

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS AMERICA, INC.,
SAMSUNG ELECTRONICS CO., LTD.,
Petitioners,

v.

KONINKLIJKE KPN N.V.,
Patent Owner.

Case No. IPR2025-00504

U.S. Patent No. 8,549,151

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 8,549,151**

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EXHIBIT LIST

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1001	U.S. Patent No. 8,549,151 (the “151 patent”)
1002	Excerpts of the File History for U.S. Pat. No. 8,549,151
1003	Declaration of Kevin Almeroth, Ph. D.
1004	U.S. Patent Pub. No. 2006/0271687 (“Alston”)
1005	U.S. Patent Pub. No. 2004/0184432 (“Gateva”)
1006	“An Evaluation of Session Initiation Protocol (SIP) for use in Streaming Media Applications,” Whitehead, et al., February 2006, (available at https://datatracker.ietf.org/doc/draft-whitehead-sip-for-streaming-media/) (“Whitehead”)
1007	U.S. Patent No. 7,724,691 (“Mela”)
1008	IETF RFC 2326 (“RFC2326”) (https://datatracker.ietf.org/doc/html/rfc2326)
1009	IETF RFC 2396, (“RFC2396”) (https://datatracker.ietf.org/doc/html/rfc2396)
1010	Curriculum Vitae of Kevin Almeroth, Ph. D.
1011	IETF RFC 2616 (“RFC2616”) (https://datatracker.ietf.org/doc/html/rfc2616)
1012	Excerpts of the File History for U.S. Pat. No. 9,654,330
1013	Excerpts of File History of U.S. Application No. 16/413,052
1014	IETF RFC 2543 (“RFC2543”) (https://www.ietf.org/rfc/rfc2543.txt)
1015	IETF RFC 2327 (“RFC2327”) (https://www.ietf.org/rfc/rfc2327.txt)

1016	IETF RFC 3261 (“RFC3261”) (https://www.ietf.org/rfc/rfc3261.txt)
1017	IETF RFC 1889 (“RFC1889”) (https://www.ietf.org/rfc/rfc1889.txt)
1018	“Enterprising with SIP — A Technical Overview” – White Paper published by Avaya (“Avaya”)
1019	U.S. Pat. No. 8,068,460 (“Fajardo”)

LIST OF CHALLENGED CLAIMS

Claim	Limitation
1pre	A method, wherein a gateway is capable of communicating with a first terminal and a second terminal, the method comprising:
1a	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;
1b	the second terminal using a second protocol to receive a trigger provided by the gateway, wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal;
1c	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
1d	the second terminal receiving the second media stream, wherein the second media stream is associated with the first media stream;
1e	wherein the first media stream is between the first terminal and a media server, wherein the second media stream is between said media server and the second terminal, and wherein said media server buffers at least part of the first media stream received from the first terminal before transmitting the second media stream to the second terminal.
2	The method according to claim 1, wherein the exchange of the first media session information comprises: the gateway

Claim	Limitation
	providing to the first terminal at least part of the second media session information.
3	The method according to claim 1, 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.
4	The method according to claim 1, wherein the exchange of the first media session information comprises: the gateway receiving, from the first terminal, an identifier of the second terminal.
5	The method according to claim 4, 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.
6	The method according to claim 5, wherein providing the trigger to the second terminal comprises the gateway transmitting the trigger to the resolved network address of the second terminal.
7	The method of claim 1, wherein the third protocol is different from the second protocol.
8	The method of claim 1, wherein the first terminal transmits the first multimedia stream and the second terminal receives the second multimedia stream.

Claim	Limitation
9	The method of claim 1, wherein the trigger serves to inform the second terminal of availability of a new multimedia stream.
10	The method of claim 1, wherein the first protocol is a peer-to-peer protocol.
11	The method of claim 1, 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.
12	The method of claim 1, wherein the trigger comprises a network address of the gateway.
13	The method of claim 12, wherein the network address is a URI or a URI reference.
14	The method of claim 1, wherein the first protocol and the second protocol are identical.
15	The method of claim 14, wherein the first protocol and the second protocol are Session Initiation Protocol (SIP).

Claim	Limitation
16	The method of claim 1, wherein the gateway is configured to associate the first multimedia session information with the second multimedia session information.
17pre	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:
17a	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;
17b	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;
17c	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
17d	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;
17e	wherein the first media stream is between the first terminal and a media server, wherein the second media stream is between said media server and the second terminal, and wherein said media server buffers at least part of the first media stream received from the first terminal before transmitting the second media stream to the second terminal.

Claim	Limitation
18pre	A gateway comprising:
18a	a communication interface; and
18b	memory that stores software instructions that, when executed by the gateway, cause the gateway to:
18c	(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,
18d	(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
18e	(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;
18f	wherein the gateway further comprises a media server, wherein the first media stream is between the first terminal and said media server, wherein the second media stream is between said media server and the second terminal, and wherein said media server buffers at least part of the first media stream received from the first terminal before transmitting the second media stream to the second terminal.
19pre	The gateway of claim 18, wherein the gateway is configured to connect to a first terminal supporting a first protocol and to a second terminal supporting a second protocol,
19a	wherein the first protocol is Session Initiation Protocol (SIP) and the second protocol is Real Time Streaming Protocol (RTSP),

Claim	Limitation
19b	wherein the first terminal is an originating SIP client of a user at a user side,
19c	wherein the gateway acts as a terminating SIP client,
19d	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,
19e	wherein the second terminal is an RTSP client,
19f	wherein the gateway acts as an RTSP server on behalf of the user,
19g	wherein the second terminal uses RTSP for session control, and
19h	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.
20	The gateway of claim 18, 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.
22	The gateway of claim 18, wherein the gateway is configured to associate the first multimedia session information and the second multimedia session information with each other.
23	The gateway of claim 18, wherein the gateway further comprises Session Initiation Protocol (SIP) client functionality and Real Time Streaming Protocol (RTSP) server functionality.

I. INTRODUCTION

The '151 patent is directed to purported improvements to gateways that enable multimedia streams between terminals using different or identical communication protocols, such as Session Initiation Protocol (“SIP”) and Real Time Streaming Protocol (“RTSP”). The patent discloses methods and systems where a gateway functions as a proxy—serving as both a client and a server between two terminals. This allows the gateway to change and exchange media session information between the two terminals using different or identical protocols, which was a well-understood requirement for setting up a media stream. Most of the limitations of the challenged claims are directed to exchanging media session information through a gateway to set-up a media stream; the remaining limitations simply apply this concept to established IP Multimedia Subsystem (“IMS”) architectures, leveraging well-known frameworks to address interoperability challenges in multimedia systems. This interoperability was also well-known and was essential to meet the demands of emerging technologies. The increasing adoption of the IMS architecture, developed by 3GPP to standardize multimedia delivery over IP networks, further underscored this need.

The '151 patent implicitly acknowledges this, as its sole stated improvement over the prior art is simple and not inventive: it seeks to use a “trigger” sent from a gateway to initiate the exchange of media session information between the terminal

receiving the media stream and the gateway. But even this approach was not new; it simply renames already used techniques for interoperability between protocols and predictably applies them to the IMS and 3GPP systems.

II. STANDING

Petitioners certify the '151 patent is available for *inter partes* review and they are not estopped.

III. GROUNDS

Petitioners presents three grounds as provided below:

Ground	Basis	Reference(s)	Claims
1	§103	Alston alone or in view of Fajardo	1-4, 7-10, 12-18, 22
2	§103	Alston (with or without Fajardo), Gateva	1-18, 22
3	§103	Mela alone, or in view of Alston, and/or Fajardo	1-5, 7-10, 12-20, 22-23

Ground I: Alston is presented as a single-reference obviousness ground, disclosing a gateway and well-known messaging protocols for setting up media streams. To the extent PO challenges the obviousness of the “buffering” limitation, Petitioner relies on Fajardo.

Ground II: Building on Ground I, Petitioner incorporates Gateva’s teachings on different messaging protocols and schemes for setting up a media stream that are compatible with Alston’s gateway and methods.

Ground III: Mela is provided as a single-reference obviousness ground, disclosing a gateway for setting up media streams with a different messaging scheme

than Alston or Gateva. To the extent PO challenges the obviousness of the “buffering”/“media server” limitation, Petitioner relies on Alston and Fajardo.

IV. POSA

A POSA at the time of the '151 patent would have had at least a bachelor's degree in electrical engineering, computer engineering, computer science, physics, or an equivalent field, and two years of experience with cellular telecommunications systems and related protocols, and multimedia systems in wireless networks. EX1003, ¶¶38-42. More education can supplement practical experience and vice versa. *Id.* Petitioners' expert exceeded this by the priority date. *Id.*, 4-21.

V. TECHNICAL BACKGROUND

One aspect of the claims is their integration of two different protocols (SIP and RTSP) in multimedia systems. Yet this integration was an obvious and well-known solution for addressing interoperability between session initiation and media control protocols—a fact the '151 patent admits. EX1001, 1:31-32; EX1003, ¶¶44, 51-60, 62.

SIP, widely adopted as a signaling protocol, facilitated the negotiation of key session parameters with Session Description Protocol (“SDP”) to set-up media sessions. EX1003, ¶¶44-46, 63; EX1001, 7:32-36. The standard way to set-up a session using SIP is defined in RFC3261. EX1016, 1. 9-12, 15.

SDP played a vital role in allowing SIP clients to share and confirm session details, such as media types and transport addresses, between devices initiating a multimedia session. EX1016, 9-10 (citing to RFC2327 describing SDP); EX1015 (RFC2327), 10-11, 19-20, 36-37. These parameters often included Uniform Resource Locators (“URLs”), a type of Uniform Resource Identifier (“URI”), which specified the location of resources or endpoints in the network. EX1003, ¶¶53-54, 118; EX1014, 9, 147-157; EX1016, 59-60, 148, 157.

RTSP, designed specifically for managing and controlling media playback, such as that of Real-Time Transport Protocol (“RTP”) (*see* EX1003, ¶¶47-50) provided commands such as SETUP, PLAY, and PAUSE, allowing users to dynamically interact with media streams. EX1003, ¶¶47-48, 80; EX1008, 12-13. Like SIP, RTSP also utilized SDP to negotiate session parameters, ensuring compatibility with the media stream being controlled. EX1003, ¶¶47-48, 55-56; EX1008, 80-88.

The need for interoperability between SIP and RTSP became evident well before the filing date of the ’151 patent, as multimedia systems evolved and the IMS architecture emerged. IMS aimed to create a unified framework for delivering voice, video, and data services over IP networks. EX1003, ¶¶57-58, 62. At the heart of IMS was SIP, which provided the signaling backbone for session initiation across diverse applications. EX1003, ¶¶45-56, 63. However, the dynamic control of media

streams required by IMS applications often relied on RTSP, highlighting the necessity for seamless integration between the two protocols. *Id.* Gateways bridging SIP and RTSP were widely implemented to meet this need, capable of exchanging URIs, SDP details, and other session parameters. EX1001, 1:16-2:31; EX1003, ¶¶51-60, 78-81. This allowed SIP clients to set up multimedia sessions that RTSP servers could manage with granular playback controls, combining SIP’s signaling capabilities with RTSP’s robust media management features. EX1003, ¶¶51-60.

By combining the strengths of these protocols, developers could create multimedia systems with a high-quality, interactive streaming experience. *Id.*

VI. OVERVIEW OF THE ’151 PATENT

A. Disclosure

The ’151 patent is directed to “a gateway” for “transmitting a multimedia stream from a first terminal and receiving an associated second multimedia stream at a second terminal,” and more specifically, transmitting between “SIP and RTSP domains” or clients using a “first,” “second,” and “third” protocol. EX1001, Abstract, 1:31-35, 5:10-14. As provided for in the dependent claims of the patent, each protocol can be the same protocol or different. *Id.*, cl. 7, 14.

The ’151 patent does not purport to invent a gateway capable of providing such an interface. In fact, the patent acknowledges that SIP-RTSP gateways were *known in the art*. EX1001, 1:31-33. The ’151 patent’s purported solution is to have

the gateway act both as a SIP client and RTSP server and [] provide a *trigger* to the second terminal for connecting the second terminal to the gateway,” as illustrated in Fig. 5(a) (EX1001, 2:11-21):

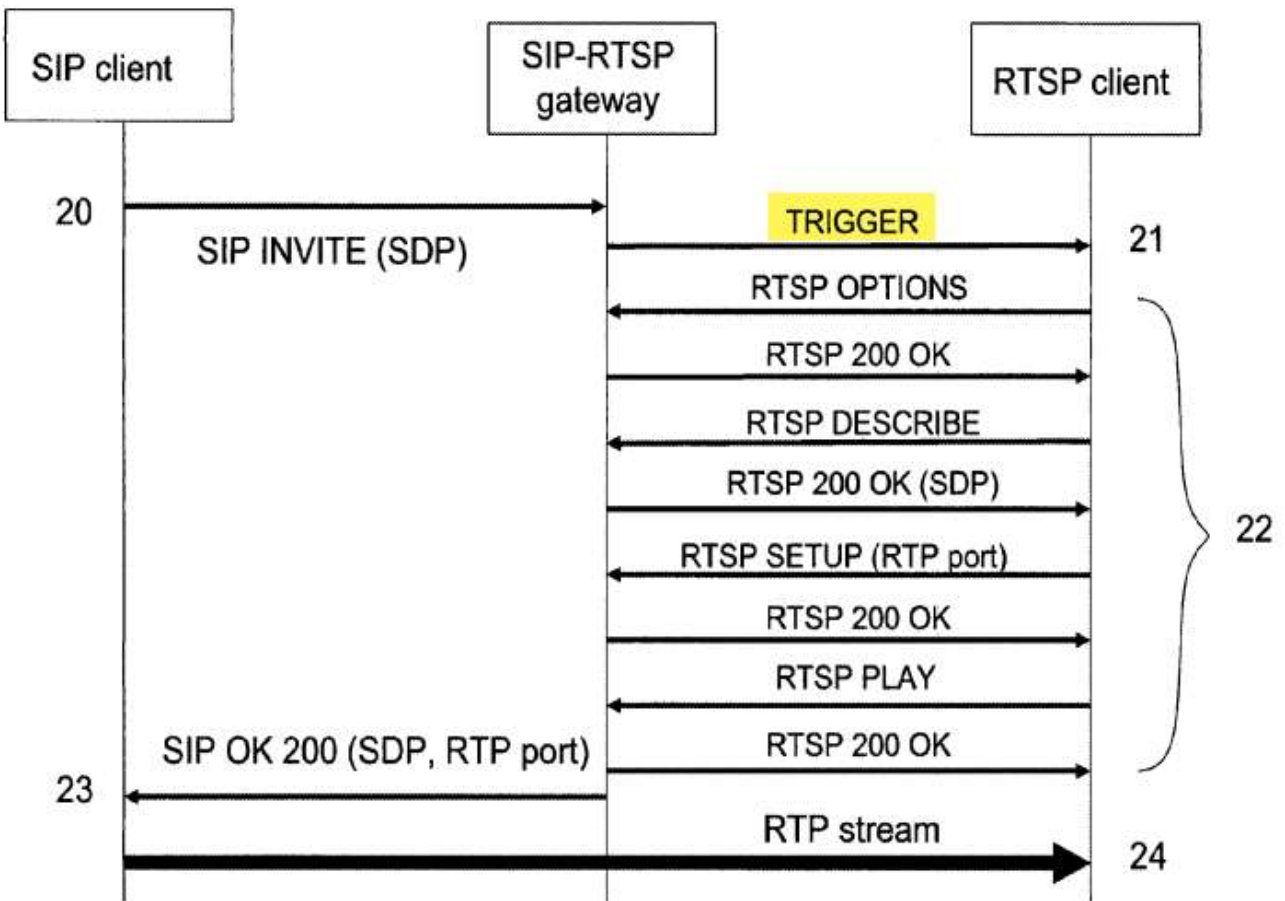


Figure 5 (a)

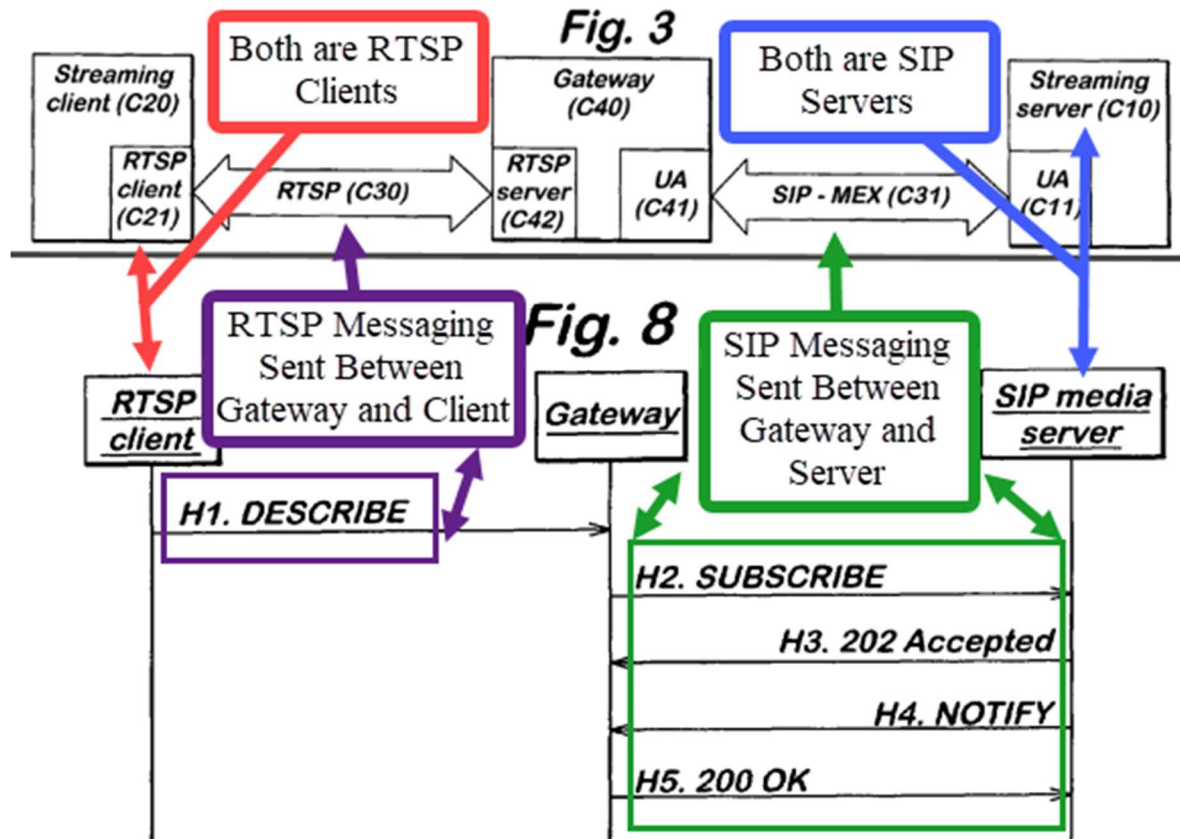
B. Prosecution History

The application that led to the '151 patent was filed on December 22, 2008, and claimed priority back to a provisional application filed on December 21, 2007. EX1002.

In an October 16, 2012 Non-Final Rejection, the Examiner rejected the claims as unpatentable over Mela (EX1007) in view of RFC2326 (EX1008) and U.S. Patent No. 6,895,439 (“Isomaki”) finding that Mela “teaches the invention substantially as claimed.” EX1002, 62-104. Petitioner relies on Mela in Ground III, herein. The Examiner acknowledged that Mela does not explicitly teach the step of initiating the exchange of the second media session information, relying on Isomaki for that limitation. EX1002, 73.

Subsequently, an Examiner’s amendment was entered with the Notice of Allowance on June 6, 2013. The amendment added the “wherein the first media stream is between ...” limitation to each independent claim. EX1002, 62-64.

The arguments presented herein rely on different aspects of Mela than those relied on during prosecution. In particular, and as applicant argued, the rejections relied primarily on Mela’s Figure. 2. EX1002, 44 (“[e]xaminer relie[d] to a large extent on Figure 2 ... and for a minor part on the description of Fig. 8,”) EX1002, 44. Here, in contrast, Petitioner’s arguments rely largely on the teachings of Fig. 8, and to a lesser extent, on Fig. 3, which both illustrate the same embodiment wherein *RTSP Clients* and *SIP Servers* communicate through a gateway:



EX1004, Figs. 3, 8 (cropped and annotated). The Examiner erred by not considering these limitations in this context.

Further, in prosecution, Examiner only relied on Fig. 9 for the “H2—SUBSCRIBE” message (EX1002, 69-70). This petition does not rely on Fig. 9 at all, outside of acknowledging it as an unclaimed precursor step for practicing the limitations. Instead, Petitioner relies on the messages starting with “H4.NOTIFY,” not considered by the Examiner. The Examiner further erred by not considering this portion of Mela’s disclosure.

Lastly, the Examiner placed the claims in allowance over Mela based on adding the Examiner’s amendment discussed above. EX1002, 17-21. But this

allowance was an error. This limitation itself was obvious over Mela, and allowing the claims over Mela even with this addition was an error. The Examiner failed to consider that almost any system using the teachings of Mela would require buffering by a server to smooth out the data flow as otherwise the media stream would be jittery. EX1003, 67-72.

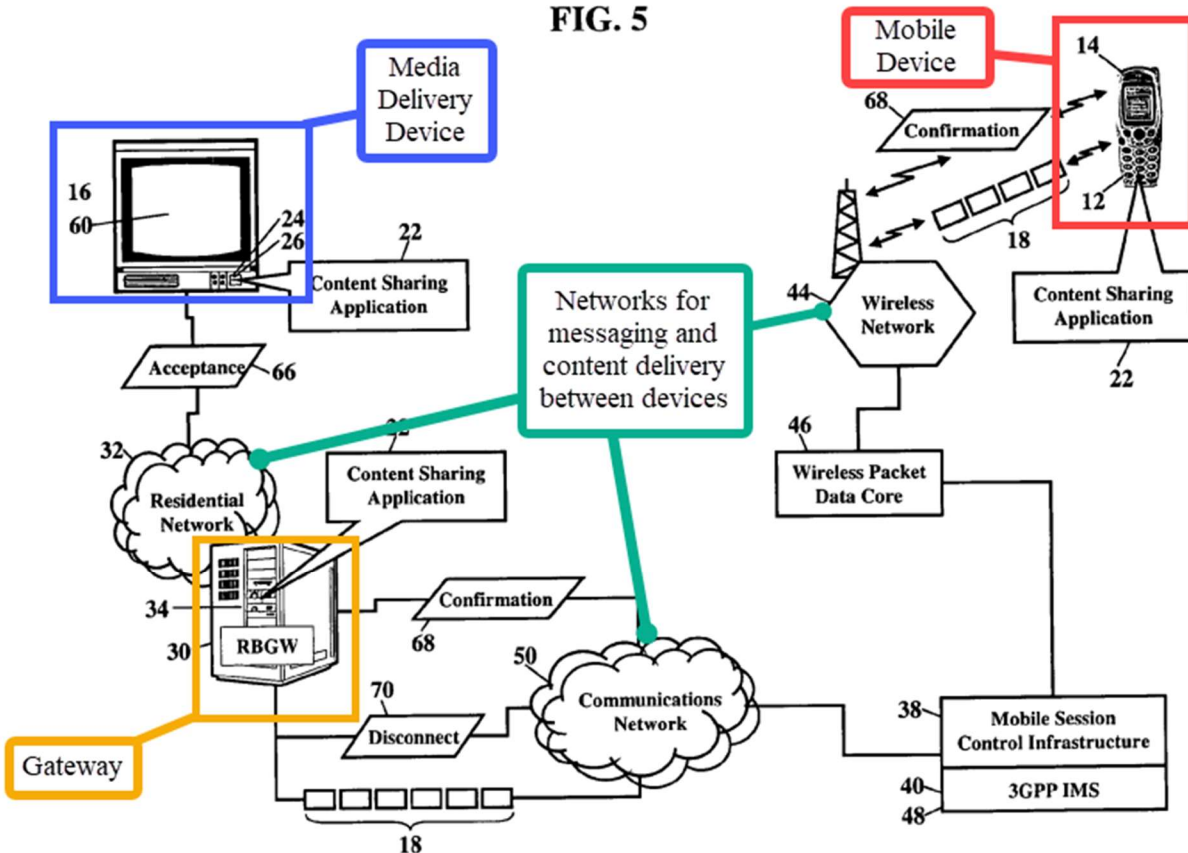
VII. OVERVIEW OF THE PRIOR ART

The following summarizes the main references cited herein. With the exception of Mela, none were cited or discussed during prosecution.

A. Alston

Alston discloses a residential broadband gateway (“RBGW”) capable of setting up sessions using known protocols that is able to trigger the receiving residential terminal and notify it of the availability of a new media stream from the sending terminal. *See generally* EX1004. As illustrated below, this gateway was provided for in an 3GPP IMS system allowing cell phones to interact with at-home devices, *i.e.*, the standardized communication system for cellular and internet based communication at the time:

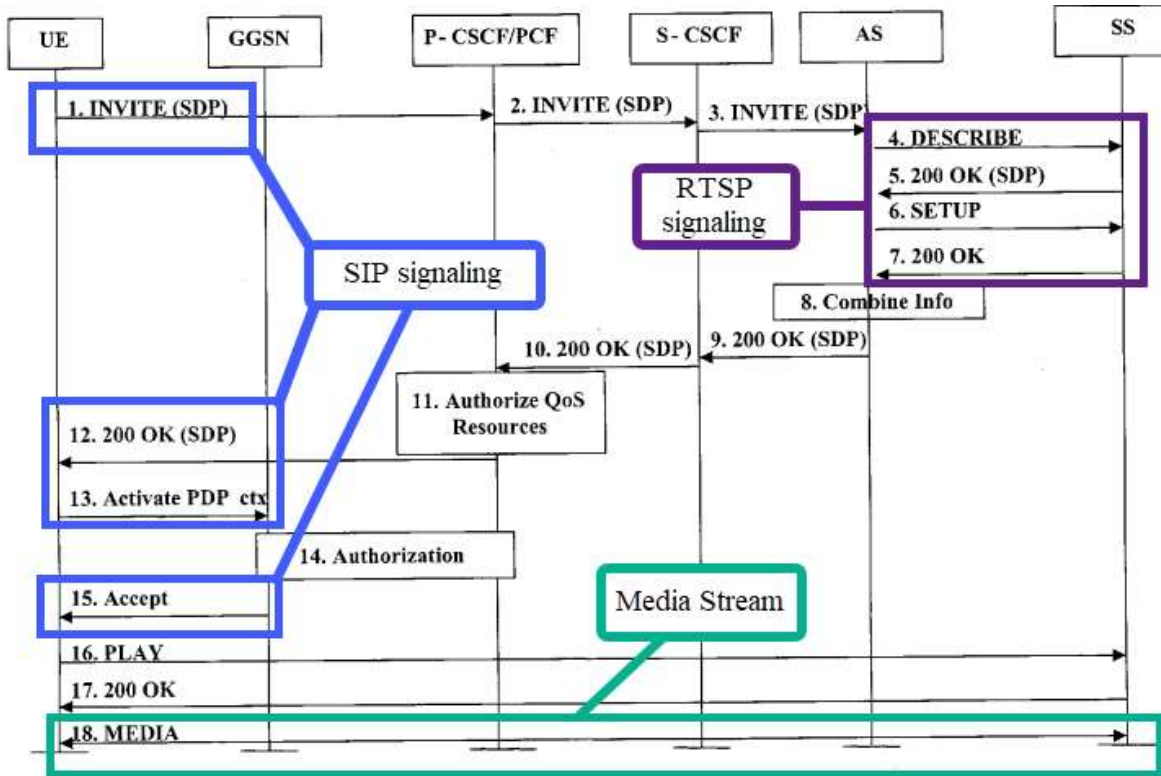
FIG. 5



EX1004, Fig. 5.

B. Gateva

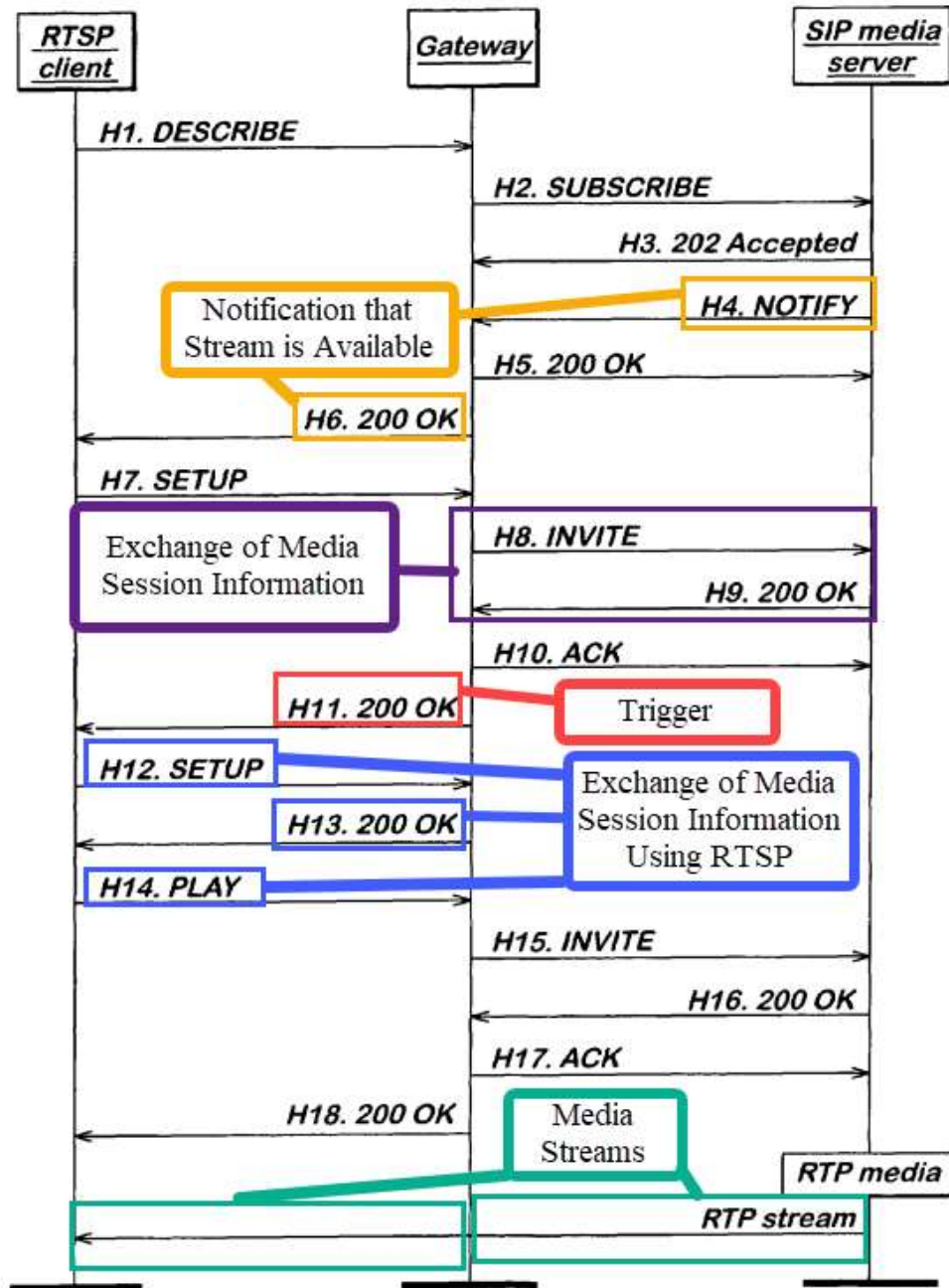
Gateva is directed to a method for controlling streaming services but also discloses well-known methods for RTSP and SIP terminals to communicate within an IMS system. Fig. 2 illustrates “a terminal (UE)” using SIP signaling (steps 1, 12, 13, and 15) and a “streaming server (SS)” using RTSP signaling (steps 4-7) to set-up a media stream (step 18):



C. Mela

Mela discloses a communication system to facilitate communication between two or more entities such as user equipment and/or other nodes. Mela discloses a multi-step process that allows the SIP client to trigger the RTSP client when it wishes to send a stream by sending an SIP Message to *notify* the Gateway and RTSP client that a stream is available for it to stream. EX1007, Fig. 8, 20:22-27-23. This causes the gateway to send the trigger, a “**200 OK**” message, to the RTSP client, which triggers the **SETUP** and exchange of media session information in the **SETUP** and **200 OK** messages between the gateway and RTSP client that confirms the parameters for the RTP stream to be sent. *Id.* This process is illustrated below:

Fig. 8
*Changes: Play -> setup, and additional steps 200 OK
as H13 and H14 PLAY*



EX1007, Fig. 8.

VIII. CLAIM CONSTRUCTION

For the purposes of this proceeding, Petitioner contends no claim terms need construction because the claims read on the prior art presented below under any construction consistent with *Phillips*, and should thus be given their plain and ordinary meaning. EX1003, ¶¶25-27, 84-85.

IX. GROUND I: CLAIMS 1-4, 7-10, 12-18, 22 ARE RENDERED OBVIOUS BY ALSTON ALONE OR IN VIEW OF FAJARDO¹

Alston describes a gateway that manages two associated media sessions: an incoming session from one endpoint, and an outgoing session from another endpoint. Alston uses SIP to set up its media sessions via exchange of SIP messages, which was a long-standardized protocol. EX1003, ¶87. To the extent PO contends Alston does not disclose buffering, Fajardo discloses it, and it would be obvious to combine the two. *Id.*

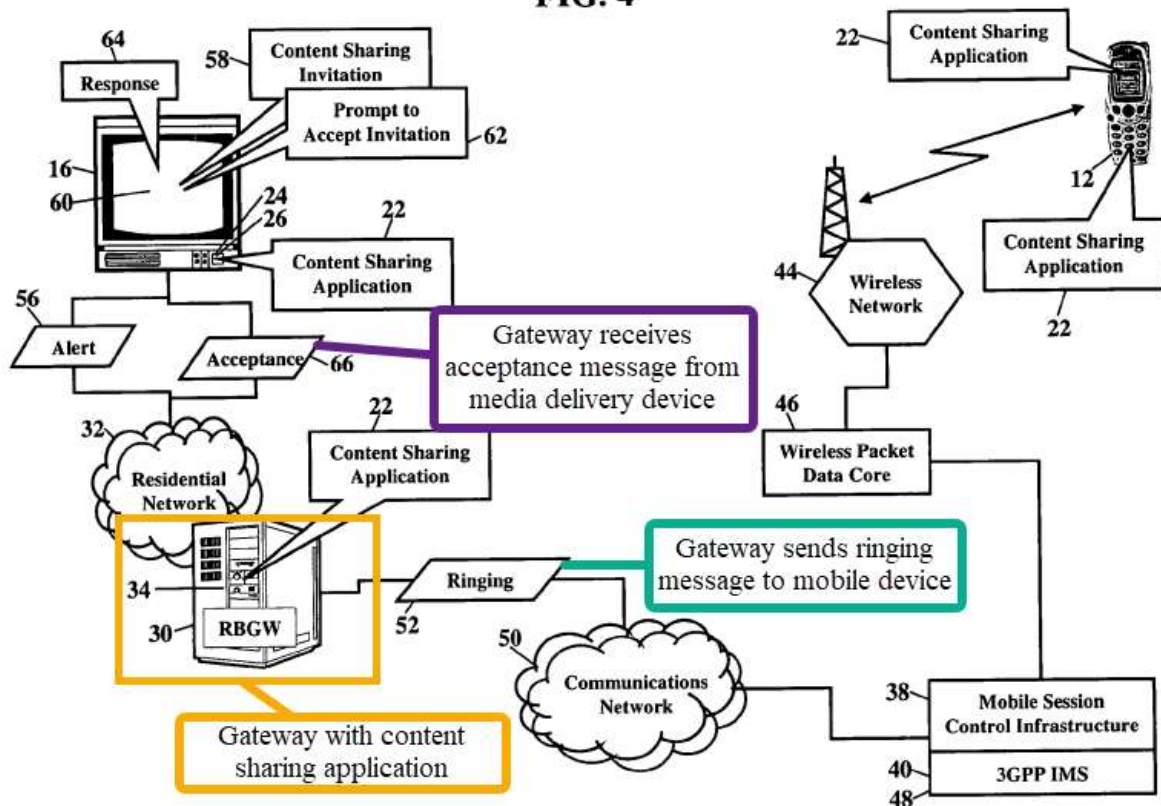
A. Claim 1

1. [1pre]: “A method, wherein a gateway is capable of communicating with a first terminal and a second terminal, the method comprising:”

To the extent the preamble is limiting, Alston discloses a “residential broadband *gateway* (RBGW) 30” that uses a content sharing application *capable of*

¹ Petitioners are not aware of any secondary considerations of non-obviousness identified by PO. EX1003, ¶¶308-312.

FIG. 4



Id., Fig. 4.

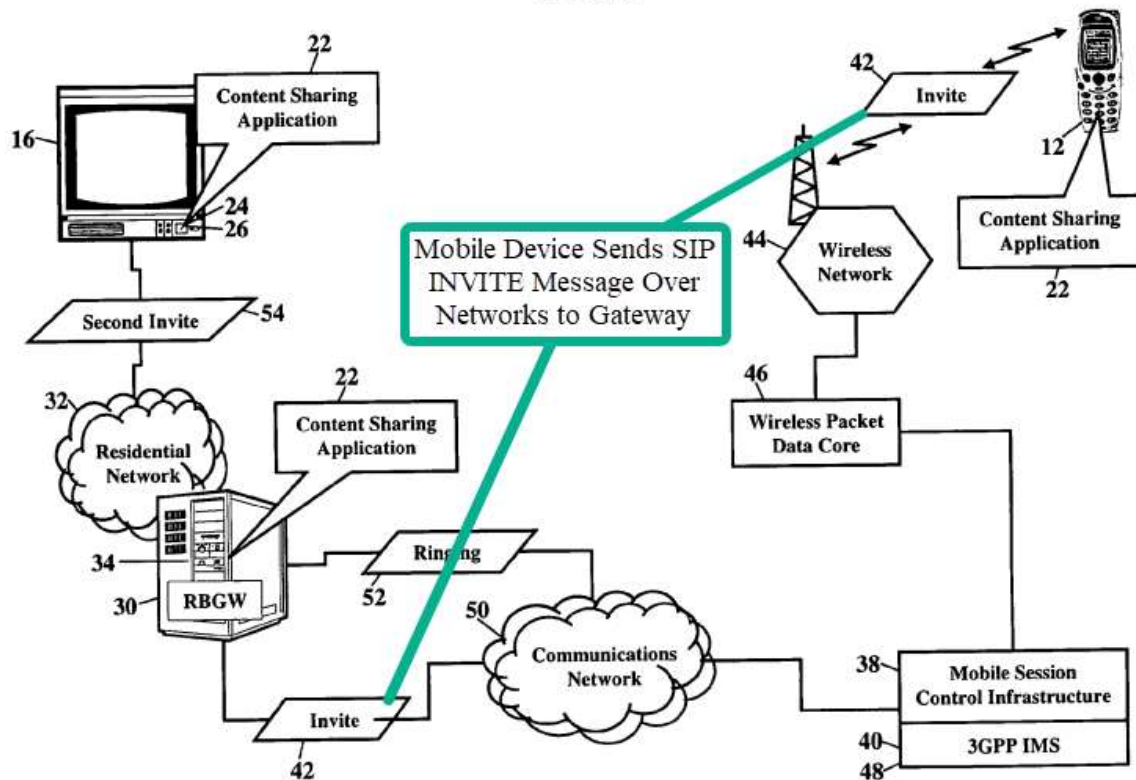
2. [1a]: “the gateway or the first terminal using a first protocol to exchange first media session information between the first terminal and the gateway wherein the exchange of the first media session information sets up a first media stream from the first terminal”

Alston teaches this limitation because it discloses that messages sent between the first terminal and gateway are SIP (session initiation protocol) messages that contain media session information for setting up media sessions in accordance with SIP. EX1003, ¶¶90-95. The '151 patent itself recognizes that it was well-known SIP was used to set up media sessions between terminals. EX1001, 1:26-28 (explaining multimedia streaming sessions are set up using SIP in IMS architectures)

Alston discloses that a “mobile device” (*i.e. first terminal*) and *gateway* exchange SIP-protocol messages containing *media session information*. Fig. 3² illustrates the “mobile device 12” (*i.e., first terminal*) *using a first protocol*, SIP, to “send[] the SIP INVITE message 42” *to the gateway*. EX1004, [0030]-[0032]; [0035].

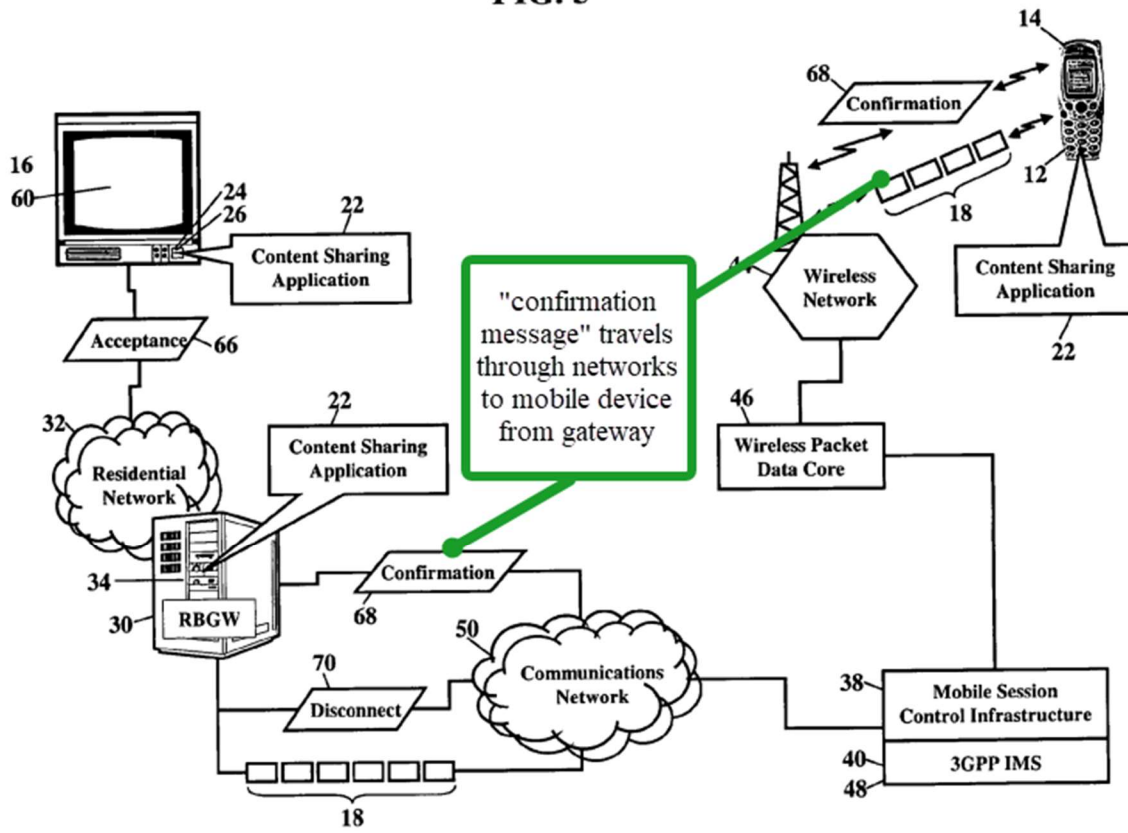
² Text in the colored boxes are Petitioner’s annotations.

FIG. 3



If the media delivery device accepts the invite (*infra* Limitation [1b], [1c]), the “**gateway 30 sends the confirmation message 68 ...to the mobile device 12,**” *i.e.*, **the first terminal**, as illustrated in Fig. 5 below. EX1004, [0034]. Alston teaches the “confirmation message 68” is a “SIP OK message” which also uses SIP. EX1004, [0034]; EX1003, ¶¶92-95.

FIG. 5



A POSA would understand, based on ordinary knowledge and Alston's teachings, that SIP "INVITE" and "OK" messages contain *media session information*. SIP is a well-understood protocol designed for setting up multimedia sessions (*i.e.*, media streams) which requires *media session information to be exchanged* in a series of messages (*i.e.*, SIP INVITE, OK, and ACK messages)—as set out in the IETF standard RFC-3261 and as acknowledged by the '151 patent. EX1003, ¶¶44-46, 62-63, 95; EX1004, [0028] ("[SIP] is the [IETF]'s standard for

multimedia conferencing over IP”); EX1001, 1:26-28; *see, e.g.*, EX1016³ (RFC3261), 1, 7-9.

Specifically, RFC-3261, which was published June 2002 and sets out the SIP standard, discloses that SIP messages include a session description protocol (SDP) for proposing a “session description” that includes the sender’s media capabilities and other media-related information (*e.g.*, media-type, URI, IP address, ports, etc.), *i.e.*, **media session information**, to the receiver to confirm common parameters for the media stream. EX1016, 1, 7-27; EX1003, ¶¶44-46, 62-63, 94-95. RFC-3261 explains these message “provide[] basic negotiation capabilities and is based on a simple offer/answer model of SDP exchange.” EX1016, 15; EX1003, ¶¶44-46, 62-63, 94-95. These “capabilities” include a determination of the media and media parameters (*e.g.*, content-type) to be used, *i.e.*, the media type and additional first

³ Dr. Almeroth opines that Exhibits 1006, 1009, 1011, and 1014-1017 are well-known IETF publications, and based on his personal knowledge were well-known and available to those of skill in the art at least as of December 21, 2007. ¶¶313-316. This comports with the publication date on each reference. ¶¶313-314. He further testifies that each of these documents are true and correct copies of what was available as of December 21, 2007 based on his personal knowledge and the publication practices of the IETF. ¶¶313-316.

media session information. EX1016, 11, 15. The exchange of INVITE and 200 OK messages, such as disclosed in Alston, contains “session descriptions,” allowing users to “agree on a set of compatible media types” and other information needed for setting up a session. EX1016, 1, 7-9.

Accordingly, a POSA would understand that Alston’s SIP “INVITE” and “OK” messages are used to *exchange first media session information* between the “gateway 30” and “mobile device 12” (*i.e. first terminal*). EX1003, ¶¶44-46, 62-63, 94-95; EX1004, [0030]-[0035]; EX1016, 1, 7-9, 12-14.

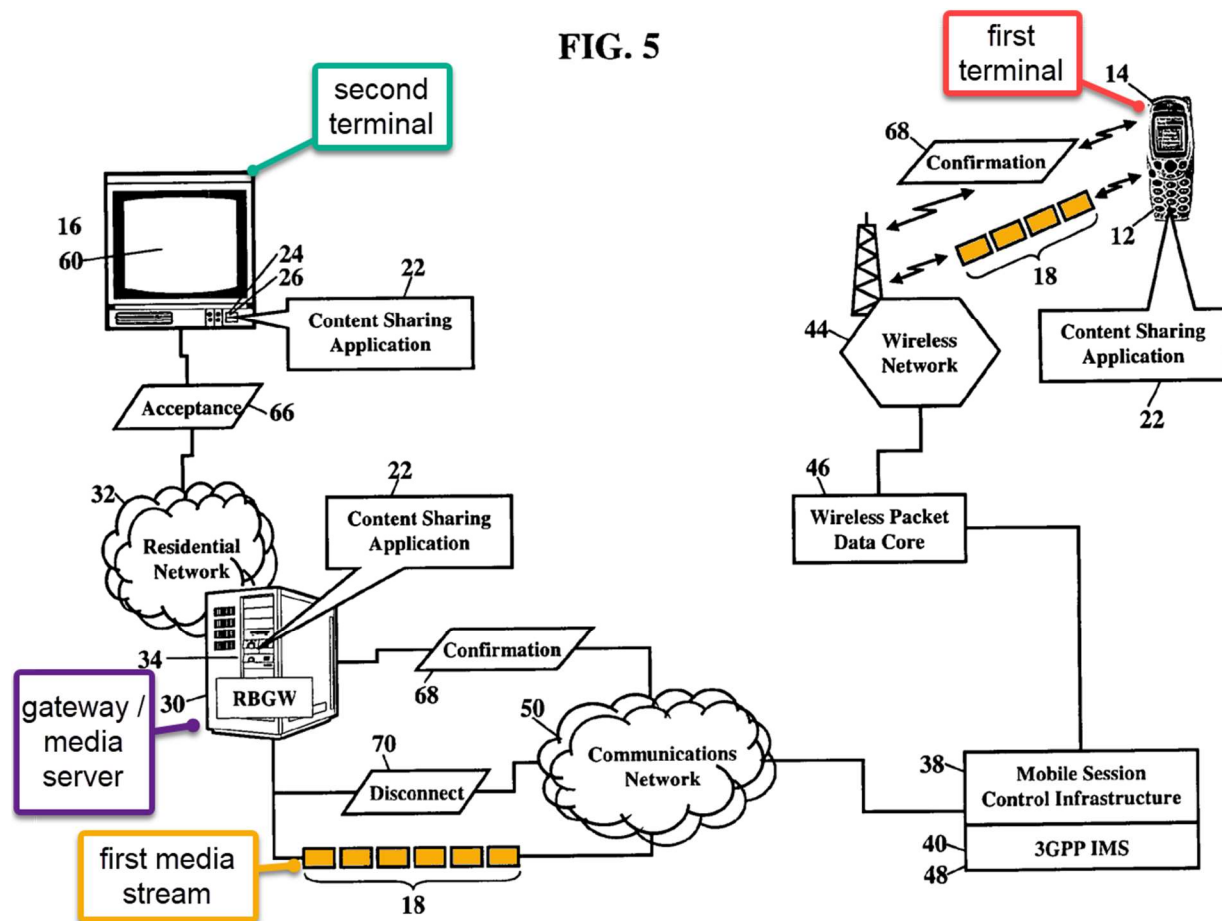
Alternatively, a POSA would have also considered it obvious to combine Alston with RFC-3261. Because Alston expressly using SIP messages, and because RFC-3261 defines SIP, a POSA would consider the combination “a predictable application of known technology.” *B/E Aerospace, Inc. v. C&D Zodiac, Inc.*, 962 F.3d 1373, 1379 (Fed. Cir. 2020). Specifically, a POSA would recognize that using Alston’s SIP messages in accordance with the known protocol (SIP) would predictably result in giving effect to Alston’s teachings. EX1003, ¶96. A POSA would further be motivated because RFC-3261 provides implementation details for carrying out Alston’s methods. *Id.*

Alston further discloses that the SIP INVITE and SIP OK messages (*i.e. exchange of first media session information*) result in *setting up a first media stream from the first terminal to the gateway*. Alston teaches that when the mobile

device (*i.e.* **first terminal**) receives the SIP OK message from the **gateway**, this “indicates that the subscriber has accepted the session invitation.” EX1004, [0034].

The mobile device “*then* communicates the stream 18 of data containing any packetized data, such as ‘live’ or real time video images, video clip(s), or image(s), and/or VoIP data,” *i.e.* **first media stream from the first terminal**. *Id.*; Fig. 11, Fig. 12; EX1003, ¶¶44, 51-54, 62-63, 95-96; EX1016, 1 (“SIP invitations used to create sessions”). As explained below for limitation [1e] (and as depicted in Figure 5), this **first media stream** is between the mobile device and gateway (which is a media server).

FIG. 5



Notably, the '151 patent itself describes an embodiment that is identical to Alston's teachings, where the *first media stream* is initiated by a "SIP INVITE" message and set up is completed when the second terminal accepts the invite and the gateway sends an "SIP OK" message. EX1001, 11:53-12:48; Fig. 5(a); EX1003, ¶96.

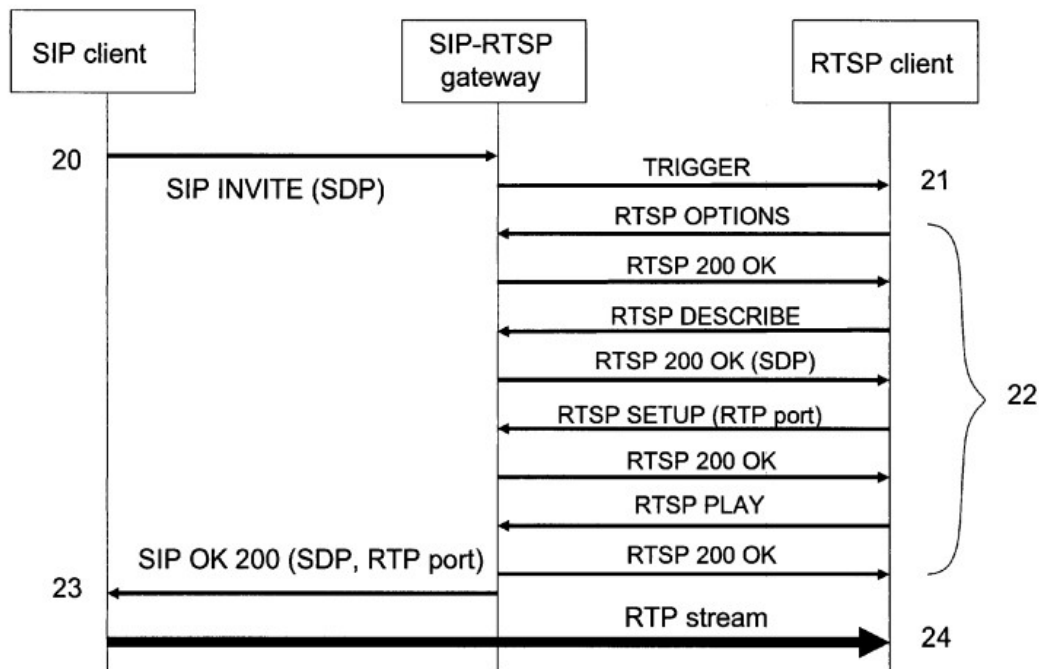


Figure 5 (a)

3. [1b]: “the second terminal using a second protocol to receive a trigger provided by the gateway wherein the trigger is to initiate an exchange of second media session information between the gateway and the second terminal”

Alston teaches this limitation because it discloses that messages sent between the gateway and second terminal in response to the trigger messages are SIP

messages which, in accordance with SIP, include media session information for setting up media sessions. EX1003, ¶¶97-100; EX1014, 1-2.

Alston discloses after the “gateway” receives the “invite message,” the gateway’s content sharing application sends an invite message, *i.e. a trigger*, to the media delivery device, *i.e. second terminal*. EX1004, [0032] (describing sending “a *second invite message* 54 to the media delivery device.”). Alston expressly discloses that this second invite message may use “any” protocol, including “SIP” (*i.e. second protocol*), based on its greater industry acceptance. *Id.*, [0032]. The claims of the ’151 patent allow for the first and second protocol to use the same SIP. *See* cls. 14, 15.

After receiving the “second invite message” (*i.e., trigger*), the media delivery device (*i.e. second terminal*) “sends an acceptance message 66” to the gateway (EX1004, [0033]) which contains a session description (SDP), *i.e., the second invite message initiates an exchange of the second media session information*. EX1016, 1-2; EX1003, ¶99. In accordance with RFC-3261, the acceptance message for accepting a media session invite is the OK message. EX1016, 12 (depicting sending “200 OK” in response to “SIP INVITE”); 15 (describing phone sending a 200 OK response). This OK message contains a session description (SDP) which contains *second media session information* including media type to be used by the terminal and gateway. EX1016, 15 (“The 200 (OK) contains a message body with the SDP

media description of the type of session.”); 16 (“The Content-Type and Content-Length ... contain[] Bob’s ***SDP media information***.”); EX1003, ¶100. As discussed for limitation [1a], a POSA would have known and considered it obvious that Alston’s disclosure of SIP messaging includes the implementation details of RFC-3261.

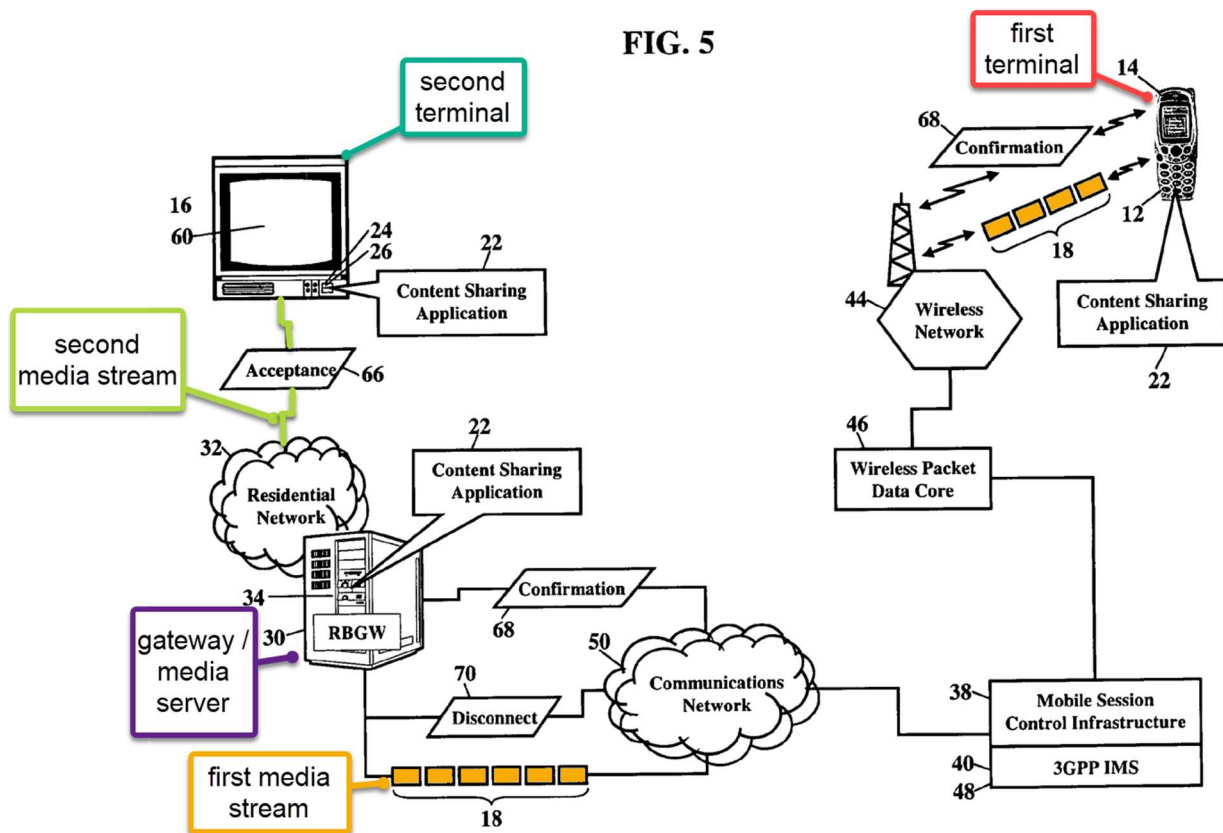
4. [1c]: “in response to receiving the trigger, the second terminal using a third protocol to initiate the exchange of the second media session information between the gateway and the second terminal wherein the exchange of the second media session information sets up a second media stream in which the second terminal participates”

As discussed for limitation [1b], Alston discloses that the second SIP INVITE message (*i.e. trigger*) results in the media delivery device (*i.e. second terminal*) using SIP (*i.e. third protocol*) to send a SIP OK acceptance message containing SDP (*i.e. media session information*) to the gateway thereby *initiating exchange of second media session information*. EX1016, 15-16; EX1003, ¶¶101-103. The SIP standard explains that this exchange is for a “determination of the media and media parameters to be used,” *i.e.*, the media type and additional first media session information. EX1014, 7; EX1003, ¶¶103.

Alston discloses the acceptance message (*i.e. exchange of second media session information*) results in *setting up a* second session between the media delivery device and gateway (*i.e.*, a *second media stream*). EX1003, ¶104. Specifically, after the media delivery device transmits a SIP OK acceptance message

to the gateway, the gateway sends a “confirmation message” (which “may be a SIP OK message”) to the “mobile device 12 indicat[ing] that the subscriber has accepted the session invitation.” EX1004, [0034]: EX1003, ¶103-104. The “mobile device” then “communicates the stream 18” to the gateway, which then “forwards the stream of data during a session with the media delivery device 16,” *i.e.* **second media stream**. EX1004, [0044]. In other words, as provided in limitation [1a], the stream from the mobile device to the gateway is the **first media stream**. EX1003, ¶104. The **second media stream** is the stream between the media delivery device (*i.e.* **second terminal**) and the gateway as annotated in Fig. 5 (EX1004):

FIG. 5



The second terminal participates in the second media stream by receiving the stream,

and separately, by having the ability to unilaterally end the streams, *e.g.*, when “the media delivery device decides to end the session, [the] device provides a disconnect message to terminate the session per standard SIPs.” EX1003, ¶¶105-106; EX1004, [0034]; [0044].

5. [1d]: “the second terminal receiving the second media stream, wherein the second media stream is associated with the first media stream”

Alston discloses that the gateway “forwards the stream of data during a session with the media delivery device 16,” *i.e.* ***the second terminal receives the second media stream***. EX1004, [0044]; EX1003, ¶¶106-109.

Based on the express teachings of Alston that the “gateway” is a back-to-back user agent (“B2BUA”), a POSA would understand that the gateway would be configured to ***associate the first multimedia session information with the second multimedia session information***, thereby associating the first media stream and second media streams, from the context of the disclosure. EX1004, [0026], [0032]. Specifically, B2BUAs, like those described in Alston, always associate the streams it manages to maintain logical continuity and ensure seamless communication between endpoints. EX1003, ¶¶108-109. While each session is treated independently in protocol terms, the B2BUA’s internal state and mapping (*i.e.*, associating) ensure the two sessions are tightly coupled, enabling effective signaling and media handling. *Id.* This mapping is pivotal, as it allows the B2BUA to handle

signaling efficiently and ensure media flows uninterrupted between endpoints, even if they operate on different networks or require protocol translations. *Id.* By managing this association, the B2BUA effectively enables continuity between endpoints, accommodating a range of scenarios where multimedia communications rely on the gateway to provide seamless integration of signaling and media exchange. *Id.*

Further, even without the explicit disclosure of a B2BUA, ***the second media stream is associated with the first media stream*** because Alston discloses once “the media delivery device 16 has accepted the session invitation ... mobile device 12 then communicates the stream of data ... to the [RBGW]” which “then forwards the stream of data during a session with the media delivery device.” EX1004, [0044]; EX1003, ¶109. In other words, the stream of data (“packetized data, such as ‘live’ or real time video”) delivered to the gateway is the same data that is “forwarded” to the second terminal, and thus they are associated. EX1004, [0025]; EX1003, ¶108.

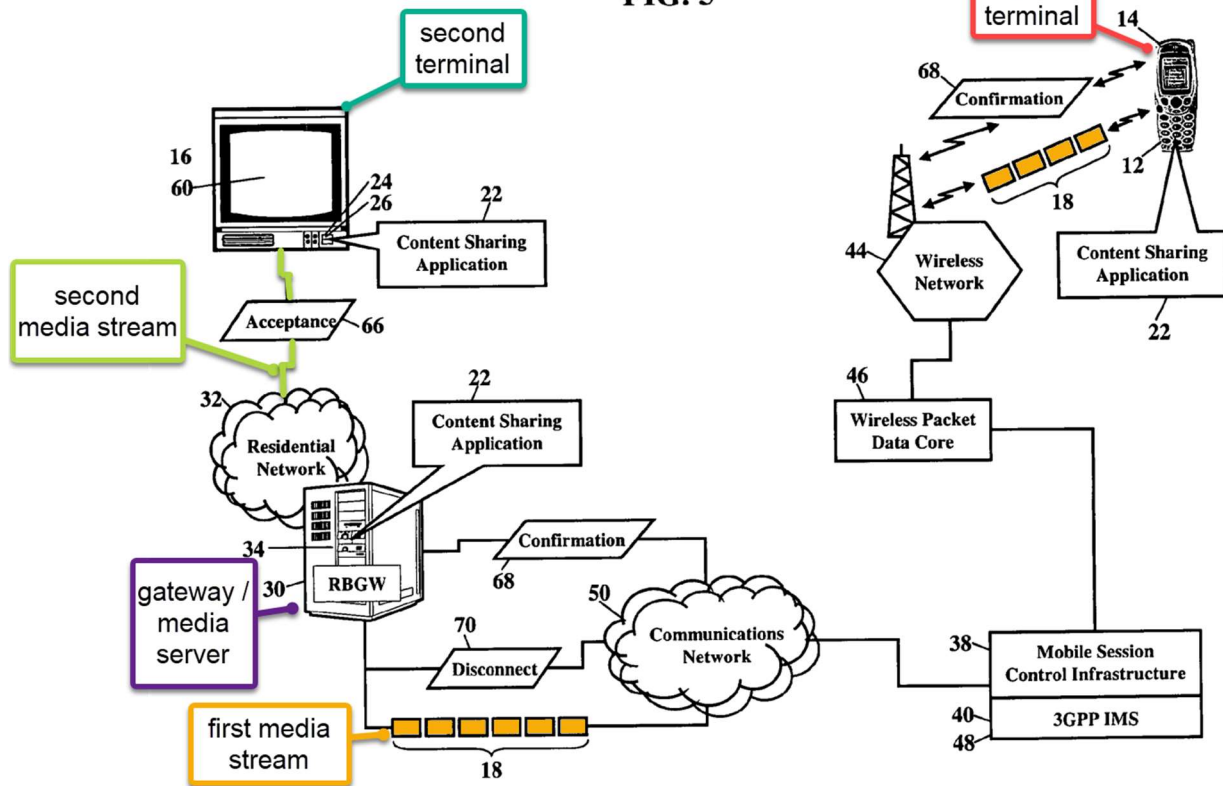
To the extent not explicit, a POSA would be motivated to associate the streams to give effect to Alston’s teaching that streams are forwarded, by associating which incoming stream should be mapped to which outgoing stream such that the stream is forwarded to the correct terminal. EX1003, ¶109. A POSA would find such association beneficial as it allows for proper forwarding of streams as taught in Alston. *Id.*

6. [1e]: “wherein the first media stream is between the first terminal and a media server wherein the second media stream is between said media server and the second terminal, and wherein said media server buffers at least part of the first media stream received from the first terminal before transmitting the second media stream to the second terminal.”

Alston alone teaches this limitation or in view of Fajardo. EX1003, ¶¶110-114.

As discussed above in limitations [1a] and [1c] and as annotated in Figure 5 below, the *first media stream* is between the *first terminal* and the gateway, *i.e.* *media server*, and the *second media stream* is between the *second terminal* and the gateway. Alston discloses that the gateway may “locally store the stream 18 in the local memory location 34” to send to the media delivery device “at a later time,” which makes it a *media server* as described in the ’151 patent. EX1004, [0046]; EX1001, 10:49-53 (describing a media server as “allow[ing] time-based access to files” by a client); EX1003, ¶111.

FIG. 5



Alston discloses further that the gateway, *i.e.* **media server**, “locally and/or remotely stores the stream 18, [so that] the shared content can be retrieved at a later time” by the media delivery device, *i.e.* **second terminal**. EX1004, [0046]. A POSA would understand that this temporary storage acts as a buffering mechanism for the media stream by temporarily storing the media stream before later transmitting it to the subscriber’s “media delivery device,” *i.e.*, **buffering** the entire **first media stream received from the first terminal before transmitting the second media stream to the second terminal**. EX1003, ¶¶112-114.

To the extent PO argues that a POSA would not understand this disclosure as **buffering**, a POSA would find buffering to be an obvious addition as it would be a

requirement for most uses. EX1003, ¶113. A POSA would understand that buffering is a necessary step in the context of Alston because it ensures seamless handling of data *streams* during storage or transmission by “server 96.” *Id.* A data stream is the real-time transfer of data from one endpoint to another. *Id.* For multimedia content, a data stream allows the content to be viewed while it is being transferred, without downloading the entire content. *Id.* Yet without buffering, the server may struggle to manage variability in network speeds, packet arrival times, or processing delays, which could result in data loss, corruption, or incomplete storage. *Id.* Buffering allows the server to temporarily hold incoming data while it is written to storage or prepared for forwarding, ensuring that slower downstream components or transient processing delays do not disrupt the flow of the stream. EX1003, ¶113; *see infra* Ground III, Claim [1e] (further discussing the obviousness of buffering systems to media delivery systems).

Moreover, Fajardo expressly teaches when a “mobile device us[ing] the Session Initiation Protocol (SIP)” and specifically “IP Multimedia Subsystem,” it is beneficial to use “playout buffers ... to minimize the effects of packet loss or to fix small gap in the traffic.” EX1019, 4:48-59, 7:55-59. Fajardo also teaches that for “excessive packet loss” or “real-time applications ... sensitive to loss and delay,” a “per-mobile packet buffer at an access router or network entity” can be employed. *Id.*, 7:60-8:11. In view of these teachings, a POSA would be motivated to

incorporate buffering into Alston for the same reasons discussed above. EX1003, ¶114. A POSA would have had a reasonable expectation of success, because media buffering was well-known and well-within the skill of an ordinary artisan to implement. *Id.* In addition, Alston, Fajardo, and the '151 patent are directed to the same field of multi-media content delivery and IMS/3GPP systems. *Id.*; EX1001, 1:6-8, 1:16-18; EX1004, [0002], [0029]; EX1019, 4:48-59, 7:55-59.

B. Claim 2: “The method according to claim 1, 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.”

Alston teaches this limitation because the SIP messages that are used to share and confirm the sessions parameters between the first terminal and gateway each contain session parameters, including a media type, as required by the SIP standard. EX1003, ¶¶115-116; EX1004, [0028], [0030]-[0032], [0035]; EX1014, 9, 147-157; *see also* Ground I, [1a]. Specifically, the “OK” message provided by the gateway to the first terminal contains the media-type (as provided in Ground I, [1a]) that will be used in both the first and second session. As provided in Ground I, [1e], the “data stream” (media stream) is forwarded by the gateway/B2BUA to the second terminal, thus, the data stream remains the same media type. *Id.* Accordingly, the media type provided in the “OK message” is also part of the second media session information. *Id.* The gateway must confirm the second terminal’s session parameters to the first

terminal so that both terminals are using the same session parameters. EX1003, ¶116, EX1004 [0030].

C. Claim 3: “The method according to claim 1, 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.”

Alston teaches this limitation because the SIP messages that are used to share and confirm the sessions parameters between the second terminal and gateway each contain session parameters, including a media type, as required by the SIP standard. EX1004, [0028], [0030]-[0033], [0035]; EX1003, ¶117-118; EX1014, 9, 147-157; *see also* Ground I, [1b]. Specifically, the “INVITE” message provided by the gateway to the second terminal contains the media-type (as provided in Ground I, [1b]) that will be used in both the first and second session. As provided in Ground I, [1e], the “data stream” (media session) is forwarded by the gateway/B2BUA to the second terminal, thus, the forwarded data stream remains the same media type. EX1003, ¶117-118. Accordingly, the media type provided in the “INVITE message” is also part of the first media session information. *Id.* The gateway must confirm the first terminal’s session parameters to the second terminal so that both terminals are using the same session parameters. EX1003, ¶117, EX1004 [0030].

D. Claim 4: “The method according to claim 1, wherein the exchange of the first media session information comprises: the gateway

receiving, from the first terminal, an identifier of the second terminal.”

Alston teaches this limitation because a POSA would understand that the “INVITE” message provided to the gateway by the first terminal during the exchange of first media session information must identify to the gateway the final destination of its message, thus *the gateway must receive, from the first terminal, an identifier of the second terminal* because the gateway must know where to forward the invite. *See* Ground I, [1c]-1[e], [3]; EX1004, [0030]-[0034]; EX1003, ¶¶119-120. Indeed, as laid out in the standard “SIP URLs are used within SIP messages to indicate the originator (From), current destination (Request-URI) and *final recipient* (To) of a SIP request. EX1014, 18; EX1003, ¶¶119-120; *see also* EX1009, 3.

E. Claim 7: “The method of claim 1, wherein the third protocol is different from the second protocol.”

Alston discloses that the “second invite message may use any messaging protocol” and, similarly, the “confirmation message 68 may be any message or information that acknowledges acceptance of the session invitation.” EX1004, [0032], [0034]; *see also* Limitation 1[b] and 1[c]; EX1003, ¶¶121-122. Therefore, a POSA would understand that in many real-world uses the third protocol (which Alston discloses is SIP) would be different from the second protocol (which Alston discloses could be “any ... protocol”). EX1003, ¶¶119-120.

F. Claim 8: “The method of claim 1, wherein the first terminal transmits the first multimedia stream and the second terminal receives the second multimedia stream.”

Alston discloses that “[t]he mobile device 12 then communicates the stream of data ... to the residential broadband gateway,” *i.e. first terminal transmits the first multimedia stream*, and “[t]he residential broadband gateway 30 then forwards the stream of data during a session with the media delivery device 16,” *i.e. second terminal receives the second multimedia stream*. EX1004, [0044]; EX1003, ¶¶123-124.

G. Claim 9: “The method of claim 1, wherein the trigger serves to inform the second terminal of availability of a new multimedia stream.”

Alston discloses an embodiment wherein the invite message is used to “provide[] an audible and/or visual indication or alert of the mobile user’s invitation to share video”—*i.e., inform the second terminal of the availability of a new multimedia stream*.” EX1004, [0039]; EX1003, ¶¶123-124.

H. Claim 10: “The method of claim 1, wherein the first protocol is a peer-to-peer protocol.”

Alston teaches that *the first protocol is, SIP, a peer-to-peer protocol*. EX1003, ¶¶127-128. The ’151 patent explains that SIP is a peer to peer protocol. EX1001, 2:16-17; EX1004, [0030]-[0034].

I. Claim 12: “The method of claim 1, wherein the trigger comprises a network address of the gateway.”

Alston discloses or renders obvious that the second INVITE message (trigger) *contains a network address of the gateway*. EX1003, ¶¶129-130. Specifically, a POSA would understand that SIP messages include “URLs,” *i.e.*, network addresses “that are used within SIP messages to indicate the originator” of the message. EX1014, 20; EX1016, 25, 36-37, 52; EX1003, ¶¶129-130. In the case of the second INVITE message, the originator is the gateway, therefore the second INVITE message contains a network address of the gateway. *Id.* This process is fundamental to SIP’s role in establishing VoIP, video calls, and other real-time communication sessions. *Id.*

J. Claim 13: “The method of claim 12, wherein the network address is a URI or a URI reference.”

Alston renders obvious that the second INVITE message includes the network address, a URL, which is a type of URI as set out by the standards at the time. EX1003, ¶¶131-132; EX1009, 3 (URL refers to the subset of URI that identify resources via a representation of their primary access mechanism).

K. Claim 14: “The method of claim 1, wherein the first protocol and the second protocol are identical.” / Claim 15: “The method

of claim 14, wherein the first protocol and the second protocol are Session Initiation Protocol (SIP)."

Alston teaches that both the first protocol and second protocol are *SIP*, therefore, *the first protocol and the second protocol are identical*. EX1004, [0030]-[0035]; EX1003, ¶¶133-136; *see* Ground I, [1a-b].

L. Claim 16: "The method of claim 1, wherein the gateway is configured to associate the first multimedia session information with the second multimedia session information."

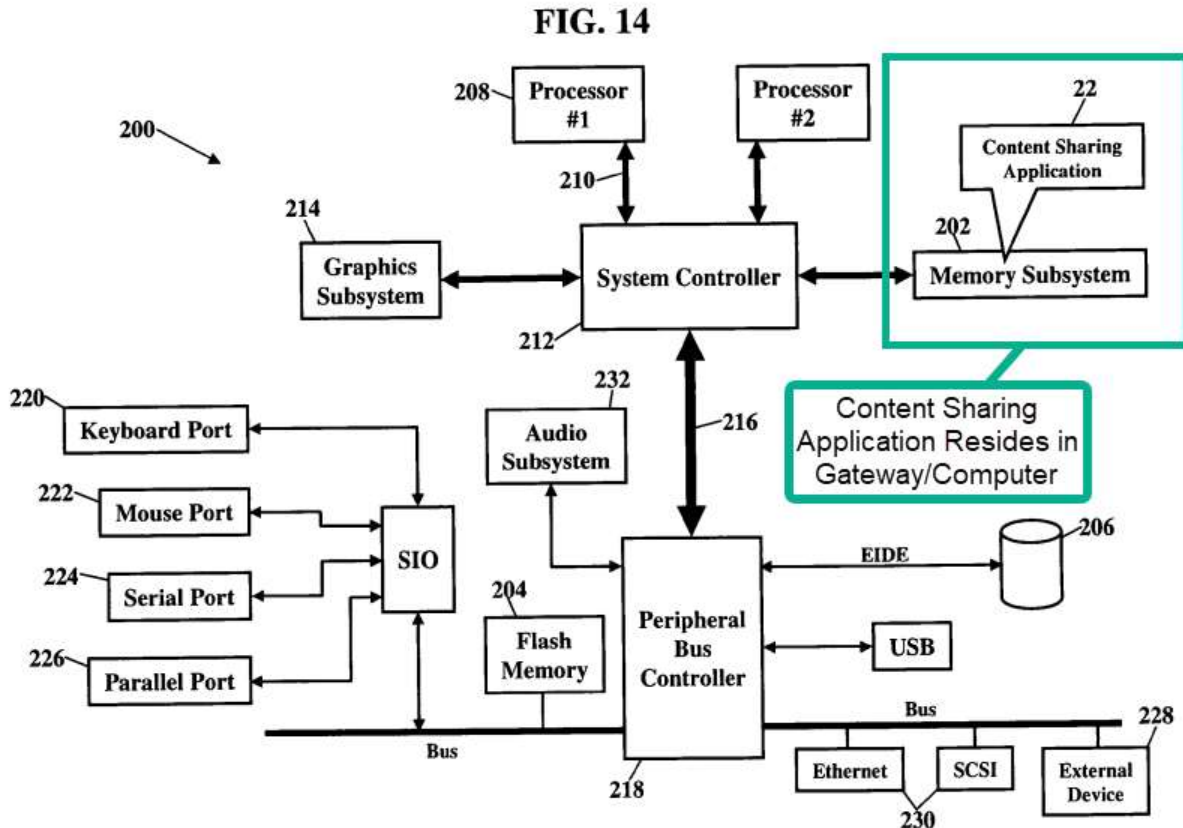
As discussed above in Ground I, [1d], Alston teaches the gateway associates the first and second media streams. EX1003, ¶137. Since the specific content that these streams support are based on the multimedia session information (*e.g.* content type, aspect ratio), the gateway also associates the first and second multimedia session information. EX1003, ¶¶107-109, 137.

M. Claim 17:

1. [17pre]: "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:"

Alston discloses this limitation (EX1003, ¶¶136-37) because the "operating environment" for its teachings, include a "content sharing application 22 resid[ing] in a computer system" such as the "gateway" can perform the functions taught by Alston. EX1004, [0048]-[0049]; EX1003, ¶¶138-139. Alston's Fig. 14 illustrates,

the “content sharing application 22 operates within a system memory device” (EX1004, [0049]):



Id., Fig. 14.

Alston further teaches that the “content sharing application 22 may be stored in any memory location” or “flash memory.” EX1004, [0048]-[0049]. A POSA would understand from this teaching that Alston’s methods can be carried out by a gateway (*i.e.*, *article of manufacture*) that *includes* a “flash memory” or “memory subsystem” (*i.e.*, *a non-transitory computer-readable medium*) *having stored thereon* a “content sharing application” (*i.e.*, *software instructions that, if executed*

by a computing device, cause the computing device to perform operations).

EX1004, [0048]-[0049].

2. [17a]:

See Limitation [1a]. EX1003, ¶140.

3. [17b]:

See Limitation [1b]. EX1003, ¶141.

4. [17c]:

See Limitation [1c], which explains how Alston discloses the use of SIP (*i.e.*, *the second protocol*)⁴ to conduct the claimed exchange. EX1003, ¶142.

5. [17d]: “**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**”

See Limitation [1a], providing that SIP, *the first protocol is used for* an INVITE/200 OK exchange that is used to set-up a first media session from the first terminal, wherein the 200 OK message (*i.e.*, *a response*) “routes to the mobile device and indicates that the subscriber has accepted the session invitation. EX1003, ¶143. The mobile device ... then communicates the stream of data containing any packetized data, such as “live” or real time video images, video clip(s), or image(s),

⁴ For clarity, the second protocol of claim 17 is the third protocol of claim 1.

In this case, both are SIP.

and/or VoIP data.” EX1004, [0034]. In other words, the responses *cause the first terminal to begin transmission of the first media stream*. EX1003, ¶143.

6. [17e]:

See Limitation [1e]. EX1003, ¶144.

N. Claim 18

1. [18pre]/[18a]: “A gateway comprising: / a communication interface”

See [1pre]/[1a]. EX1003, ¶145-146. Alston’s gateway has a *communication interface* because it communicates with a mobile device and media delivery device.
Id.

2. [18b]: “memory that stores software instructions that, when executed by the gateway, cause the gateway to”

Alston discloses this limitation. EX1004, [0049] (“memory subsystem 202”); EX1003, ¶147.

3. [18c]:

See [1a]. EX1003, ¶148.

4. [18d]:

See [1b]. EX1003, ¶149.

5. [18e]:

See [1c]. EX1003, ¶150.

6. [18f]:

See [1d-e]. EX1003, ¶151.

- O. Claim 22: The gateway of claim 18, wherein the gateway is configured to associate the first multimedia session information and the second multimedia session information with each other.**

See Claim 16. EX1003, ¶152.

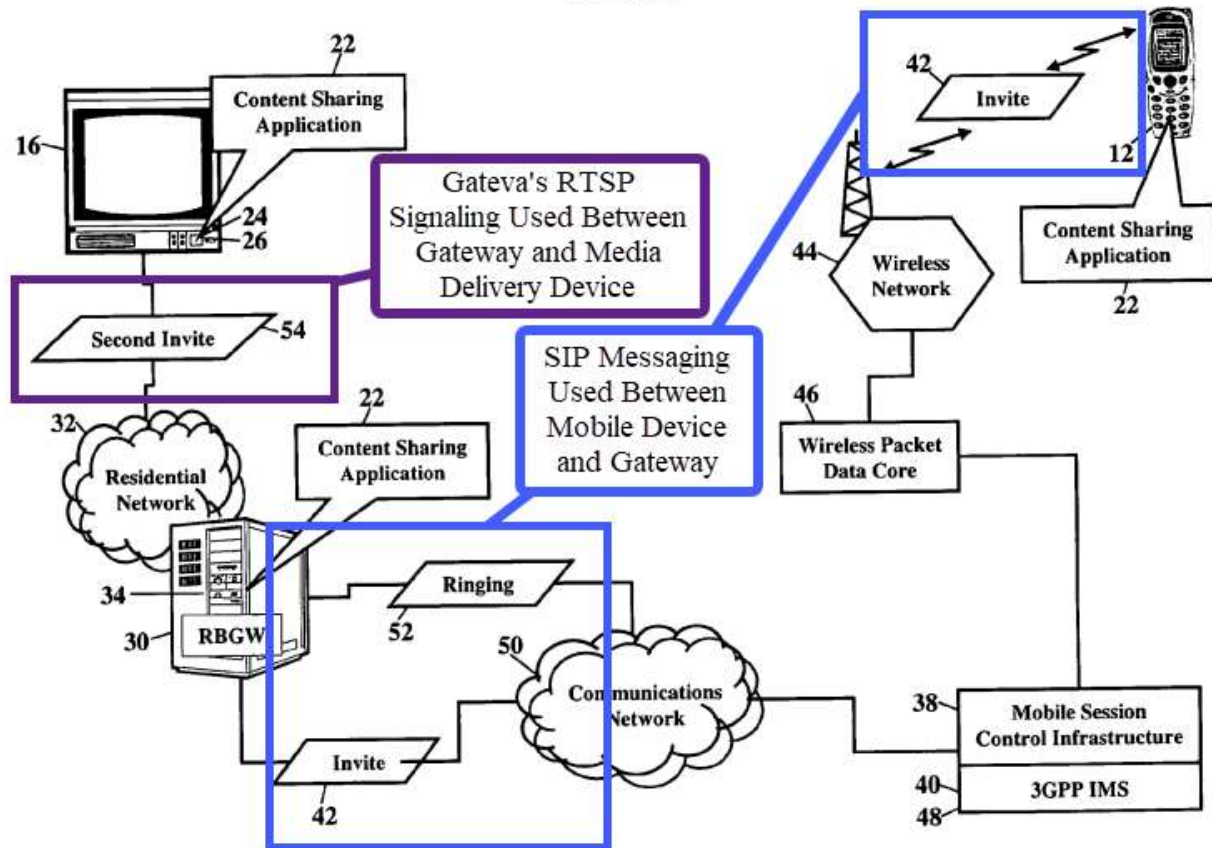
X. GROUND II: CLAIMS 1-18, 22 ARE RENDERED OBVIOUS BY ALSTON (WITH OR WITHOUT FAJARDO) IN VIEW OF GATEVA

Below is a summary of this ground. EX1003, ¶¶153-58. Alston teaches a gateway capable of establishing media sessions between two separate terminals in an IMS-adjacent architecture. Alston discloses that a variety of different protocols known to a POSA can be used to establish and maintain the media sessions. Alston discloses that the gateway is compatible with a variety of media delivery devices.

While Alston discloses SIP, it does not disclose RTSP or a SIP-RTSP gateway, which is not expressly required by many of the claims as demonstrated in Ground I. Gateva, however, does. Namely, Gateva is an example of well-known methods of establishing a media session with an RTSP client wherein the media session is set-up with SIP, and RTSP is used to maintain the session for the many benefits of using RTSP for session management.

For the reasons described below, particularly given the well-known nature of SIP-RTSP systems, a POSA would have implemented Gateva's SIP-RTSP messaging scheme with Alston's teachings to Alston's communication system between the "media delivery device 16," "RBGW 32," and the "communications network 50," as annotated in Alston's Fig. 3:

FIG. 3

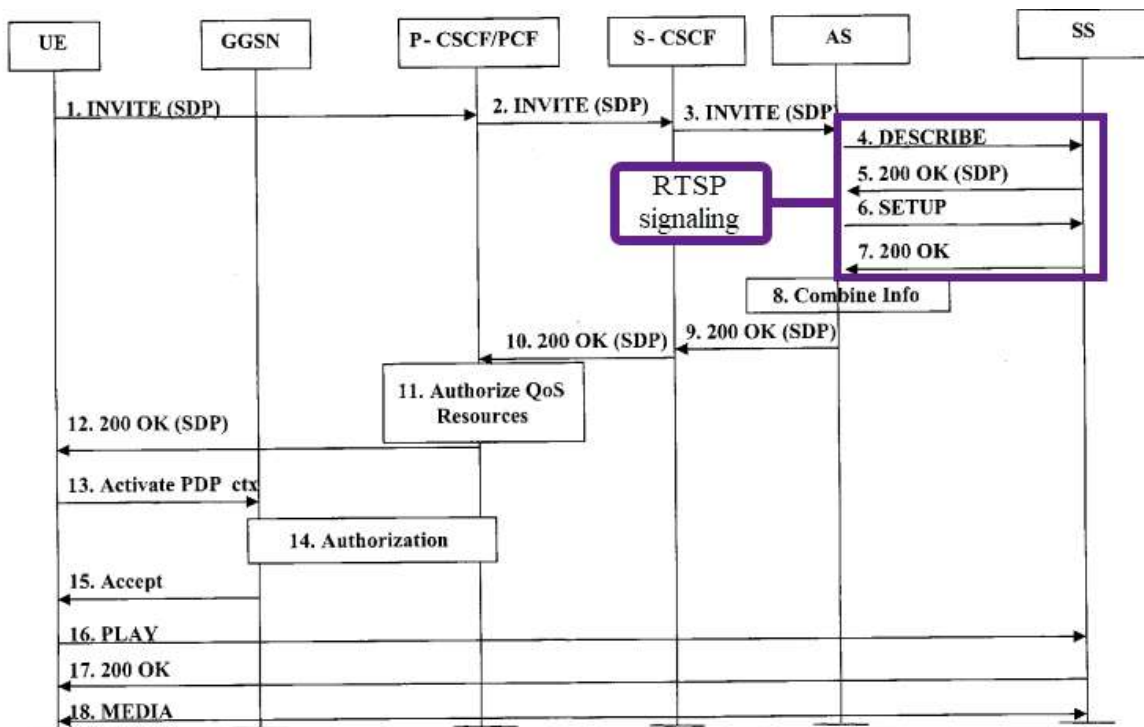


EX1004, Fig. 3.

Specifically, Alston already discloses that “SIP” is a protocol that can be used between the gateway and communications networks. Further, both Gateva and Alston employ the same INVITE/200 OK messaging scheme for gateway to communications network (*i.e.*, first terminal) communication. *Compare* EX1004 (“Invite 42”) with EX1007 (“3.INVITE”); *also compare* EX1004 (“confirmation message 68 [which] may be a SIP OK message”) with EX1007 (“9.200 OK”). Alston further discloses that the protocol between the media delivery device (*i.e.*,

second terminal) and the gateway can be “any messaging protocol.” EX1004, [0028].

For the communication between the media delivery device and gateway, a POSA would be motivated to use RTSP (for reasons described *infra*, X.A) as Gateva teaches, and as highlighted in Fig. 2:



EX1005.

As set forth below, it would have been obvious and simple for a POSA to apply Gateva’s teachings to Alston. A POSA would recognize that incorporating Gateva’s RTSP functionality into Alston’s system would enhance its ability to manage media streams dynamically while maintaining session continuity and compatibility. EX1003, ¶¶42-63, 50-174. This combination represents a

straightforward design choice to address the evolving requirements of multimedia streaming in IMS architectures. *Id.*

A. Motivation to Combine

A POSA would have been motivated to apply Gateva's teachings relating to the integration of SIP and RTSP to Alston's gateway system, including Gateva's use of SIP to set-up media session and use of RTSP to maintain the session. EX1003, ¶¶159-174.

A POSA would have recognized the advantages of the SIP-RTSP integration technique proposed by Gateva and RTSP, and would have found it obvious to apply the technique to Alston's multimedia gateway. EX1003, ¶¶47-48, 62, 167-174. Specifically, Gateva demonstrated that SIP was the protocol for initiating media sessions, particularly in IMS/3GPP architectures where SIP's signaling framework facilitated efficient session setup. At the same time, RTSP was recognized as a preferred protocol for managing media control, offering playback features like PLAY, PAUSE, and TEARDOWN. *Id.* Gateva explicitly described these advantages, presented "an improved method for controlling streaming services," and showed how the integration of SIP and RTSP addressed the well-known challenge of bridging session initiation with fine-grained media control. EX1005, [0010].

In addition, a POSA would have recognized that Gateva's teachings on the use of the SIP and RTSPs to set-up and maintain media sessions used two common

protocols in IMS and 3GPPP systems and could readily be applied to the IMS/3GPPP adjacent gateway of Alston. EX1003, ¶¶159-174. A POSA would have had a reasonable expectation of success in making such modifications because they merely entail implementing one prior art solution with well-known techniques from prior art in the same field. *Id.* Accordingly, a POSA would have understood that these references, as well as the POSA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations. *Id.*

A POSA would have also recognized conventional aspects of SIP-RTSP integration described in Gateva as known techniques, and would have found it obvious to apply those known techniques to a known method that was ready for improvement, such as Alston's multimedia gateway, to yield a predictable result (a gateway for translating protocols and multimedia streams). EX1003, ¶¶159-174. A POSA would have recognized that Gateva's teachings on the use of the SIP and RTSPs to set-up and maintain media sessions used two common protocols in IMS and 3GPPP systems and could readily be applied to the IMS/3GPPP adjacent gateway of Alston. *Id.* A POSA would have had a reasonable expectation of success in making such modifications because they merely entail implementing one prior art solution with well-known techniques from prior art in the same field. *Id.* Accordingly, a POSA would have understood that these references, as well as the

POSA's knowledge, disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations. *Id.*

A POSA would have reasonably expected this combination to succeed and be operable in Alston's residential broadband gateway based on the established functionality and flexibility of both SIP and RTSP, as well as the known capabilities of gateways to manage protocol translations in residential networks. EX1003, ¶¶159-174. Alston's residential broadband gateway was explicitly designed to handle diverse communication protocols for multimedia delivery, making it well-suited to incorporate a SIP-RTSP gateway. *Id.* Such a modification would have been straightforward for a POSA, leveraging the existing architecture of Alston's gateway to bridge SIP's signaling strengths with RTSP's advanced multimedia management features. Furthermore, SIP was well-known in the art as able to set-up media streams in either direction. *Id.*

Furthermore, the integration of a SIP-RTSP gateway would have aligned perfectly with the objectives of Alston's system to support residential multimedia services, ensuring reliable and interactive streaming experiences. *Id.* Given the established nature of SIP-RTSP gateways and the adaptability of Alston's residential broadband gateway. *Id.*

In addition, even though Alston's gateway system and Gateva's messaging scheme involve different directional implementations, with Gateva being downstream-focused, this distinction would not deter a POSA from combining their teachings. EX1003, ¶172-173. A POSA would recognize that the directionality of the protocols does not change the fundamental benefits of integration. *Id.* Instead, combining Gateva's downstream technologies with Alston's gateway system would enable an architecture that incorporates the advantages of both references. *Id.* Thus, a POSA would have been motivated to combine these Gateva and Alston to leverage the strengths of both approaches and achieve the predictable benefits described in the prior art. *Id.*

Alston, Gateva, and the '151 patent are analogous art because all three are directed to the same field of multi-media content delivery and IMS/3GPP systems. EX1003, ¶159-174; EX1001, 1:6-8, 1:16-18; EX1004, [0002], [0029]; EX1005, 8.

B. Claim 1

1. [1pre]

This limitation is taught by Alston. *See* Ground I, [1pre].

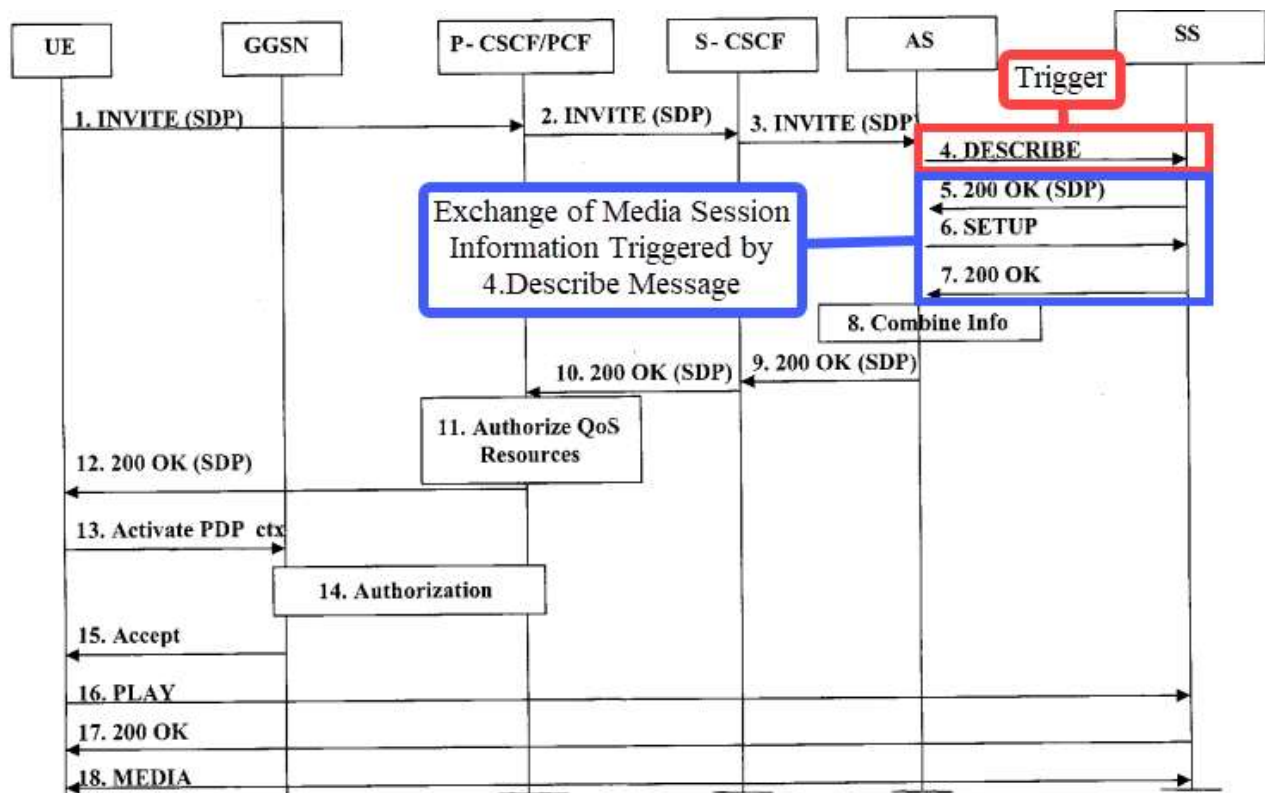
2. [1a]

This limitation is taught by Alston. *See* Ground I, [1a].

3. [1b]

To the extent Alston does not already disclose this limitation (*see* Ground I, claim [1b]), applying the RTSP messaging scheme to Alston renders this limitation

obvious. EX1003, ¶¶177-179. In the proposed Alston-Gateva combination, the *gateway uses a second protocol*, “RTSP” to send a “4.DESCRIBE” message, which acts as a *trigger, to the second terminal* “to request a description of the streaming session,” *i.e., initiate an exchange of second media session information between the gateway and the second terminal*. EX1005, Fig. 4, [0051]; EX1003, ¶¶177-179. As illustrated in Gateva’s Fig. 2 below, the “4.DESCRIBE” message triggers sending of “5.200 OK,” “6.SETUP,” and “7.200 OK” messages (EX1005, Fig. 2, [0046]-[0064]):



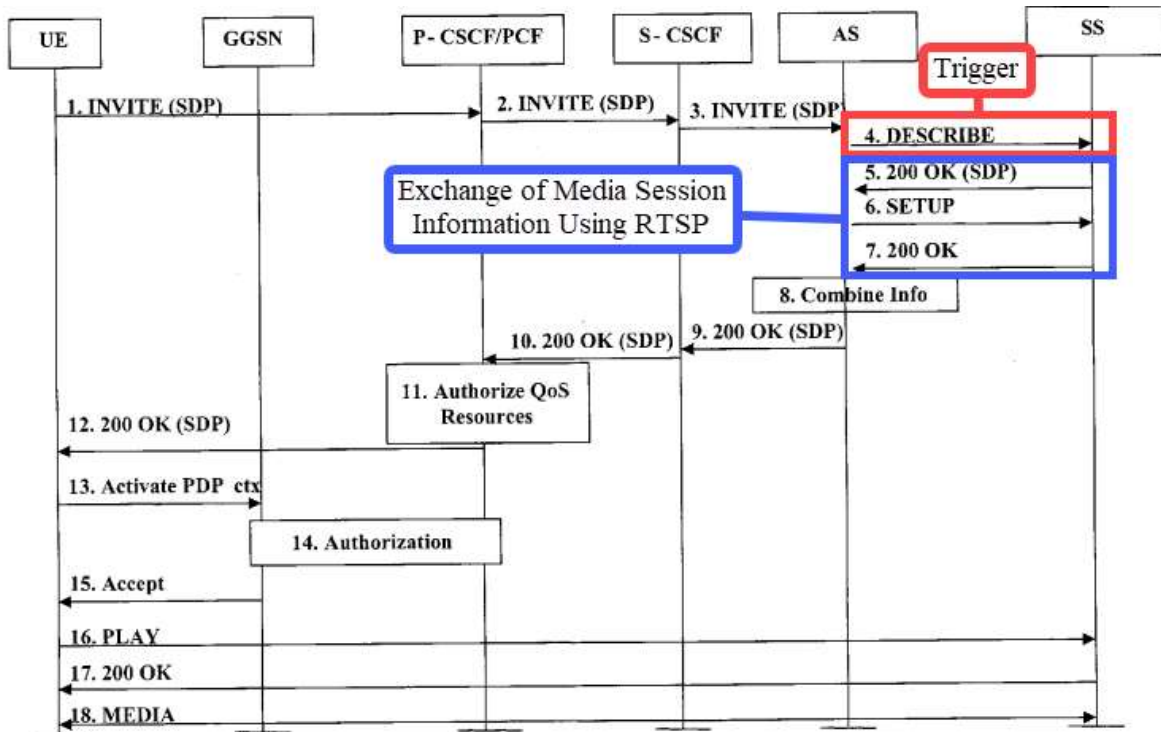
Each of the highlighted messages contain session parameters or SDP, *i.e.*, media session information about the stream that is being setup. *Id.*; EX1003, ¶¶177-179.

A POSA would know from the standard at the time that a “SETUP message ... specifies the transport mechanism to be used for the streamed media” and the “OK” messages sent in response to the describe and set-up messages also contain media session information such as the “content-type” and “content-length.” EX1008, 31, 33.

4. [1c]

To the extent Alston does not already disclose this limitation (*see* Ground I, claim [1c]), Gateva’s RTSP messaging scheme applied to Alston’s gateway renders this limitation obvious. EX1003, ¶¶180-182.

In the proposed Alston-Gateva combination, Gateva’s messaging scheme *in response to receiving the trigger, i.e., “4.DESCRIBE” message, us[es] a third protocol to initiate the exchange of the second media session information between the gateway and the second terminal* in the form of the “5.200 OK,” “6.SETUP,” and “7.200 OK” messages, each of which a POSA would understand to contain SDP, *i.e., media session information about the stream that is being setup as provided in* Ground II, [1b] (EX1003, ¶¶170-182):



For the remaining aspects of this limitation. *See* Ground I, [1c].

5. [1d]

See Ground I, [1d].

6. [1e]

See Ground I, [1e].

C. Claim 2

See Ground I, [2].

D. Claim 3

See Ground I, [3].

E. Claim 4

This limitation is taught by Alston, *see* Ground I, [4], but the Alston and Gateva combination also discloses or renders obvious this limitation as both references teach the same “INVITE” and “acceptance”/“OK” messaging sequence when sending messages from the first terminal to the gateway to exchange media session information. EX1003, ¶¶187-188; *compare* EX1005, Fig.2 (“3.Invite” and “9.200 OK”) *with* EX1004 Fig.3 (“Invite 42”), Fig.5 (“Confirmation 68”). Therefore, Alston alone, and also in light of Gateva, teaches this limitation. *Id.*

F. Claim 5: “The method according to claim 4, 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.”

The Alston-Gateva combination teaches that the “4.DESCRIBE” message serves as the trigger. *See also* Ground II, [4]; EX1003, ¶¶189-190. A “4.DESCRIBE” RTSP message contains a IP address (*i.e.*, **a network address**) of both the sender and the receiver of the RTSP message. *Id.* This was common knowledge to a POSA at the time because it is what the cellular standard required. EX1003, ¶¶189-190; EX1008, 30-32. Accordingly, the application server of Gateva (which is substituted for the gateway of Alston in the combination) must be able to take the identifier provided in the “Invite” message and resolve it into a network address of the second terminal when translating between protocols. EX1003, ¶¶189-190. Indeed, at the time, SIP messages often used domain names as an identifier

rather than direct IP addresses (e.g., sip:bob@example.com), requiring proxy resolution to map the domain name to the network address of the receiver. *Id.*

G. Claim 6: “The method according to claim 5, wherein providing the trigger to the second terminal comprises the gateway transmitting the trigger to the resolved network address of the second terminal.”

The Alston-Gateva combination discloses or otherwise renders obvious that when providing the gateway to the second terminal, the gateway transmits the trigger to the resolved network address of the second terminal. *See* Ground II, [4, 5]; EX1003, ¶¶191-192.

H. Claim 7

To the extent Alston does not already disclose this limitation (*see* Ground I, claim 7), the Alston-Gateva combination teaches that the “4.DESCRIBE” message that serves as the trigger can alternatively be a “HTTP Get message to request a description of the streaming session.” EX1005, [0050]; EX1003, ¶¶193-195. In other words, Hypertext Transfer Protocol (HTTP) can be the second protocol. Gateva further uses RTSP as the third protocol, *i.e.*, “200 OK.” “6.SETUP,” and “200 OK” messages used to exchange second media session information. EX1005, Fig. 2. Accordingly, Gateva’s teachings applied to Alston’s gateway render obvious *the third protocol is different from the second protocol.* EX1003, ¶¶193-195.

To the extent PO argues that Gateva or any other art teaches away from the use of HTTP in conjunction with RTSP and SIP, for a POSA the choice between

HTTP and RTSP for the trigger would have been a simple decision based on the RTSP system at hand. EX1003, ¶¶193-195. In the IMS 3GPP architecture, the choice of protocol for session description—whether HTTP GET or RTSP DESCRIBE—depends heavily on the requirements of the streaming environment and the underlying network constraints. *Id.* While RTSP DESCRIBE is often preferred for its ability to fetch precise, session-specific metadata in formats like SDP, there are situations where it becomes impractical or unfeasible. In IMS architectures designed to support a wide range of devices and access networks, HTTP GET offers better compatibility with a wider range of systems. *Id.* It seamlessly retrieves metadata from web-based streaming servers, even in environments where RTSP might be blocked by firewalls or incompatible with certain user devices. *Id.* In these scenarios, relying on HTTP GET ensures the system remains functional and accessible without requiring network reconfiguration or additional protocol support on the client side. *Id.*

I. Claim 8

See Ground I, [8].

J. Claim 9

See Ground I, [9].

K. Claim 10

See Ground I, [10].

- L. Claim 11: “The method of claim 1, 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.”**

The Alston-Gateva combination discloses or otherwise teaches that *the third protocol is RTSP which is a client-server protocol*. See Ground I, [1]; EX1003, ¶¶199-200. Further, a POSA would understand that the receiving terminal could be a number of different types of terminals known in the art, many of which do have client capabilities of the third protocol and not server capabilities of the third protocol. *Id.* Any terminal used in the combination would have *the client capabilities of the third protocol* because it must be able to receive messages in that language to consume and control the stream. *Id.* While a POSA would understand that the second terminal *could* have the server capabilities of the third protocol, it would not need to. *Id.* And further, a POSA would realize, in many applications, it would be advantageous to be able to stream media to terminals that don’t have server capabilities of the third protocol, RTSP, *e.g.*, set-top boxes. *Id.*

M. Claims 12-18, 22

See Ground I, [12]-[18], [22]; for limitations [17b-c], [18b-c] see Ground I [17b-c], [18b-c]; EX1003, ¶¶201-214.

XI. GROUND III: CLAIMS 1-5, 7-10, 12-20, AND 22-23 ARE RENDERED OBVIOUS BY MELA ALONE, OR IN LIGHT OF ALSTON AND/OR FAJARDO

Ground III relies on the teachings of Mela in combination with the common knowledge of a POSA regarding commonly used and well-known protocols and communication systems, as alternatively evidenced by Alston and/or Fajardo. EX1003, ¶¶215-216.

A. Motivation to Combine Mela and Alston and/or Fajardo

A POSA would have been motivated to incorporate a media server with buffering functionality into a system using an RTSP client, such as Alston's, as this approach addressed well-recognized challenges in multimedia content delivery, such as jitter, latency, and packet loss. EX1003, ¶¶217-222. Adding a media server with buffering capabilities to such systems would enhance the reliability and quality of media delivery. EX1003, ¶217. Media servers could buffer incoming streams by temporarily storing portions of the media in memory before transmitting them to the client, thereby compensating for network variability and ensuring uninterrupted playback. EX1003, ¶217. This architecture not only optimized end-user experience but also reduced the computational load on RTSP clients, making it particularly attractive for systems requiring high scalability or supporting multiple simultaneous users. EX1003, ¶217.

The integration of a media server for buffering aligns with the broader goals of improving multimedia streaming quality in RTSP-based systems. EX1003, ¶218, 62. Media servers with buffering capabilities were a natural extension of the RTSP architecture, allowing the RTSP client to focus on stream control while offloading buffering and stream stabilization tasks to a centralized server. *Id.* This design reduced redundancy, improved system efficiency, and enabled advanced features such as trick-play functionality (pause, seek, fast-forward), which required partial storage of media streams during delivery. *Id.* A POSA would have recognized this enhancement as a predictable solution to known challenges in multimedia systems. *Id.* Alston's teachings on leveraging RTSP for streaming session management, combined with Mela's acknowledgment of the importance of robust media control, provide clear motivation to introduce a media server to buffer media streams, yielding a reliable, scalable, and efficient architecture for delivering high-quality multimedia content. EX1003, ¶218; EX1004, [0025], [0028].

Accordingly, a POSA would have understood that adding a media server with buffering to systems employing RTSP clients would improve the system's performance in predictable ways. EX1003, ¶219. The use of a media server to buffer incoming streams was a well-known technique in the art, and Alston's emphasis on improving streaming session quality through buffering further supports this modification. *Id.* This addition would ensure smooth streaming quality while

simplifying the system architecture by leveraging routine and well-established technologies. *Id.* Moreover, a POSA would have had a reasonable expectation of success in implementing such a solution, as it involved applying a known architectural improvement—buffering media streams via a centralized server—to an existing RTSP-based system. *Id.*

Mela and Alston are analogous art to the '151 patent because they all reflect a shared understanding of the challenges and solutions in multimedia systems, particularly in environments requiring robust media streaming where buffering media at a centralized server was both a cost-effective and technically straightforward improvement. EX1003, ¶220. Mela explicitly contemplates the role of RTSP clients in managing media sessions, and Alston highlights the advantages of using buffering to stabilize media streams. EX1003, ¶220. Adding a media server to perform buffering was thus a logical and predictable enhancement to address variability in media stream delivery, enabling a more robust and user-friendly multimedia experience. EX1003, ¶220; EX1004, [0002], [0029]. Such a combination would have been obvious to try, given the finite number of predictable solutions for ensuring stream stability, and would align with the practical goals of system efficiency, reliability, and scalability. EX1003, ¶220.

Finally, as discussed in Ground I, Limitation [1e], Fajardo expressly teaches many of the above known benefits regarding media buffering, including its ability

to mitigate loss of connectivity. EX1019, 4:48-59, 7:55-8:11. For all of the same reasons discussed above, it would have been obvious to incorporate such teachings in Mela. EX1003, ¶217-222.

Regarding Limitations [7], [14], and [15], a POSA would have been motivated to generalize Mela's system for use with a broader range of protocols—including using the same protocol to communicate between the gateway and both terminals (*e.g.*, SIP) and/or using different protocols to “trigger” the second terminal and exchange media session information—in view of Alston. Alston discloses that “any messaging protocol” may be used to “establish a session” or serve as the trigger. EX1004, [0025], [0028], [0030], [0032]; EX1003, ¶221. A POSA would be motivated to apply this to Mela for increasing flexibility and usable applications, such as for use with the many different “media delivery device[s]” described in Alston. EX1003, ¶221, EX1004, [0005]. A POSA would have reasonably expected to succeed because the combination merely requires applying and implementing well-known protocols in a conventional communication system. EX1003, ¶221.

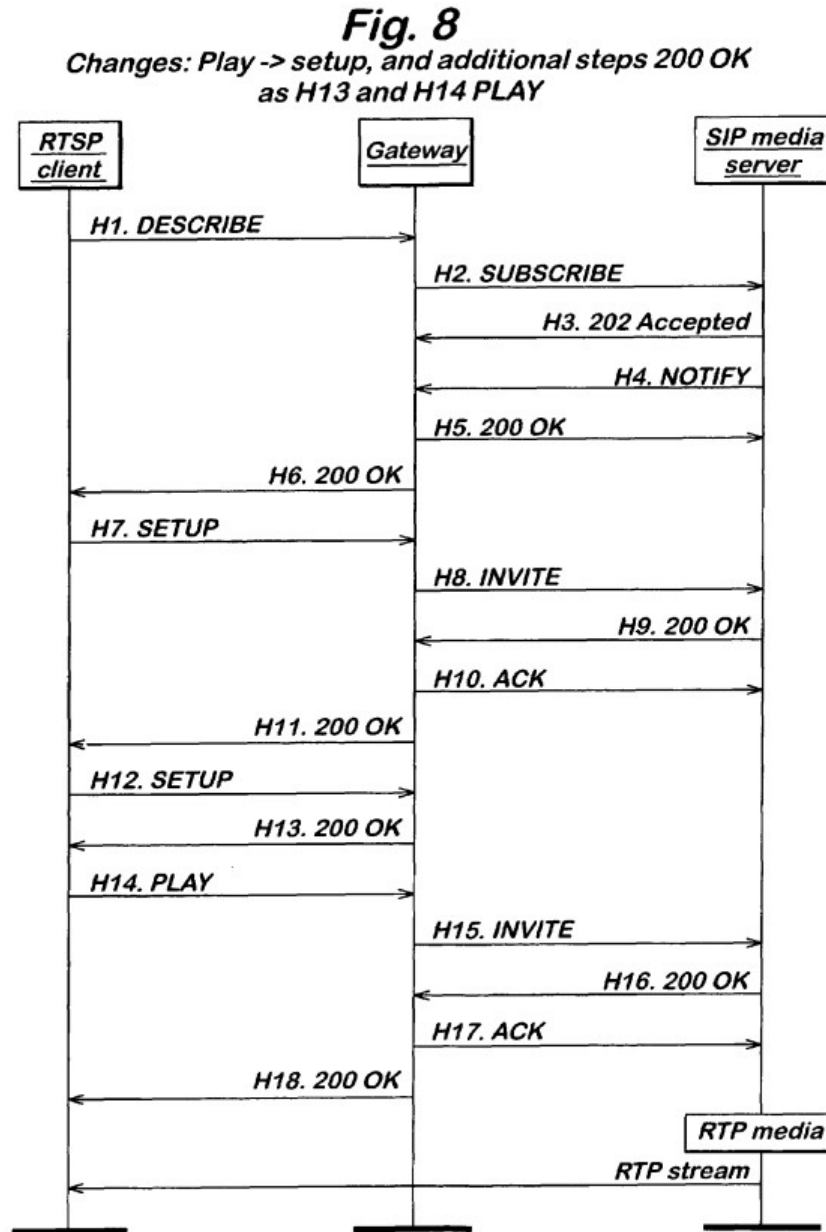
Regarding Limitation [9], a POSA would have been motivated to modify Mela's system to use Mela's trigger for the additional purpose of informing the second terminal of the availability of a new media stream, in view of Alston. Alston discloses that its trigger causes the second terminal to “provide an audible and/or visual indication or alert of the ... invitation to share video.” EX1004, [0039];

EX1003, ¶222. A POSA would be motivated to apply this to Mela to enhance user experience or interactability. *Id.* A POSA would have reasonably expected to succeed because the combination only requires the routine modification of the protocols of Mela (adding further session description to the SIP and RTSP messages) to provide additional information (availability of a stream), as was well known in the art. *Id.*

B. Claim 1

1. [1pre]

To the extent the preamble is limiting, Mela teaches “a **gateway** for use in a **communications system**, wherein said gateway is arranged to establish a SIP session [*i.e.*, **communicate**] with one entity [*i.e.*, **a first terminal**] and a RTSP session [*i.e.*, **communicate**] with a further entity [*i.e.*, **a second terminal**].” EX1007, 2:63-3:2; EX1003, ¶¶223-224. The **gateway** (also referred to by Mela as the “second entity”) is further described as “being arranged to map between SIP and RTSP information to allow data to pass [*i.e.*, **communicate**] from one of said first and third entities [*i.e.*, the **first terminal** and **second terminal**] to the other of said first and third entities.” EX1007, 2:46-53. Fig. 8 is an exemplary embodiment of the teachings of Mela wherein the “SIP media server” is the first terminal and the “RTSP client” is the second terminal:



EX1007, Fig.8.

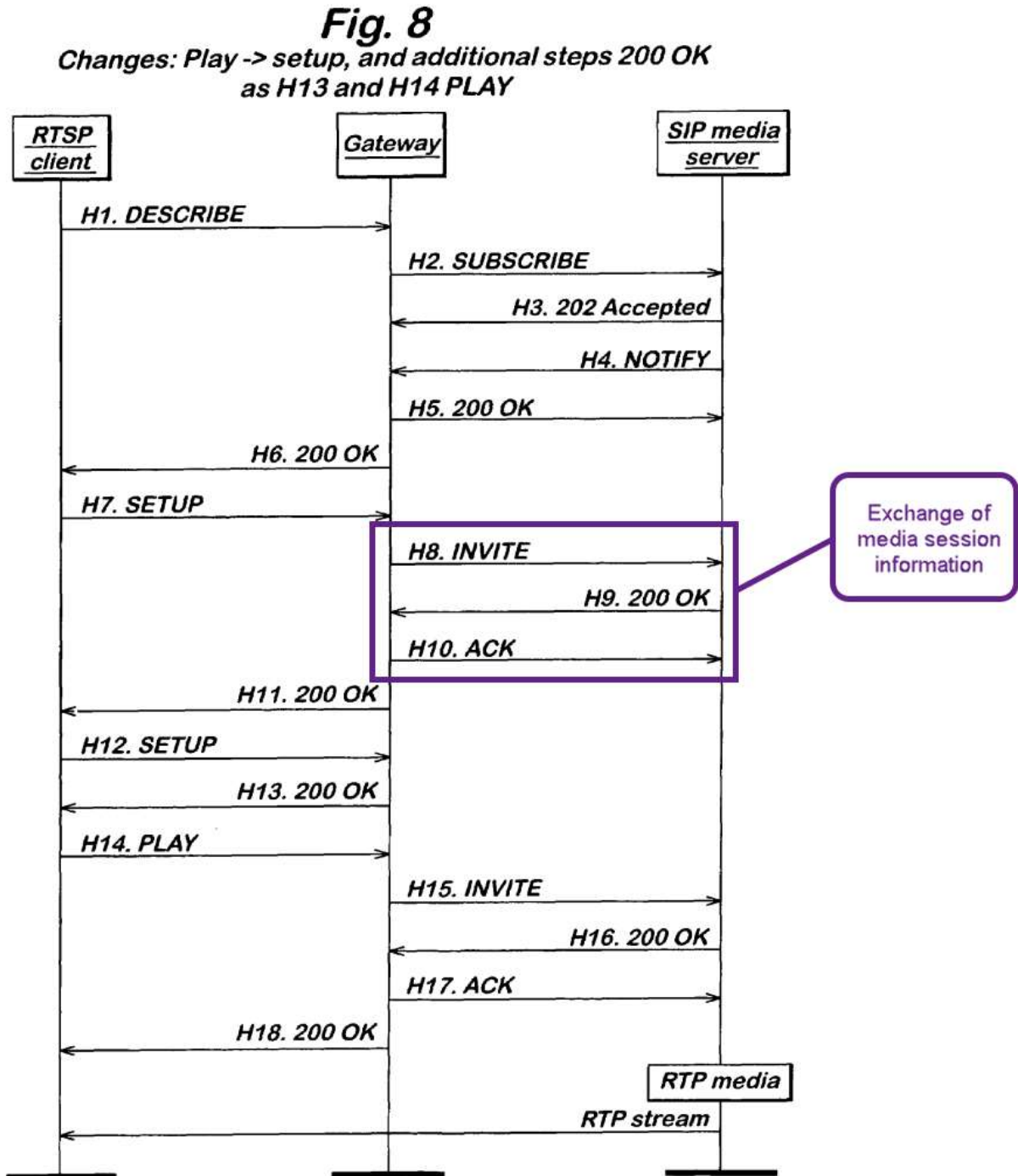
2. [1a]

Mela teaches this limitation (EX1003, ¶¶225-227).

Fig. 8 of Mela (EX1007) illustrates the *first terminal* (the SIP media server) *using a first protocol, “SIP,” to exchange first media session information between*

the first terminal and the gateway with the use of SIP “INVITE,” “200 OK,” and

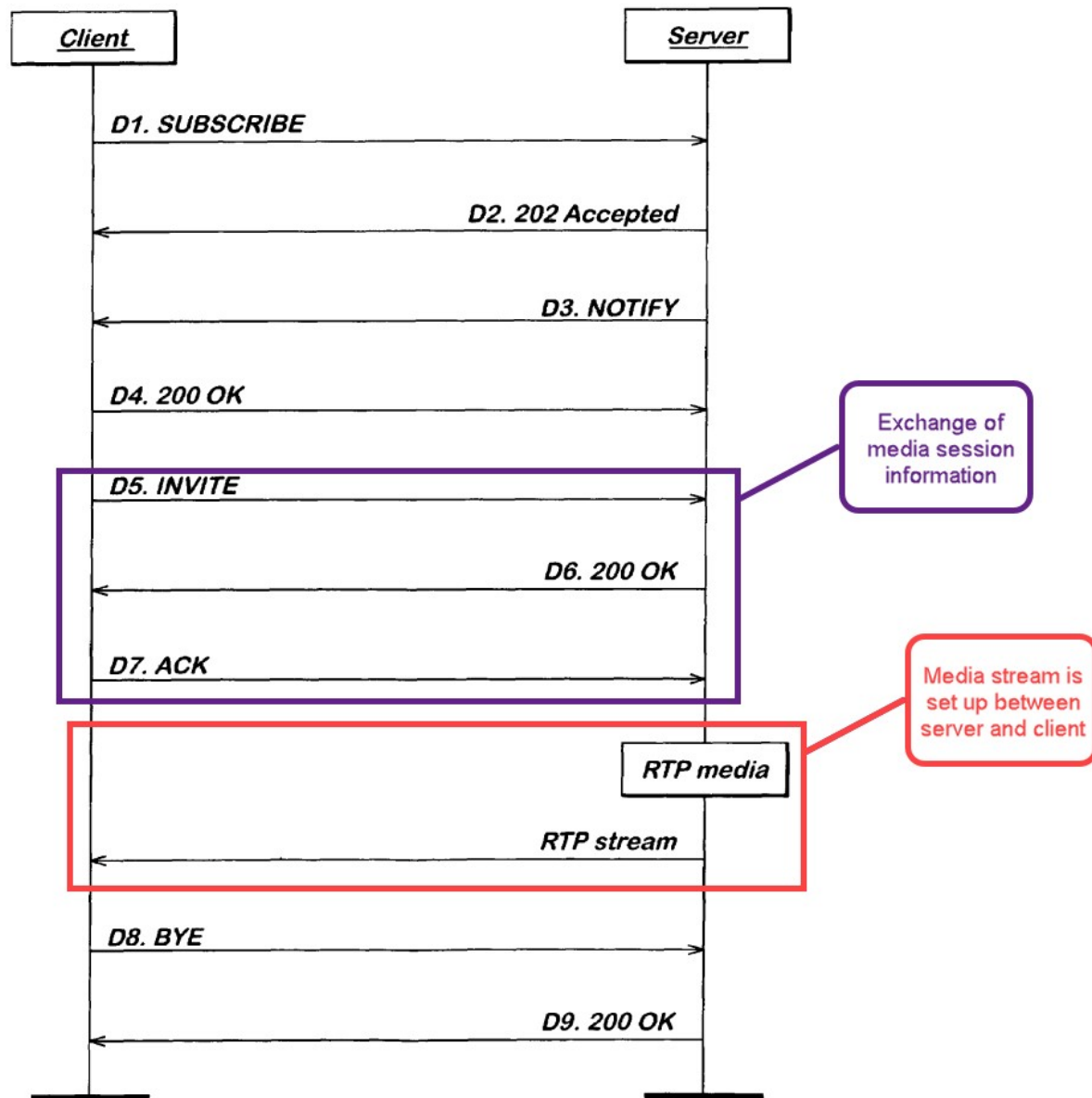
“ACK” messages (steps H8 to H10), annotated below:



Mela discloses that the SIP “INVITE,” “200 OK,” and “ACK” messages include media session information, such as “the network address of the client” and “media description” including “media type” and “transport port.” EX1007, 7:54-9:45, 21:62-22:41; EX1003, ¶¶226-227; *see also* EX1001, 10:38-42.

Mela further discloses that after the SIP “INVITE,” “200 OK,” and “ACK” messages (*i.e.*, the ***first media session information***) are ***exchanged***, an RTP ***media stream*** (*i.e.*, ***first media stream***) is set up from the SIP media server (*i.e.*, the ***first terminal***). In Fig. 4, Mela illustrates how the SIP messages are used to set up an RTP media stream between a server and a client, as annotated below.

Fig. 4

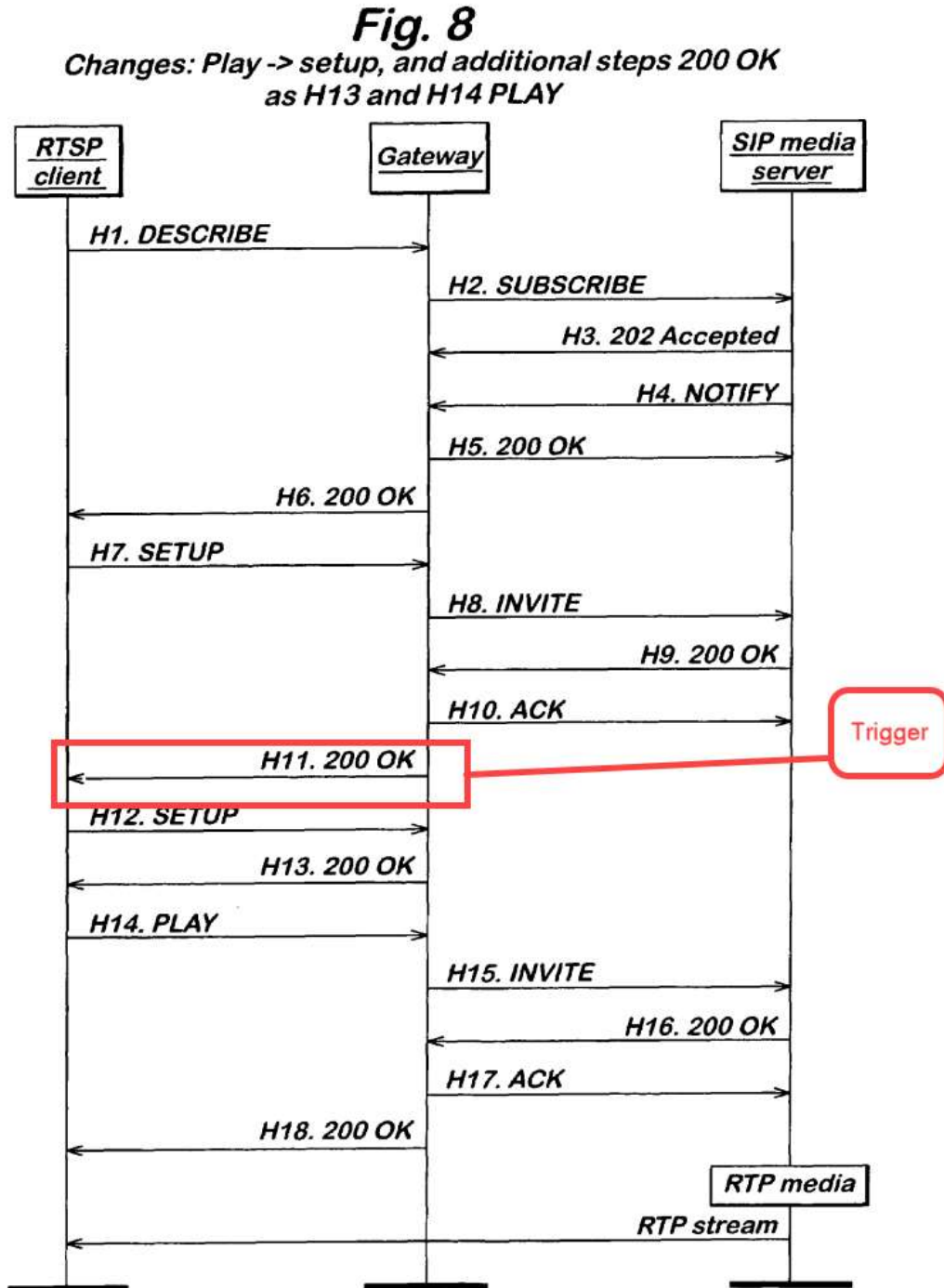


EX1003, ¶¶227-228, EX1007, Fig. 4, 7:50-9:46; *see also* EX1007, 21:64-67. A POSA would thus understand that the SIP “INVITE,” “200 OK,” and “ACK” messages between the SIP media server and the gateway in Fig. 8 similarly set up a first media stream between the SIP media server and the gateway. EX1003, ¶¶224-226, 230-232; EX1007, Fig. 8-9, 22:1-41; *see also* EX1007, Fig. 2-3, 3:36-63.

3. [1b]

Mela teaches this limitation. EX1003, ¶¶228-230.

As illustrated in Fig. 8, Mela discloses that after the gateway exchanges the SIP “ACK” message, the gateway sends an RTSP “200 OK message” to the RTSP client:



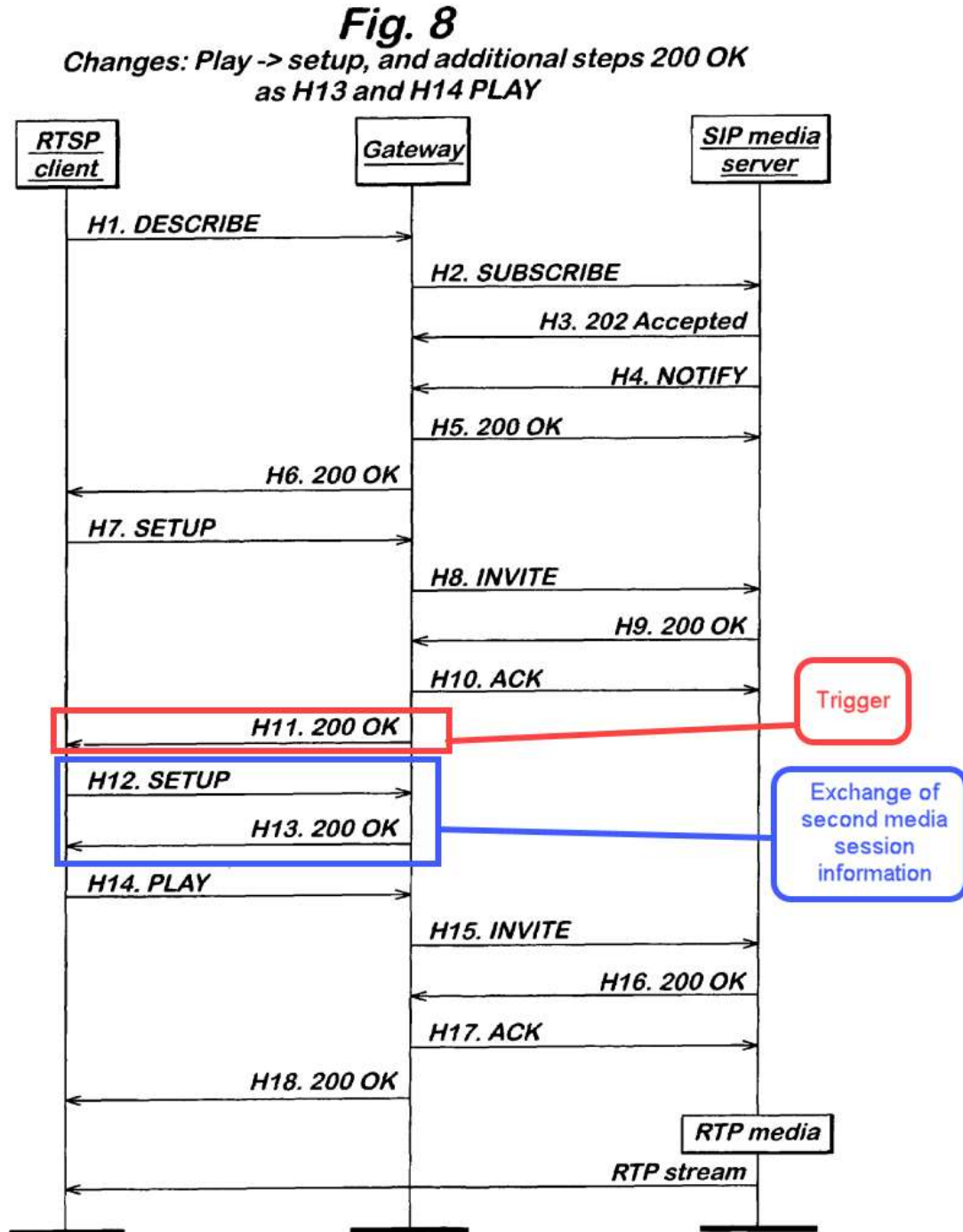
In other words, the RTSP client (*i.e., the second terminal*) receives a “200 OK” message from the gateway (*i.e., receives a trigger provided by the gateway*), using RTSP (*i.e., a second protocol*). EX1003, ¶¶228-230.

Furthermore, the RTSP “200 OK” message is a *trigger* because it causes the RTSP client to “set[] up” a media session. EX1007, 22:43-57. The set up is *initiated* by sending an RTSP “SETUP” message from the RTSP client (*i.e.*, the *second terminal*) to the *gateway*, as shown in step H12 of Fig. 8. *Id.*, 22:56-65. Mela discloses that *second media session information* is *exchanged* between the RTSP client and the gateway via the RTSP “SETUP” message (step H12) and the responsive RTSP “200 OK” message (step H13), which contain a source IP address (*e.g.*, message H13 “source” field) and transport port numbers (*e.g.*, message H12 and message H13 “port” fields). *Id.*, 22:60-23:13; EX1003, ¶¶228-230.

4. [1c]

Mela teaches this limitation. EX1003, ¶¶231-233.

As explained in Limitation [1b], Mela teaches that in response to the RTSP “200 OK” message at step H11 of Fig. 8 (*i.e.*, the *trigger*), the RTSP client (*i.e.*, *second terminal*) sends a “SETUP” message to the *gateway* (step H12) using RTSP (*i.e.*, a *third protocol*), which *initiates the exchange of second media session information* via the RTSP “SETUP” and “200 OK” messages (steps H12 and H13). See Limitation [1b]; EX1007, 22:43-23:13, Fig. 8-9, Fig. 2-3, 3:36-63; EX1003, ¶232:

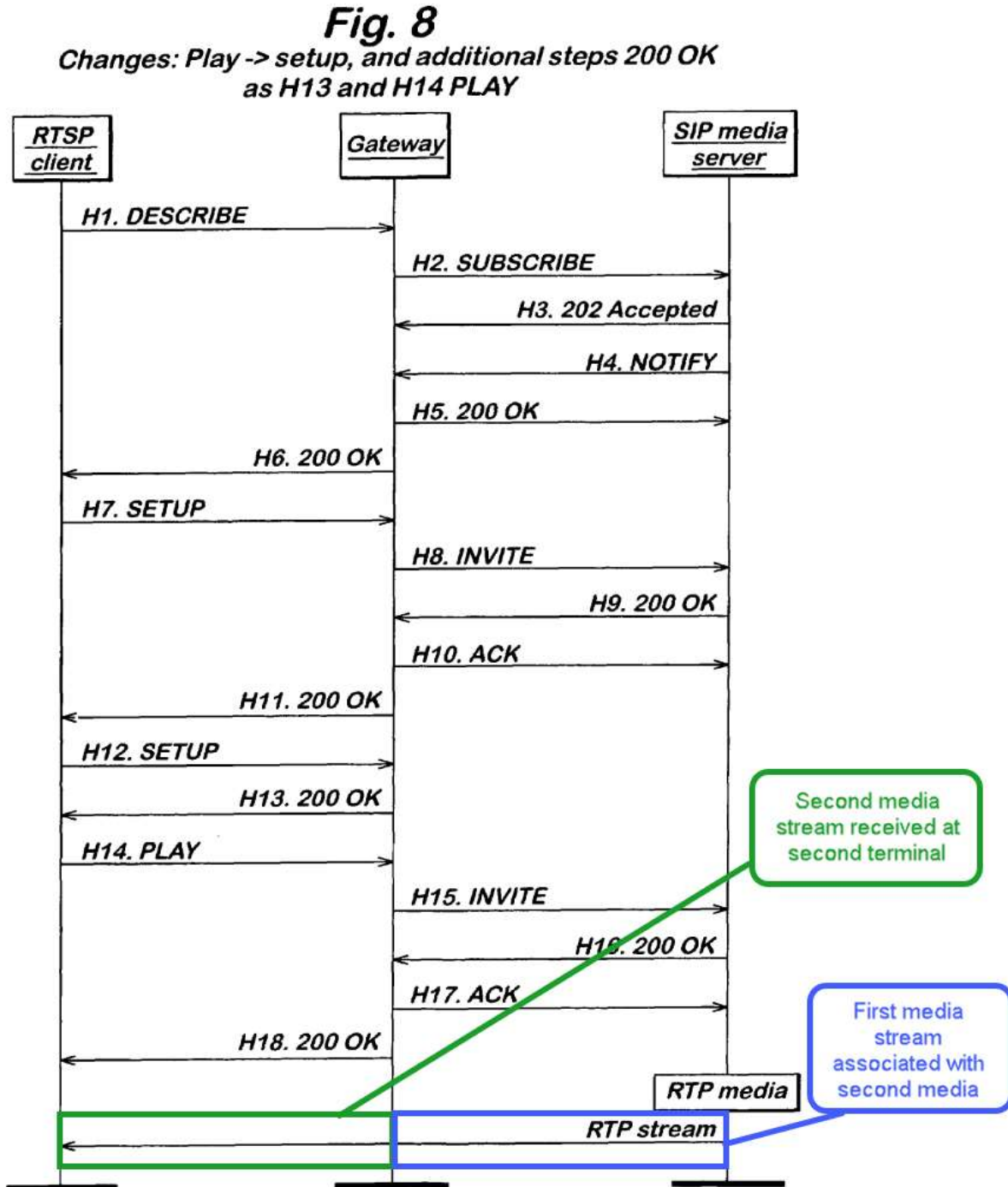


Mela discloses that the RTSP “SETUP” and “200 OK” messages (*second media session information*) exchanged in steps H12-H13 of Fig. 8 are used to “set up” a media session (e.g., a video stream) (*second media stream*). EX1007, 22:43-

57. A POSA would understand that the resulting media stream is set up between the *gateway* and the RTSP client (*second terminal*) because the RTSP messaging occurs only between the gateway and the RTSP client. EX1003, ¶¶225-227, 232-233. Mela teaches that the RTSP Client *participates in the stream* because it can control the stream, *e.g.*, by pausing it. EX1007, 24:25-28.

5. [1d]

Mela discloses the RTSP client (*second terminal*) *receiving the second media stream*, as illustrated in Fig. 8 (EX1003, ¶¶234-235, 233; Ex. 1007, 24:24-28; *infra* [1e]). Further, the second media stream is *associated with the first media stream* because the first media stream delivers the media from the SIP server to the gateway, as discussed in Limitation [1a] and as also illustrated below. EX1007, Fig. 2-3, 8-9, 3:36-63, 22:1-41.



6. [1e]

Mela discloses that *the first media stream is between* the SIP media server (*first terminal*) and the gateway, *see* Limitation [1a], and *the second media stream*

is between the RTSP client (*second terminal*) and the gateway, *see* Limitation [1d].

EX1003, ¶¶236-244.

It would have been obvious to a POSA to implement Mela's gateway as or including a *media server*. EX1003, ¶¶236-244. Mela discloses "a gateway for use in a communications system," wherein the communication system is capable of "communication of voice, data, multimedia and so on" and "operates in accordance with a given standard or specification." EX1007, 1:9-31; 2:63-3:2. A POSA would have understood that Mela's teachings may be used in well-known, standard communication systems, which, as of the date of the '151 patent, included the IP Multi-Media Subsystem (IMS) network architecture (used and made widely available by like Verizon and AT&T). EX1003, ¶¶236-244. A foundational aspect of these systems was the use of buffering techniques to manage media streams effectively, addressing challenges such as jitter, packet loss, and latency. EX1003, ¶¶236-244. This buffering process was universally implemented using physical memory, specifically RAM, which was well-suited for storing and processing incoming media streams in real time. RTSP clients, such as Apple's QuickTime Player and Microsoft's Windows Media Player, relied on RAM to temporarily hold portions of media data as it was received. EX1003, ¶¶236-244. By doing so, these clients ensured that packets arriving at irregular intervals could be reordered and

processed smoothly, providing uninterrupted playback to the end user. EX1003, ¶¶236-244.

The mechanism was straightforward: as a media stream was received, the RTSP client allocated a portion of the system's RAM as a buffer. Incoming packets of the media stream were written into this buffer, where they were temporarily stored before being decoded and played back. EX1003, ¶¶236-244. This process allowed the client to absorb variations in network transmission, ensuring that any gaps or delays in packet delivery did not disrupt playback. Similarly, Video-on-Demand (VoD) services used RAM in their media servers to buffer streams received from a first terminal before transmitting them to a second terminal. EX1003, ¶¶236-244. This was particularly critical for features like pausing, seeking, and fast-forwarding, which required the system to temporarily hold parts of the media stream in memory for on-demand access. EX1003, ¶¶236-244. A POSA would recognize that this use of RAM to implement buffering was not only a practical necessity but also a widely established design approach, making it clear that the limitation of buffering media streams before transmission was well-known in the art. EX1003, ¶¶236-244.

Other buffering techniques were also common at the time, one of which used separate media servers to handle buffering between terminals or clients. EX1003, ¶¶236-244. These servers acted as intermediaries, receiving an incoming media stream, temporarily storing it, and then transmitting a processed or reformatted

version of the stream to its destination. This approach was particularly advantageous in large-scale systems where multiple streams needed to be managed concurrently. EX1003, ¶¶236-244. By centralizing the buffering function on a server, the system could ensure steady transmission of media to clients, even when the originating terminal or the network exhibited variability in performance. This intermediary buffering also allowed servers to perform additional processing, such as packet reordering, transcoding, or error correction, which were critical for maintaining a high-quality user experience. EX1003, ¶¶236-244.

In Video-on-Demand (VoD) services and IMS systems, the media server's buffering capabilities were often combined with advanced features to optimize delivery. EX1003, ¶¶236-244. Media servers frequently preloaded a portion of the stream before beginning transmission, creating a buffer that allowed clients to access trick-play functions like pausing, seeking, or fast-forwarding without interruption. *Id.* These techniques were also integral in managing multiple concurrent streams by aligning the transmission rates of incoming and outgoing streams, ensuring no client experienced disruptions due to network variability or load balancing issues. *Id.* A POSA would readily recognize this server-based buffering as a standard and effective method for addressing the challenges of real-time media delivery, particularly in environments requiring high scalability and reliability. *Id.*

This understanding is consistent with Mela's express disclosures. Mela teaches that an SIP "client" can "buffer the stream and avoid interrupts in the playback" using the "speed" parameter in SIP messages. EX1007, 27:48-50, 28:61-67. In the embodiment of Fig. 8, the SIP "client" is the gateway in communication with the SIP media server. EX1003, ¶¶236-244. A POSA would thus understand that the gateway may function as a media server to buffer streams between the SIP media server and the RTSP client. *Id.*

To the extent PO argues that Mela does not teach this limitation or otherwise render it obvious, a POSA would have turned to the many teachings in the art, such as Alston's media "server 96" and/or Fajardo's media buffering to solve the buffering problem that would be an obvious addition to any of Mela's practical uses. EX1003, ¶¶236-244. It would have been obvious to include a media server and media buffering functionality in Mela's gateway in view of Alston and/or Fajardo for the reasons provided above in Section XI.A.

C. Claim 2

As discussed in Limitation [1a], Mela's gateway exchanges *first media session information* with the SIP media server (*first terminal*) in steps H8-H10 of Fig. 8. EX1003, ¶¶245-246. The first media session information includes a network identifier of the RTSP client (the *second terminal*), which is *part of the second media session information* exchanged in steps H12-H13 (see Limitations [1b]-[1c]).

Id. Specifically, Mela discloses that the gateway “interprets” messages from the RTSP client “to a form that the SIP media server can understand.” EX1007, 21:60-67. The SIP “INVITE” message ***provided from the gateway*** to the SIP media server in step H8 includes, as part of the media session information, an SIP URI/URL, *i.e.*, “sip:twister@media.nokia.com;user=stream.” EX1007, 22:5. The same URI/URL is provided, in RTSP form, as part of the second media session information in step H12, *i.e.*, “rtsp://media-gw.nokia.com/twister/video.” *Id.*, 22:62; EX1003, ¶¶245-246.

D. Claim 3

As discussed in Limitations [1b]-[1c], the ***gateway provides to the second terminal*** a “200 OK” message in step H12 of Fig. 8 ***as part of the exchange of the second media session information***. EX1003, ¶¶247-248. The “200 OK” message comprises the network address of the source, *i.e.*, “source=131.228.54.140” (EX1007, 23:12), which is also exchanged as ***part of the first media session information*** at step H9, *i.e.*, “c=IN IP4 131.228.54.140” (*id.*, 22:22).

E. Claim 4

As discussed in Limitation [1a], Mela’s gateway exchanges ***first media session information*** with the SIP media server (***first terminal***) in steps H8-H10 of Fig. 8. EX1003, ¶¶249-250. Specifically, in step H9, ***the gateway receives*** a “200 OK” message from the SIP media server containing media session information.

EX1007, Fig. 8. The “200 OK” message includes *an identifier of the* RTSP client (*second terminal*), specifically, “user@nokia.com.” *Id.*, 22:14; *see also* EX1007, 20:52-60 (initial “SUBSCRIBE” message at step H2 identifying RTSP client as “user@nokia.com”).

F. Claim 5

Mela discloses “[b]efore using the second protocol to provide the trigger”—*i.e.*, the “200 OK” message in step H11—to the RTSP client (*second terminal*), *the gateway resolves the identifier of the second terminal into a network address of the second terminal*. EX1003, ¶¶251-252. Specifically, Mela teaches that “[t]he connection ‘c’ field indicates the network address of the client,” *i.e.*, the RTSP client in Fig. 8. EX1007, 8:26-30. Mela further teaches that at step H10 (*i.e.*, before the trigger in step H11), the gateway sends an “ACK” message that includes the “c” field and identifies the RTSP client’s network address, *i.e.*, “c=IN IP4 172.21.164.126.” EX1007, 22:38. A POSA would have understood that the gateway resolved the RTSP client’s network address based on the identifier previously exchanged (*e.g.*, at step H9, as described in Claim 4).

G. Claim 7

This limitation is taught or rendered obvious by Alston. *See* Ground I, [7].

H. Claim 8

As discussed in Limitation [1d] and [1e], Mela discloses the *first terminal transmits the first media stream* to the gateway and the *second terminal receives the second media stream*. See Limitation [1d] and [1e]; EX1003, ¶254.

I. Claim 9

This limitation is taught or rendered obvious by Alston. See Ground I, [9].

J. Claim 10

As discussed in Limitation [1a], Mela's *first protocol* is SIP. EX1007, 21:60-22:40. The '151 patent explains that SIP is a *peer to peer protocol*. EX1001, 2:16-17; EX1003, ¶¶256-257.

K. Claim 12

Mela discloses that *the trigger*, *i.e.*, the RTSP "200 OK" message at step H11, *comprises a network address of the gateway*. Specifically, Mela provides that the contents of the "200 OK" message include "source=131.228.54.140," *i.e.*, the network address gateway. EX1007, 22:48-54; EX1003, ¶¶258-59.

L. Claim 13

Mela discloses this limitation because a POSA would understand that *the network address of the gateway*, "source=131.228.54.140," is a URI. EX1003, ¶¶260-261; *see also* Ground I, Claim 13.

M. Claim 14

Alston discloses this limitation. See Ground I, [14]. EX1003, ¶2262.

N. Claim 15

Alston discloses this limitation. *See* Ground I, [15]. EX1003, ¶263.

O. Claim 16

As discussed above in Limitation [1e], Mela discloses or render obvious this limitation because the gateway must be configured to associate the first and second media streams. Since the specific content that these streams support are based on the multimedia session information (*e.g.* content type, aspect ratio), the gateway also associates the first and second multimedia session information. EX1003, ¶264.

P. Claim 17

1. [17pre]

Mela teaches a “gateway,” which is *an article of manufacture*. EX1003, ¶265. Mela further renders obvious this limitation because a POSA reading Mela’s teachings would know that a gateway is a computing device that would have a computer-readable medium for storing software instructions that when executed by the gateway’s processor, cause the gateway to perform the action’s taught in Mela. EX1003, ¶259. This requirement is obvious because the gateway would need to execute software instructions to function and those software instructions would need to be stored on a memory. *Id.*

2. [17a]

See [1a].

3. [17b]

See [1b].

4. [17c]

See [1c].

5. [17d]

See [1a].

6. [17e]

See [1e].

Q. Claim 18

1. [18pre]

Mela teaches a “gateway.” EX1007, 3:38-63; EX1003, ¶¶271-272.

2. [18a]

Mela discloses “[a] communication system is a facility that enables communication between two or more entities such as user equipment and/or other nodes associated with the system”—*i.e.*, a communication interface. EX1007, 1:9-11; 20:21-32; EX1003, ¶273.

3. [18b]

See Limitation [17pre]. EX1003, ¶¶274-275.

4. [18c]

See Limitation [1a]. EX1007, Fig. 4, Fig. 8, 7:45-9:35; 21:59-22:42; EX1003, ¶¶276-277.

5. [18d]

See Limitation [1b]. EX1007, 21:30-44; EX1003, ¶¶278-279.

6. [18e]

See Limitation [1c]. EX1007, 22:60-23:17; EX1003; ¶¶280-281.

7. [18f]

See Limitation [1e]. EX1003; ¶¶282-283.

R. Claim 19

1. [19a]: “The gateway of claim 18, wherein the gateway is configured to connect to a first terminal supporting a first protocol and to a second terminal supporting a second protocol”

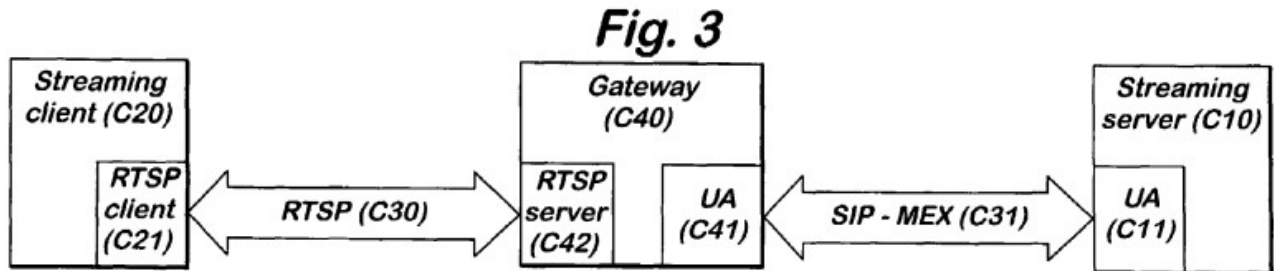
Mela discloses that *the gateway is configured to connect to* an SIP media server (*a first terminal supporting a first protocol*) and an RTSP client (*aa second terminal supporting a second protocol*). EX1007, Fig. 3, Fig. 8, 3:51-63. Mela also teaches an “aspect of the present invention [is] said gateway is arranged to establish a SIP session with one entity and a RTSP session with a further entity.” *Id.*, 2:63-3:2; EX1003, ¶¶284-285.

2. [19b]: “wherein the first protocol is Session Initiation Protocol (SIP) and the second protocol is Real Time Streaming Protocol (RTSP)”

Mela discloses that the first protocol is “SIP” and the second protocol is “RTSP.” See Limitation [19a]; EX1007, Fig. 3, Fig. 8, 3:51-63, 20:51-60; 22:4-40; EX1003, ¶¶286-287.

3. [19c]: “wherein the first terminal is an originating SIP client of a user at a user side”

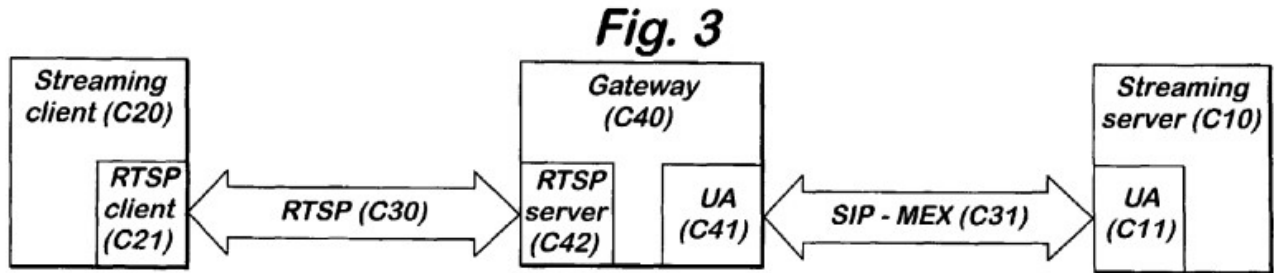
Mela teaches that the “user application C11 of the streaming server (C10)” is an *originating SIP client*. EX1003, 288-289. Fig. 3 illustrates “a gateway C40 between a RTSP domain C20 and a SIP media server C10, where the stream is fetched from the SIP Media Server C10 to RTSP domain C20.” EX1007, Fig. 3, 3:51-54.



Mela’s gateway “handles the mapping of the streaming media *originating from the user application of the streaming server* C11 to the RTSP server C42 so that it is compatible with the RTSP connection C30.” EX1007, 3:37-50. In other words, the streaming media *originates* at a *user application* of the SIP media server (*first terminal*). EX1003, ¶282-83.

4. [19d]: “wherein the gateway acts as a terminating SIP client”

As provided above, the first terminal is an originating SIP client, and Fig. 3 illustrates, that the SIP connection terminates at the gateway, *i.e., the gateway acts as a terminating SIP client*:



EX1007, Fig. 3; EX1003, ¶¶290-291.

5. [19e]: “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”

Mela discloses that at step H5 of Fig. 8, a “200 OK” message is sent to the SIP media server. EX1007, Fig. 8, 21:59-22:45; EX1003, ¶¶292-293. The “200 OK” message is used to confirm that “[the gateway] has received parameters for the streaming connection” and includes a “status code of ... with reason phrase ‘OK’ [which] indicates success,” *i.e., the gateway is configured to confirm that the gateway is able to receive a multimedia session from the user.* Ex1007, 7:32-35, 10:11-13. The “200 OK” message also includes information about the multimedia session, such as the recipient (sip:user@nokia.com) and the media server (sip:movies/twiser@media.nokia.com;user=stream) (EX1007, 21:5-30); thus, *the gateway also provides the first terminal with multimedia session information* in the same message.

6. [19f]: “wherein the second terminal is an RTSP client”

Mela discloses the second terminal is an “RTSP Client.” EX1007, Fig. 3, Fig. 8, 3:25-28, 3:51-64; EX1003, ¶¶294-295.

7. [19g]: “wherein the gateway acts as an RTSP server on behalf of the user”

Mela discloses that the Gateway includes an “RTSP server C42” that communicates with the RTSP client. EX1007, Fig. 3, Fig. 8, 3:25-28, 3:51-64; EX1003, ¶¶296-297.

8. [19h]: “wherein the second terminal uses RTSP for session control, and”

A POSA would understand that Fig. 3 provides that *the second terminal uses the RTSP stream for session control* as the purpose of the invention is to allow said second terminal to use “RTSP[,] a standard protocol for *controlling* multimedia streaming on Internet.” EX1007, 1:32-45; EX1003, ¶¶298-299. Mela also teaches that the RTSP client can use RTSP messages to control the multimedia session, *e.g.*, by sending an RTSP “PAUSE” message to pause a stream. EX1007, 24:25-38.

9. [19i]: “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.”

Mela teaches the *gateway is configured to* send a “200 OK” message, *e.g.* at step H6 of Fig. 8, *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. EX1007, 21:30-50; EX1003, ¶¶300-301. A POSA would have known that an RTSP “200 OK” message is used for this purpose. EX1003, ¶¶294-295. Indeed, Mela discloses that in response to the “200 OK” message at step H6, the RTSP client attempts to “start[] streaming the movie” by setting up audio and video streams via the gateway’s RTSP server functionality. EX1007, 21:49-59.

- S. **Claim 20: “The gateway of claim 18, 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.”**

Mela teaches the *gateway is configured to* send the RTSP client (*second terminal*) an RTSP “200 OK” message, *e.g.* in step H6 of Fig. 8 (a *notification message*) in response to the SIP “NOTIFY” message from the SIP media server (*first terminal*). EX1007, Fig. 4, Fig. 8, 7:32-47, 21:6-31; EX1003, ¶¶302-303. The “NOTIFY” message “encloses the stream parameters” and thereby provides an *invitation* to stream content. EX1007, Fig. 4, Fig. 8, 5:49-7:35; EX1003, ¶¶296-297. In response to the “200 OK” message at step H6, the RTSP client attempts to “start[] streaming the movie” by *setting up* audio and video streams (*i.e.*, the *second multimedia session*). EX1007, 21:49-59; *see also* Limitation [19i].

- T. **Claim 22: “The gateway of claim 18, wherein the gateway is configured to associate the first multimedia session information and the second multimedia session information with each other.”**

See Claim [16]. EX1003, ¶¶304-305.

U. Claim 23: “The gateway of claim 18, wherein the gateway further comprises Session Initiation Protocol (SIP) client functionality and Real Time Streaming Protocol (RTSP) server functionality.”

Mela discloses that the gateway contains an SIP Client user agent and an “RTSP server” functionality because a POSA would understand from Fig. 3 and its description that the gateway has both SIP and RTSP functionality and, moreover this is a requirement to practice the invention because the gateway handles both SIP and RTSP. EX1007, 3:51-64, Fig. 3; EX1003, ¶¶304-305. For example, in the embodiment shown in Fig. 8, the gateway acts as an SIP client (to communicate with the SIP media server) and as an RTSP server (to communicate with the RTSP client). EX1007, Fig. 8; EX1003, ¶¶304-305.

XII. THE BOARD SHOULD NOT EXERCISE ITS DISCRETION TO DENY INSTITUTION

A. *Fintiv*

Fintiv Factors 1-5—concerning effects on (and of) parallel district court litigation—all favor institution because *there is no parallel litigation* between Petitioner and PO. *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 5 (P.T.A.B. Mar. 20, 2020) (designated precedential May 5, 2020) (enumerating “factors related to a *parallel, co-pending proceeding* in determining whether to exercise discretionary institution or denial”). Petitioner has filed a separate action concerning non-infringement of the ’151 patent but Petitioner did not challenge the validity of

the '151 Patent. Further, the Petition's merits are compelling (Factor 6), which alone demonstrates that the PTAB should not discretionarily deny institution under Fintiv.

B. § 314(a)

The Board should not exercise discretionary authority under § 314(a). There have been no previous or current IPRs involving the patent. Therefore, 314(a) and *General Plastics* do not provide a basis to deny the Petition.

C. § 325(d)

The Board should not exercise its discretion to deny institution under § 325(d) under the Board's *Advanced Bionics* decision. For Ground I and II, the same or substantially the same prior art or arguments were *not* previously presented to the Office. Specifically, Alston, Gateva, and Fajardo were not cited or considered by the Examiner during prosecution. On this basis alone, dismissal under § 325(d) is not warranted. For Ground III, Mela was substantively discussed during prosecution; however, *Becton Dickinson* factors (d)-(f) weigh in favor of institution. Factor (d): Petitioner presents new, non-overlapping arguments for Mela not previously considered, because the Examiner did not rely on Mela in combination with the other prior art raised in this Petition. EX1002. Moreover, as discussed in Section VI.B, Petitioner's arguments regarding Mela are substantively different than those provided by the Examiner. *Id.*; EX1003, ¶¶67-72. The Examiner and this Petition rely on different elements of Mela to show disclosure of the claims. Factor

(e): the Examiner erred in allowing the claims over Mela for the reasons described in Section VI.B. Factor (f): the remaining references were not before the Examiner and are not cumulative of Mela because those references disclose different gateways and media stream set-up methods not disclosed by Mela. Accordingly, the grounds here are different from the prior art of record during prosecution.

XIII. MANDATORY NOTICES AND FEES

A. Real Party-In-Interest

The real parties-in-interest for Petitioners are Samsung Electronics America, Inc. and Samsung Electronics Co., Ltd.

B. Related Matters

Petitioner filed a declaratory judgment of non-infringement against the '151 patent in related district court litigation captioned *Samsung Electronics Co. Ltd et al, v. Koninklijke KPN N.V. et al*, 1:24-cv-01433-UNA (D. Del.).

C. Counsel and Service Information

Petitioner provides the following counsel and service information. Petitioner consents to electronic service the email addresses listed in the table below. Pursuant to 37 C.F.R. § 42.10(b), a Power of Attorney accompanies this Petition.

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D. Payment of Fees

The undersigned authorizes the Office to charge the fee required for this Petition for *Inter Partes* Review to Deposit Account No. 50-5708. Any additional fees that might be due are also authorized.

XIV. CONCLUSION

For the reasons above, *inter partes* review is requested.

Date: January 20, 2025

Petition for *Inter Partes* Review

U.S. Patent No. 8,549,151

Respectfully submitted,

By: /s/ James M. Glass

James M. Glass

Counsel for Petitioner

**CERTIFICATE OF COMPLIANCE WITH
TYPE-VOLUME LIMITATION, TYPEFACE REQUIREMENTS,
AND TYPE STYLE REQUIREMENTS**

1. This Petition complies with the type-volume limitation of 13,646 words, comprising 13,950 words, as counted using the Microsoft Word software that was used to prepare this paper, excluding the parts exempted by 37 C.F.R. § 42.24(a).

2. This Petition complies with the general format requirements of 37 C.F.R. § 42.6(a) and has been prepared using Microsoft® Word 2016 in 14-point Times New Roman.

Date: January 20, 2025

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on January 20, 2025, true and correct copies of the foregoing document and supporting materials were served in its entirety on the Patent Owner at the following address of record as listed on PAIR via Priority Mail Express® or Express Mail:

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