Multimedia Stream		
Attorney Docket Number	10-406-CON	**Small Entity Status Claimed**	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	9	**Suggested Figure for Publication (if any)**	

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	20306		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	12/808665	2010-06-16
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
12/808665	a 371 of international	PCT/EP08/11014	2008-12-22
Prior Application Status	Expired		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
PCT/EP08/11014	non provisional of	61/008644	2007-12-21

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	10-406-CON
	Application Number	
Title of Invention	Method And System For Transmitting A Multimedia Stream	

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) [i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country [i]	Filing Date (YYYY-MM-DD)	Access Code [i] (if applicable)
08002517.4	EP	2008-02-12	

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☐ Authorization to Permit Access to the Instant Application by the Participating Offices

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	10-406-CON
	Application Number	
Title of Invention	Method And System For Transmitting A Multimedia Stream	

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1 Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

(•) Assignee	( ) Legal Representative under 35 U.S.C. 117	( ) Joint Inventor
( ) Person to whom the inventor is obligated to assign.	( ) Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. [X]

Organization Name	Koninklijke KPN N.V.

Mailing Address Information:

Address 1	Maanplein 55		
Address 2			
City	The Hague	**State/Province**	
Country [i]	NL	Postal Code	2516 CK
Phone Number		Fax Number	

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	10-406-CON
	Application Number	
Title of Invention	Method And System For Transmitting A Multimedia Stream	

Email Address	

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Applicant 2 Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

◉ Assignee	○ Legal Representative under 35 U.S.C. 117	○ Joint Inventor
○ Person to whom the inventor is obligated to assign.	○ Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :	

If the Applicant is an Organization check here. ☒

Organization Name	Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek TNO

Mailing Address Information:

Address 1	Schoemakerstraat 97		
Address 2			
City	Delft	**State/Province**	
Country [i]	NL	Postal Code	2628 VK
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Non-Applicant Assignee Information:

Providing assignment information in this section does not subsitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	10-406-CON
	Application Number	
Title of Invention	Method And System For Transmitting A Multimedia Stream	

Assignee 1

Complete this section only if non-applicant assignee information is desired to be included on the patent application publication in accordance with 37 CFR 1.215(b). Do not include in this section an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest), as the patent application publication will include the name of the applicant(s).

Remove

If the Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information:

Address 1	
Address 2	

City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications

Signature	/Scott M. Miller/			Date (YYYY-MM-DD)	2013-08-30
First Name	Scott M.	Last Name	Miller	Registration Number	62967

Additional Signature may be generated within this form by selecting the Add button. Add

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Attorney Docket No. 10-406-CON)

In re application of:	)	
	)	
Hans Maarten Stokking et al.	)	
	)	**Conf. No.: TBD**
Serial No.: TBD	)	
	)	**Art Unit: TBD**
Filed: August 30, 2013	)	
	)	**Examiner: TBD**
Title: Method And System For Transmitting A Multimedia Stream	)	

Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

GENERAL AUTHORIZATIONS UNDER 37 C.F.R. §§ 1.25(b) and 1.136(a)(3)

In this or any related application filed pursuant to 37 C.F.R. § 1.53, for the entire pendency thereof, and with respect to Deposit Account No. 132490, the Commissioner is hereby generally authorized:

(a) under 37 C.F.R. § 1.25(b), subject to the provisions of 37 C.F.R. § 1.311(b), to charge all fees set forth in 37 C.F.R. §§ 1.16 to 1.18; and

(b) under 37 C.F.R. § 1.136(a)(3) to treat any future reply requiring an extension of time as incorporating a request therefor, and specifically to charge any fee that may be due in connection with such a request.

Respectfully submitted,

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP

Date: August 30, 2013 By: /Scott M. Miller/
Scott M. Miller
Reg. No. 62,967

McDonnell Boehnen Hulbert & Berghoff LLP
300 South Wacker Drive
Chicago, IL 60606
(312)913-0001

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