PTO/SB/05 (08-08)
Approved for use through 09/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office. U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	1082-0008-C1
First Inventor	Shaowei Pan
Title	System and Method to Control...
Express Mail Label No.	

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. [✓] **Fee Transmittal Form** (e.g., PTO/SB/17)
2. [✓] **Applicant claims small entity status.** See 37 CFR 1.27.
3. [✓] **Specification** [*Total Pages* 29]
   Both the claims and abstract must start on a new page
   (For information on the preferred arrangement, see MPEP 608.01(a))
4. [✓] **Drawing(s)** (*35 U.S.C. 113*) [*Total Sheets* 7]
5. **Oath or Declaration** [*Total Sheets* 2]
   a. [ ] Newly executed (original or copy)
   b. [✓] A copy from a prior application (37 CFR 1.63(d))
   (for continuation/divisional with Box 18 completed)
   i. [ ] DELETION OF INVENTOR(S)
   Signed statement attached deleting inventor(s) name in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. [✓] **Application Data Sheet.** See 37 CFR 1.76
7. [ ] **CD-ROM or CD-R** in duplicate, large table or Computer Program *(Appendix)*
   [ ] Landscape Table on CD
8. **Nucleotide and/or Amino Acid Sequence Submission**
   (if applicable, items a. – c. are required)
   a. [ ] Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. [ ] CD-ROM or CD-R (2 copies); or
      ii. [ ] Paper
   c. [ ] Statements verifying identity of above copies

ADDRESS TO: **Commissioner for Patents**
P.O. Box 1450
Alexandria VA 22313-1450

ACCOMPANYING APPLICATION PARTS

9. [✓] **Assignment Papers** (cover sheet & document(s))
   Name of Assignee Lemko Corporation
10. [ ] **37 CFR 3.73(b) Statement** *(when there is an assignee)* [✓] **Power of Attorney**
11. [ ] **English Translation Document** *(if applicable)*
12. [✓] **Information Disclosure Statement** (PTO/SB/08 or PTO-1449)
    [✓] Copies of citations attached
13. [ ] **Preliminary Amendment**
14. [ ] **Return Receipt Postcard** (MPEP 503)
    (Should be specifically itemized)
15. [ ] **Certified Copy of Priority Document(s)**
    (if foreign priority is claimed)
16. [ ] **Nonpublication Request** under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent.
17. [ ] Other:

18. If a CONTINUING APPLICATION, *check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:*

[✓] Continuation [ ] Divisional [ ] Continuation-in-part (CIP) of prior application No.: 12/108,209

Prior application information: *Examiner* NGUYEN, THU HA T. *Art Unit:* 2453

19. CORRESPONDENCE ADDRESS

[✓] The address associated with Customer Number: 60533 ***OR*** [ ] Correspondence address below

Name					
Address					
City		State		Zip Code	
Country		Telephone		Email	

Signature		Date	9-16-2011
Name (Print/Type)	Jeffrey G. Toler	Registration No. (Attorney/Agent)	38,342

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

PTO/SB/17 (10-08)
Approved for use through 09/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless it displays a valid OMB control number

Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2009

☑ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 502

Complete if Known	
Application Number	Herewith
Filing Date	Herewith
First Named Inventor	Shaowei Pan
Examiner Name	Unknown
Art Unit	Unknown
Attorney Docket No.	1082-0008-C1

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☑ Deposit Account Deposit Account Number: 502469 Deposit Account Name: Toler Law Group, IP

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☑ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**

☑ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☑ Credit any overpayments

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
		Small Entity		Small Entity		Small Entity	
Application Type	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fees Paid ($)
Utility	330	165 82	540	270	220	110	462
Design	220	110	100	50	140	70	
Plant	220	110	330	165	170	85	
Reissue	330	165	540	270	650	325	
Provisional	220	110	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	52	26
Each independent claim over 3 (including Reissues)	220	110
Multiple dependent claims	390	195

Total Claims	Extra Claims	Fee ($)	Fee Paid ($)
20 - 20 or HP =	0	x 26	= 0

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee ($)	Fee Paid ($)
3 - 3 or HP =	0	x 110	= 0

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims	
Fee ($)	Fee Paid ($)

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $270 ($135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee ($)	Fee Paid ($)
36 - 100 =	_____	/ 50 = _____ (round **up** to a whole number)	x _____	= _____

4. OTHER FEE(S)

	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	
Other (e.g., late filing surcharge): Assignment of Recordation	40

SUBMITTED BY

Signature	[signature]	Registration No. (Attorney/Agent) 38,342	Telephone 512-327-5515
Name (Print/Type)	Jeffrey G. Toler		Date 9-16-2011

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

PTO/SB/14 (11-08)
Approved for use through 09/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	1082-0008-C1
	Application Number	
Title of Invention	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1

Applicant Authority ◉ Inventor ○ Legal Representative under 35 U.S.C. 117 ○ Party of Interest under 35 U.S.C. 118

Prefix	Given Name	Middle Name	Family Name	Suffix
	Shaowei		Pan	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Kildeer	State/Province	IL	Country of Residence	US

Citizenship under 37 CFR 1.41(b) US

Mailing Address of Applicant:

Address 1	21878 Tall Oaks Drive		
Address 2			
City	Kildeer	State/Province	IL
Postal Code	60047	Country	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	60533		
Email Address		Add Email	Remove Email

Application Information:

Title of the Invention	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS		
Attorney Docket Number	1082-0008-C1	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	7	Suggested Figure for Publication (if any)	1

PTO/SB/14 (11-08)
Approved for use through 09/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	1082-0008-C1
	Application Number	
Title of Invention	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS	

Publication Information:

☐	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐	**Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S. C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	60533		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.

Prior Application Status	Pending	Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	12108209	2008-04-23

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

Remove

Application Number	Country[1]	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			○ Yes ◉ No

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.

Assignee 1

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 4 of 469

PTO/SB/14 (11-08)
Approved for use through 09/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	1082-0008-C1
	Application Number	
Title of Invention	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS	

If the Assignee is an Organization check here. ☒			
Organization Name	Lemko Corporation		
Mailing Address Information:			
Address 1	1700 E. Golf Road		
Address 2	7th Floor		
City	Schaumburg	**State/Province**	IL
Country	US	Postal Code	60173
Phone Number		Fax Number	
Email Address			
Additional Assignee Data may be generated within this form by selecting the **Add** button.			

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.

Signature				Date (YYYY-MM-DD)	2011-09-16
First Name	Jeffrey	Last Name	Toler	Registration Number	38342

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below adjacent to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter that is claimed and for which a patent is sought by way of the application entitled

SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS

which (check) ☒ is filed with this Declaration and Power of Attorney and marked with the above title and/or Attorney Docket Number, and which is the final application provided to me by TOLER LAW GROUP, INTELLECTUAL PROPERTIES
- ☐ and is amended by the Preliminary Amendment attached hereto.
- ☐ was filed on _____ as Application Serial No.
- ☐ and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified application, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate or under § 365(a) of any PCT international application(s) designating at least one country other than the United States of America, listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

Prior Foreign Application(s)			**Priority Claimed**	
Number	Country	Day/Month/Year Filed	Yes	No

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	**Filing Data (MM/DD/YYYY)**

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and,

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 6 of 469

insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U. S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)

I hereby appoint the following attorney(s) and/or agent(s) associated with Customer No. 60533 to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith.

Customer No. 60533

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Title 18, United States Code, § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Please direct all correspondence concerning this application to the USPTO Customer Number, if provided, or otherwise to the firm named below:

Customer No. 60533
JEFFREY G. TOLER
TOLER LAW GROUP, INTELLECTUAL PROPERTIES
8500 BLUFFSTONE COVE, SUITE A201
AUSTIN, TEXAS 78759

Telephone: 512-327-5515
Facsimile: 512-327-5575

Full name of sole (or first joint) inventor: **Shaowei Pan**

Inventor's Signature: _____ Date: 4/17/2007

Residence: **Kildeer, IL** Citizenship: **US**

Post Office Address: **21878 Tall Oaks Dr.**
Kildeer, IL 60047

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 7 of 469

DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below adjacent to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter that is claimed and for which a patent is sought by way of the application entitled

SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS

which (check) ☒ is filed with this Declaration and Power of Attorney and marked with the above title and/or Attorney Docket Number, and which is the final application provided to me by TOLER LAW GROUP, INTELLECTUAL PROPERTIES
- ☐ and is amended by the Preliminary Amendment attached hereto.
- ☐ was filed on _____ as Application Serial No.
- ☐ and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified application, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate or under § 365(a) of any PCT international application(s) designating at least one country other than the United States of America, listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

Prior Foreign Application(s)			**Priority Claimed**	
Number	Country	Day/Month/Year Filed	Yes	No

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	**Filing Data (MM/DD/YYYY)**

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and,

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 8 of 469

insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U. S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)

I hereby appoint the following attorney(s) and/or agent(s) associated with Customer No. 60533 to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith.

Customer No. 60533

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Title 18, United States Code, § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Please direct all correspondence concerning this application to the USPTO Customer Number, if provided, or otherwise to the firm named below:

Customer No. 60533
JEFFREY G. TOLER
TOLER LAW GROUP, INTELLECTUAL PROPERTIES
8500 BLUFFSTONE COVE, SUITE A201
AUSTIN, TEXAS 78759

Telephone: 512-327-5515
Facsimile: 512-327-5575

Full name of sole (or first joint) inventor: **Shaowei Pan**

Inventor's Signature: _____ Date: 4/17/2007

Residence: **Kildeer, IL** Citizenship: **US**

Post Office Address: **21878 Tall Oaks Dr.**
Kildeer, IL 60047

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 9 of 469

SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS

Shaowei Pan

CLAIM OF PRIORITY

[0001] The present application claims priority from and is a continuation of patent application 12/108,209 filed on April 23, 2008 and entitled "SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS," the contents of which are expressly incorporated herein by reference in their entirety.

FIELD OF THE DISCLOSURE

[0002] The present disclosure relates generally to controlling wireless communications.

BACKGROUND

[0003] Access to telephony service is important for rural and isolated communities. However, while urban areas typically offer a variety of telephony services, such as landline, wireless, and broadband, rural areas often have limited or no telephony services. For example, many Asian countries have a penetration of four (4) telephone lines per one-hundred (100) inhabitants in urban areas, but a penetration of less than 0.2 per one-hundred (100) in rural areas. Access to telephony service is non-existent in some African countries and in some parts of Latin America.

[0004] Current telephone systems are expensive to deploy. For example, a typical cellular system requires a mobile switching center (MSC), a base station controller (BSC), and a home location register/visitor location register (HLR/VLR), collectively costing over two million dollars. Moreover, such a system requires a minimum of ten thousand users in order to be economically viable. Many rural areas lack a population large enough to support the installation of such a system. In addition, the environmental conditions in which the equipment, e.g., the MSC, BSC, and HLR/VLR, operates may be extremely harsh or cost-prohibitive to deploy. Alternatives, such as landline systems, are also expensive to deploy and face even more environmental restrictions.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 10 of 469

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] FIG. 1 is a block diagram of a first embodiment of a system to control wireless communications;

[0006] FIG. 2 is a block diagram of a second embodiment of a system to control wireless communications;

[0007] FIG. 3 is a block diagram of a third embodiment of a system to control wireless communications;

[0008] FIG. 4 is a flow diagram of a first method of controlling wireless communications;

[0009] FIG. 5 is a flow diagram of a second method of controlling wireless communications;

[0010] FIG. 6 is a flow diagram of a third method of controlling wireless communications; and

[0011] FIG. 7 is an illustrative embodiment of data associated with a distributed mobile architecture gateway (DMAG).

DETAILED DESCRIPTION OF THE DRAWINGS

[0012] A method includes receiving a call from a first mobile device at a base transceiver station (BTS) interface of a first distributed mobile architecture (DMA) server. The call is associated with a destination device. The method includes determining that determining that a first distributed mobile architecture gateway (DMAG) supports communication with the destination device based on registration data stored at the first DMA server. The method also includes converting voice information associated with the call to packet data. The method also includes routing the packet data to the destination device via the DMAG.

[0013] In another embodiment, a method includes receiving a call from a communication device at a distributed mobile architecture gateway (DMAG) via a network. The call is associated with a destination device. The method also includes determining that a first distributed mobile architecture (DMA) server supports wireless

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 11 of 469

communication with the destination device based on registration data stored at the DMAG. The method also includes converting information associated with the call to packet data and routing the packet data to the destination device via the first DMA server.

[0014] In another embodiment, a computer-readable medium is disclosed. The computer-readable medium includes instructions executable by a processor. The computer-readable medium includes instructions to receive a call from a communication device at a distributed mobile architecture gateway (DMAG). The call is associated with a destination device. The computer-readable medium also includes instructions to determine that a first distributed mobile architecture (DMA) server supports communication with the destination device based on registration data stored at the DMAG. The computer-readable medium also includes instructions to convert information associated with the call to packet data to be routed to the destination device via the first DMA server.

[0015] Referring to FIG. 1, a first embodiment of a system to control wireless communications is illustrated and generally designated 100. The system 100 includes one or more legacy networks 102 coupled to a distributed mobile architecture gateway (DMAG) 104. The one or more legacy networks 102 may include one or more wide-area wireless communication networks, one or more landline communication networks, one or more local area networks (LANs), one or more wireless local area networks (WLANs), or any combination thereof. The DMAG 104 may receive one or more types of traffic from the legacy networks 102. In FIG. 1, the DMAG 104 receives wireless voice traffic 106, wireless data traffic 108, landline voice traffic 110, landline data traffic 112, or any combination thereof from the legacy networks 102. The DMAG 104 routes voice traffic and data traffic between the one or more legacy networks 102 and one or more wireless communication devices via one or more distributed mobile architecture (DMA) servers, such as a first representative DMA server 116, a second representative DMA server 118, and a third representative DMA server 120. In FIG. 1, the DMAG 104 routes voice traffic and data traffic between the one or more legacy networks 102 and a first representative wireless communication device 122, a second representative wireless communication device 124, third representative wireless

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 12 of 469

communication device 126, and a fourth representative wireless communication device 128.

[0016] The wireless voice traffic 106 may be carried over a Global System for Mobile Communications (GSM) network, a Code Division Multiple Access (CDMA) network, a Time Division Multiple Access (TDMA) network, a Universal Mobile Telecommunications System (UMTS) network, a Personal Communications Service (PCS) network, or any combination thereof. Signaling related to the wireless voice traffic 106 may be carried over a Signaling System 7 (SS7) network and may utilize an American National Standards Institute (ANSI) 41 protocol, a Mobile Application Part (MAP) protocol, or a Customized Application of Mobile Enhanced Logic (CAMEL) protocol. The wireless data traffic 108 may be carried over a General Packet Radio Service (GPRS) network, an enhanced GPRS (EGPRS) network, an IEEE 802.16 network, a UMTS network, a High Speed Packet Access (HSPA) network, or any combination thereof. The wireless data traffic 108 may be formatted according to Internet Protocol (IP). Additionally, wireless voice traffic may be carried over a wireless data traffic connection 108 using a mobile Voice over Internet Protocol (VoIP) technology.

[0017] One or more landline communication networks may carry voice traffic 110, data traffic 112, or any combination thereof. The one or more landline communication networks may carry landline voice traffic 110 over a Public Switched Telephone Network (PSTN), an Integrated Services Digital Network (ISDN), or any combination thereof. Signaling related to the landline voice traffic 110 may be carried over an SS7 network and may utilize an Integrated Service Digital Network User Part (ISUP) protocol. The landline data traffic 112 may be carried over a Digital Subscriber Line (DSL) network, an Asynchronous Transfer Mode (ATM) network, an optical fiber network, a coaxial cable network, or any combination thereof. Landline voice traffic may also be carried over a landline data traffic connection 112 using Voice over Internet Protocol (VoIP). The landline data traffic 112 may also be formatted according to Internet Protocol (IP).

[0018] The legacy networks 102 communicate the wireless voice traffic 106, the wireless data traffic 108, the landline voice traffic 110, the landline data traffic 112, or any combination thereof, to the DMAG 104. The DMAG 104 is adapted to route voice

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 13 of 469

traffic and data traffic between the one or more legacy networks 102 and one or more wireless communication devices, such as the wireless communication devices 122, 124, 126 and 128 via a private Internet Protocol (IP) network 114. The private IP network 114 may include a landline IP network, a wireless IP network, or any combination thereof. For example, the DMAG 104 may route voice traffic and data traffic between the one or more legacy networks 102 and the first wireless communication device 122 and the second wireless communication device 124 via the first DMA server 116. The DMAG 104 may also route voice traffic and data traffic between the one or more legacy networks 102 and the third wireless communication device 126 via the second DMA server 118.

[0019] Additionally, the DMAG 104 may route voice traffic and data traffic between the wireless communication devices 122-128. For example, the DMAG 104 may route voice traffic and data traffic between wireless communication devices served by the same DMA server. Further, the DMAG 104 may route voice traffic and data traffic between wireless communication devices served by different DMA servers. In an illustrative example, the DMAG 104 may route voice traffic and data traffic between the third wireless communication device 126 and the fourth wireless communication device 128.

[0020] Each of the DMA servers 116-120 are adapted to route voice traffic, data traffic, or any combination thereof, related to wireless communication devices served by the respective DMA server. For example, the DMA servers 116-120 may be adapted to route voice traffic and data traffic between wireless communication devices served by the same DMA server. To illustrate, the first DMA server 116 may route voice traffic and data traffic between the first wireless communication device 122 and the second wireless communication device 124. Additionally, the DMA servers 116-120 may be adapted to route voice traffic and data traffic between the wireless communication devices 122-128 served by different DMA servers. For example, the first DMA server 116 and the third DMA server 120 may route voice traffic and data traffic between the first wireless communication device 122 and the third wireless communication device 126.

[0021] Each of the DMA servers 116-120 are adapted to send and receive voice and data traffic using more than one type of wireless protocol. For example, each of the

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 14 of 469

DMA servers 116-120 may send and receive voice and data traffic using a Global System for Mobile (GSM) communications protocol, a Code Division Multiple Access (CDMA) protocol, a Universal Mobile Telephone System (UMTS) protocol, Worldwide Interoperability for Microwave Access (WiMAX) protocol, other wireless protocol, or any combination thereof.

[0022] In operation, each of the DMA servers 116-120 sends and receives voice and data traffic between at least two communications devices. When the same DMA server serves the communications devices, then the DMA server may route the call. Routing the call may include terminating the call at a destination communication device. The DMA server can support routing a call between different wireless technologies. For example, the first DMA server 116 may route a call from the first wireless communications device 122 to the second wireless communications device 124, where the first wireless communications device 122 uses the GSM protocol while the second wireless communications device 122 uses the CDMA protocol.

[0023] When two DMA servers serve two wireless communications devices, the call may be routed via an IP network or via a DMAG. In one illustrative embodiment, the first DMA server 116 may route a call originating at the first wireless communications device 122 to the fourth wireless communications device 128 via the IP network 114 and via the third DMA server 120. When the DMAG 104 services two or more DMA servers, such as the DMA servers 116-120, calls routed between the DMA servers 116-120 may be routed via the IP network 114 without involving the DMAG 104. When a call is routed between the DMA servers 116 and 120 and the DMAG 104 is not involved in routing the call, the routing is known as a peer-to-peer routing. In a second illustrative embodiment, the first DMA server 116 may route a call originating at the first wireless communications device 122 via the IP network 114 to the DMAG 104 and the DMAG 104 may route the call via the third DMA server 120 to the fourth wireless communications device 128. For example, the DMAG 104 may route the call when the DMA server 120 is serviced by a second DMAG (not shown).

[0024] The DMA servers 116-120 also send and receive voice and data traffic from the wireless communication devices 122-128 to the legacy networks 102. For example, a call originating at the first wireless communications device 122 may be routed via the

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 15 of 469

first DMA server 116 to the legacy networks 102 via the IP network 114 and via the DMAG 104.

[0025] In a conventional system, providing wireless access via a specific wireless protocol to wireless communications devices typically requires a base transceiver station (BTS), a base station controller (BSC) and a Mobile Switching Center (MSC). To provide wireless access via more than one wireless protocol typically requires a BTS, a BSC, and an MSC for each wireless protocol. Even when the functionality of the BTS, BSC, and MSC is integrated into a single unit, each unit only provides wireless access via a specific wireless protocol. For example, providing GSM, CDMA, and WiMAX typically requires the use of at least three units, with a first unit providing GSM access, a second unit providing CDMA access, and a third unit providing WiMAX access. In contrast, the system 100 allows a single integrated unit to provide wireless access via more than one wireless protocol. For example, a single integrated unit, such as the first DMA server 116 may provide wireless access via more than one wireless protocol, such as GSM, CDMA, UMTS, and WiMAX. Each of the DMA servers 116-120 can support additional wireless protocols by adding an appropriate transceiver. For example, the first DMA server 116 may provide CDMA evolution data optimized (EVDO) access by adding a transceiver capable of providing CDMA-EVDO.

[0026] Referring to FIG. 2, a second embodiment of a system to control wireless communications is illustrated and generally designated 200. The system 200 includes distributed mobile architecture gateways (DMAGs) 202, 204, and 206. Each of the DMAGs 202-206 is coupled to one or more legacy networks. For example, the first DMAG 202 is coupled to one or more legacy networks 208, the second DMAG 204 is coupled to one or more legacy networks 210, and the third DMAG 206 is coupled to one or more legacy networks 212. Each of the legacy networks 208-212 may include one or more landline networks, one or more wireless networks, or any combination thereof, to carry voice traffic and/or data traffic to the DMAGs 202-206. Although the legacy networks 208-212 are shown as separate boxes, the legacy networks 208-212 may include one or more of the same legacy networks. Alternatively, each of the DMAGs 202-208 may serve as a backhaul to different legacy networks. To illustrate, the one or more legacy networks 208 may include legacy landline voice and data networks, the one or more legacy networks 210 may include a particular wireless voice

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 16 of 469

and data network, such as a time division multiple access (TDMA) network, and the one or more legacy networks 212 may include another wireless voice and data network, such as a code division multiple access (CDMA) network.

[0027] Each of the DMAGs 202-206 may communicate via a private Internet Protocol (IP) network, such as the private IP networks 214-218. The DMAGs 202-206 may communicate with each other via the private IP networks 214-218, with one or more groups of distributed mobile architecture (DMA) servers 220-224, or any combination thereof. Although the private IP networks 214-218 are shown in FIG. 2 as separate networks, the private IP networks may represent either separate private IP networks or a single private IP network.

[0028] In a particular embodiment, the first DMAG 202 controls communications related to the first group of DMA servers 220 via the first private IP network 214. Additionally, the second DMAG 204 controls communications related to the second group of DMA servers 222 via the second private IP network 216 and the third DMAG 206 control communications related to the third group of DMA servers 224 via the third private IP network 218. Each of the DMA servers in a respective group of DMA servers may communicate with one or more wireless communication devices (not shown).

[0029] Each of the DMAGs 202-206 may control communications related to a respective group of DMA servers by routing voice traffic, data traffic, signaling, or any combination thereof, between the one or more legacy networks 208-212 and one or more wireless communication devices communicating with the respective groups of DMA servers 220-224. In an illustrative embodiment, the second DMAG 204 is adapted to control communications related to the second group of DMA servers 222. In FIG. 2, the second group of DMA servers includes DMA server 230, DMA server 232, DMA server 234, and DMA server 236. The second DMAG 204 may route voice traffic, data traffic, signaling, or any combination thereof, between the one or more legacy networks 210 and one or more wireless communication devices registered with the DMA servers 230-236 in the second group of DMA servers 222.

[0030] In an illustrative embodiment, each DMAG 202-206 may be specified by a communications service provider as a primary node to control voice traffic, data traffic,

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 17 of 469

signaling, or any combination thereof, for designated DMA servers. For example, the second DMAG 204 may serve as a primary node to control voice traffic, data traffic, signaling, or any combination thereof, related to one or more of the DMA servers of the second group of DMA servers 222, such as the DMA servers 230-232. Additionally, the second DMAG 204 may control voice traffic, data traffic, signaling, or any combination thereof, related to one or more of the DMA servers of the second group of DMA servers 222 that have roamed into a coverage area associated with the second DMAG 204, such as the DMA servers 234-236.

[0031] Each DMA server of a particular group of DMA servers may be specified as a primary node for controlling communications related to one or more designated wireless communication devices. In addition, each DMA server of a particular group of DMA servers may be adapted to control communications related to one or more wireless communication devices that have roamed into a coverage area of a particular DMA server. Wireless communication devices may roam between DMA servers within a particular group of DMA servers and wireless communication devices may roam between DMA servers included in different groups of DMA servers. In one example, when the DMA server 230 serves as a primary node for a particular wireless communication device, the particular wireless communication device can roam from the coverage area of the DMA server 230 to a coverage area of the DMA server 232. In another example, when the DMA server 230 serves as a primary node for a particular wireless communication device, the particular wireless communication device can roam into a coverage area of a DMA server of the third group of DMA servers 224.

[0032] In an illustrative embodiment, a DMA server, such as the DMA server 230 may move from one group of DMA servers, such as the second group of DMA servers 222, to another group of DMA servers, while controlling communications related to one or more wireless communication devices in the coverage area of the DMA server 230. In an example, one or more wireless communications devices in the coverage area of the DMA server 230 when the DMA server 230 is included in the second group of DMA servers 222 may remain within the coverage area of the DMA server 230 by moving along with the DMA server 230 to the third group of DMA servers 224. Further, as the DMA server 230 moves to the third group of DMA servers 224, one or more additional wireless communication devices may register with the DMA server 230. In an

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 18 of 469

illustrative, non-limiting embodiment, the second group of DMA servers 222 may be associated with a coverage area of the second DMAG 204 and the third group of DMA servers 224 may be associated with a coverage area of the third DMAG 206.

[0033] Each particular DMAG 202-206 may be adapted to route communications between wireless communication devices in coverage areas of different DMA servers of the respective group of DMA servers associated with the particular DMAG. Additionally, each DMAG 202-206 may be adapted to route communications between wireless communication devices in the coverage area of the same DMA server of the respective group of DMA servers associated with the particular DMAG. In one example, the second DMAG 204 may be adapted to route voice traffic, data traffic, or any combination thereof, between wireless communication devices in the coverage area of the DMA server 230 and wireless communication devices in the coverage area of the DMA server 232. In another example, the second DMAG 204 may be adapted to route voice traffic, data traffic, or any combination thereof, between wireless communication devices in the coverage area of the DMA server 230. Further, the DMAGs 202-206 may be adapted to control communications between wireless communication devices in the coverage area of a DMA server of one group of DMA servers and in the coverage area of another DMA server of a different group of DMA servers. To illustrate, the second DMAG 204 and the third DMAG 206 may be adapted to route voice traffic, data traffic, or any combination thereof, between a wireless communication device in the coverage area of the DMA server 230 and a wireless communication device in the coverage area of a DMA server of the third group of DMA servers 224.

[0034] In addition, each DMA server of a particular group of DMA servers may be adapted to route communications locally between wireless communication devices in the coverage area of the respective DMA server. For example, the DMA server 230 may be adapted to control voice traffic, data traffic, or any combination thereof, related to one or more wireless communication devices in the coverage area of the DMA server 230. Further, DMA servers included in a particular group of DMA servers may be adapted to route communications between wireless communication devices in the coverage areas of the DMA servers of the same group of DMA servers. To illustrate, the DMA server 230 and the DMA server 232 may be adapted to control voice traffic, data traffic, or any combination thereof, between wireless communication devices in the

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 19 of 469

coverage area of the DMA server 230 and wireless communication devices in the coverage area of the DMA server 232. Additionally, DMA servers included in different groups of DMA servers may be adapted to route communications between wireless communication devices in coverage areas of the DMA servers included in the different groups. In an example, the DMA server 230 and a particular DMA server of the third group of DMA servers 224 may control voice traffic, data traffic, or any combination thereof, between wireless communication devices in the coverage area of the DMA server 230 and wireless communication devices in the coverage area of the particular DMA server included in the third group of DMA servers 224.

[0035] In the event of a failure of a particular DMAG, one or more DMAGs may control communications that would otherwise be controlled by the failed DMAG. In an illustrative embodiment, in the event of a failure of the second DMAG 204, the first DMAG 202, the third DMAG 206, or any combination thereof, may control communications related to the second group of DMA servers 222. For example, the first DMAG 202 and the third DMAG 206 may control voice traffic, data traffic, signaling, or any combination thereof, between the one or more legacy networks 210 and the wireless communication devices in the coverage areas the DMA servers 230-236.

[0036] Each of the DMAGs 202-206 may include redundant registration data with respect to each other, in order to assume control of communications in response to a failure in another one of the DMAGs 202-206. The registration data related to a particular DMAG may be redundantly stored in one or more additional DMAGs. In an illustrative, non-limiting embodiment, redundant registration data related to the second DMAG 204 may be stored at the first DMAG 202 and the third DMAG 206.

[0037] Registration data may identify that a particular DMAG is specified as the primary node to control communications related to certain DMA servers. In addition, registration data may identify a number of DMA servers that are roaming with respect to a particular DMAG. For example, registration data associated with the second DMAG 204 may identify that the second DMAG 204 is the primary node for the DMA servers 230-232 and that the DMA servers 234-236 are roaming with respect to the DMAG 204. Further, registration data may identify the wireless communication devices that are registered with the DMA servers included in a particular group of DMA

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 20 of 469

servers. To illustrate, registration data associated with the second DMAG 204 may identify that the DMA server 230 is specified to serve as a primary node to control communications related to some wireless communication devices registered with the DMA server 230 and that other wireless communication devices registered with the DMA server 230 are roaming with respect to the DMA server 230. Registration data related to a particular wireless communication device may include an identifier, such as an international mobile subscriber identification (IMSI), associated with the particular wireless communication device. Additionally, the registration data may include further information related to an account associated with a particular wireless communication device.

[0038] Additionally, the DMA servers within a particular group of DMA servers may include redundant registration data needed to route communications in response to a failure of a DMA server in the particular group of DMA servers. In an illustrative embodiment, each DMA server of the second group of DMA servers 222 includes registration data identifying one or more wireless communication devices registered with one or more of the other DMA servers in the second group of DMA servers 222. For example, the DMA server 230 may include registration data identifying wireless communication devices in the coverage area of the DMA server 230 and registration data identifying wireless communication devices in the coverage area of the DMA server 232 and in the coverage area of the DMA server 234. Thus, the DMA server 230 can route voice traffic, data traffic, or any combination thereof, of wireless communication devices in the respective coverage areas of the DMA servers 232, 234, if the DMA server 232 and/or the DMA server 234 fails. To illustrate, if the DMA server 232 fails, the DMA server 230 can route communications between the second DMAG 204 and the wireless communication devices in the coverage area of the failed DMA server 232. Additionally, the DMA server 230 can route communications between wireless communication devices in the coverage area of the DMA server 232 at the time of failure. Further, the DMA server 230 can route communications between wireless communication devices in the coverage area of the DMA server 232 and wireless communication devices in the coverage area of other DMA servers of the system 200.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 21 of 469

[0039] In some embodiments, a communications service provider may specify that one or more of the DMAGs 202-206 are adapted to route voice traffic, data traffic, and signaling related to wireless communication devices served by a particular group of DMA servers. In other embodiments, a communications service provider may specify that a particular DMAG is adapted to route voice and data traffic related to wireless communications devices served by a particular group of DMA servers, while another DMAG is adapted to handle the signaling related to communications associated with wireless communication devices registered with the particular group of DMA servers. In an example, the first DMAG 202 may be adapted to manage signaling related to communications associated with each group of DMA servers 220-224, while the second DMAG 204 and the third DMAG 206 are adapted to control voice traffic and data traffic related to communications associated with each group of DMA servers 220-224.

[0040] Referring to FIG. 3, a third embodiment of a system to control wireless communications is illustrated and is generally designated 300. The system 300 includes a distributed mobile architecture gateway (DMAG) 302 that communicates with a distributed mobile architecture (DMA) server 304 via a private Internet Protocol (IP) network 306. The DMAG 302 includes a processor 308, a memory 310, and a data network interface 312 coupled to the private IP network 306. Additionally, the DMAG 302 includes a first network interface 314, a second network interface 316, a third network interface 318, and a fourth network interface 320.

[0041] The first network interface 314 is adapted to communicate with a first legacy network 322. For example, the first legacy network 322 may be a landline voice network, such as a Public Switched Telephone Network (PSTN), an Integrated Services Digital Network (ISDN), other voice network or any combination thereof. The second network interface 316 is adapted to communicate with a second legacy network 324. For example, the second legacy network 324 may be a landline data network, such as a Digital Subscriber Line (DSL) network, a cable television network, fiber-optic network, other data network or any combination thereof. The third network interface 318 is adapted to communicate with a third legacy network 326. For example, the third legacy network 326 may be a wireless voice network, such as a Global System for Mobile Communications (GSM) network, a Code Division Multiple Access (CDMA) network, a Universal Mobile Telecommunications System (UMTS) network, other wireless

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 22 of 469

protocol network, or any combination thereof. The fourth network interface 320 is adapted to communicate with a fourth legacy network 328. For example, the fourth legacy network 328 may be a wireless data network, such as a General Packet Radio Service (GPRS) network, an IEEE 802.16 network, a UMTS network, an evolution data optimized (EVDO) network, a one times Radio Transmission Technology (1XRTT) network, a High Speed Packet Access (HSPA) network, other data network, or any combination thereof.

[0042] Signaling received via the first network interface 314 from the first legacy network 322 may relate to Intelligent Network (IN) signaling, such as Signaling System 7 (SS7), and may include Integrated Services Digital Network User Part (ISUP) signaling, Message Transfer Part (MTP) signaling, Signaling Control Connection Part (SCCP) signaling, Transaction Capabilities Application Part (TCAP) signaling, Telephone User Part (TUP) signaling, Data User Part (DUP), other signaling protocol, or any combination thereof. Further, signaling received via the second network interface 316 from the second legacy network 324 may include session initiation protocol (SIP) signaling, H.323 signaling, or any combination thereof. Additionally, signaling received via the third network interface 318 from the third legacy network 326 may relate to IN signaling and may include mobile application part (MAP) protocol, American National Standards Institute (ANSI) 41 protocol, customized application of mobile enhanced logic (CAMEL), or any combination thereof. Signaling received via the fourth network interface 320 from the fourth legacy network 328 may include SIP signaling.

[0043] Although the first legacy network 322 and the second legacy network 324 are shown coupled to separate network interfaces 314 and 316, respectively, the first legacy network 322 and the second legacy network 324 may utilize the same infrastructure and may be coupled to a single interface. In an illustrative embodiment, the first legacy network 322 and the second legacy network 324 may be related to a telephone company communications network that carries voice traffic via a circuit-switched PSTN and data traffic via a packet switched network. The DMAG 302 may receive voice traffic and the data traffic from the telephone company communications network at a single interface that separates the voice traffic, the data traffic, signaling information, or any combination thereof.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 23 of 469

[0044] Further, although the third legacy network 326 and the fourth legacy network 328 are shown coupled to separate network interfaces 318, 320, respectively, the third legacy network 326 and the fourth legacy network 328 may utilize the same infrastructure and may be coupled to a single interface. In an illustrative embodiment, the third legacy network 326 and the wireless data network may be related to a wireless communications provider network that carries voice traffic via a Global System for Mobile Communications (GSM) network and carries data traffic via a General Packet Radio Service (GPRS) network. The DMAG 302 may receive voice traffic and data traffic from the wireless communications provider network at a single interface that separates the voice traffic, the data traffic, signaling information, or any combination thereof.

[0045] The memory 310 includes one or more gateway modules 330, one or more conversion modules 332, and a routing module 334. In one embodiment, each of the modules 330-334 represents instructions that are executable by the processor 308, such as instructions embodied in one or more software programs stored at the memory 310. In another embodiment, the modules 330-334 represent hardware, software instructions, firmware instructions, logic instructions, or any combination thereof. The DMAG 302 also includes register data 336. The register data 336 may be stored at one or more data stores at the DMAG 302. An example of data stores storing the register data 336 are shown in FIG. 7. The register data 336 may include information, such as routing information and registration information, related to one or more DMA servers, such as the DMA server 304 that route voice and data traffic via the DMAG 304. Additionally, the register data 336 may include information related to other DMA servers that are served by other DMAGs. Further, the register data 336 may include information related to wireless communication devices registered with the DMA servers served by the DMAG 302, such as the wireless communication devices 360, 362, 364, and 366 registered and communicating with the DMA server 304. The register data 336 may also include information related to wireless communication devices related to other DMA servers served by other DMAGs.

[0046] The one or more gateway modules 330 may be adapted to distribute voice traffic, data traffic, signaling, or any combination thereof, communicated via the network interfaces 314-320. In a particular embodiment, each of the network interfaces

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 24 of 469

314-320 is associated with a respective gateway module 330. For example, a first gateway module may be adapted to communicate voice traffic, signaling, or any combination thereof, from the first network interface 314. The first gateway module may send voice traffic to a corresponding conversion module 332 and send signaling to the routing module 334. Additionally, a second gateway module may be adapted to communicate voice traffic, data traffic, signaling, or any combination thereof, from the second network interface 316. The second gateway module may send voice traffic and data traffic to a corresponding conversion module 332 and send signaling to the routing module 334. Further, a third gateway module may be adapted to communicate voice traffic, signaling, or any combination thereof, from the third network interface 318. The third gateway module may send the voice traffic to a corresponding conversion module 332 and send signaling to the routing module 334. The one or more gateway modules 330 may also include a fourth gateway module adapted to communicate voice traffic, data traffic, signaling, or any combination thereof, via the fourth network interface 320. The fourth gateway module may send voice traffic and data traffic to corresponding conversion modules 332 and send signaling to the routing module 334. Additionally, the one or more gateway modules 330 may be adapted to communicate voice traffic, data traffic, signaling, or any combination thereof, from the one or more conversion modules 332, the routing module 334, or both.

[0047] The one or more conversion modules 332 may be adapted to convert voice traffic, data traffic, or any combination thereof, communicated via the network interfaces 314-320 to Internet Protocol (IP) for transmission to a destination wireless communication device via the private IP network 306.

[0048] The representative DMA server 304 includes a processor 340, a memory 342, a network interface 344 coupled to the private IP network 306, and a device register 346. The memory 342 includes conversion module 348 and routing module 350. The DMA server 304 also includes representative BTS interfaces 352, 354, 356, and 358. The BTS interface 354 is adapted to communicate with first and second wireless communication devices 364 and 366 via a representative first base transceiver station (BTS) device 360. Additionally, the BTS interface 354 is adapted to communicate with wireless communication devices 368 and 370 via a representative second base transceiver station (BTS) device 362.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 25 of 469

[0049] The network interface 344 is adapted to transmit data packets to the private IP network 306 and to receive data packets from the private IP network 306. The device register 346 is adapted to store registration information about the wireless communication devices 364-370 when the wireless communication devices 364-370 first enter the wireless coverage area of the BTS devices 360-362. The routing module 350 is adapted to route a call originating from or terminating at the wireless communication devices 364-370. The conversion module 348 is adapted to convert voice information from an originating call to data packets for transmission via the private IP network 306 and the DMAG 302 to the legacy networks 322-328. The BTS interfaces 352-358 are adapted to control one or more BTS devices. In FIG. 2, the second BTS interface 354 controls the BTS devices 360-362. The BTS devices 360-362 communicate signals to the wireless communication devices 364-370 via a wireless protocol, such as CDMA, GSM, and UMTS.

[0050] In operation, the DMA server 304 routes a call originating from the wireless communications device 360 via the private IP network 306 to another DMA server (not shown) or to the DMAG 302. When the first wireless communications device 360 originates a call, the BTS interface 348 notifies the routing module 354 that a call requires routing. The routing module 354 determines a route for the call based on the destination address of the call. The conversion module 350 converts the call information to data packets and sends the data packets via the network interface 344 to the private IP network 306 via the network interface 344. The private IP network 306 then routes the data packets to another DMA server (not shown) or to the DMAG 302.

[0051] The DMAG 302 communicates the data packets via the data network interface 312. The conversion module(s) 330 may convert the data packets from one format to another format based on the characteristics of the legacy networks 322-328. For example, the conversion module 332 may convert the data packets to an analog format when the destination legacy network is a landline voice network. The routing module 334 routes the data packets to one of the legacy networks 322-328 via the network interfaces 314-320.

[0052] When a call originates from one of the legacy networks 322-328, the call is communicated to one of the network interfaces 314-320. The conversion module(s) 332 converts the voice or data call to data packets. The routing module 334 determines a

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 26 of 469

route for the data packets based on the destination address of the call and communicates the data packets to the data network interface 312. The data network interface 312 communicates the packets to the DMA server 304 via the private IP network 306.

[0053] The DMA server 304 receives the data packets from the private IP network 306 via the network interface 306. The routing module 350 determines which of the BTS devices 360-362 serves the destination wireless communications device. The data packets are communicated to one of the BTS devices 360-362. For example, when the data packets are destined for wireless communications device 370, the data packets are communicated via the second BTS interface 352 to the second BTS device 362 and from the second BTS device to the wireless communications device 370.

[0054] Referring to FIG. 4, a flow diagram is provided to illustrate a first method of controlling wireless communications. The method may be performed by a module at a distributed mobile architecture device, such as the DMA 304 in FIG. 3. At 402, a first call is received at a DMA server from a first mobile communication device via a first wireless communication protocol. Moving to 404, a second call is received at the DMA server from a second mobile communication device via a second wireless communication protocol. The first and second wireless communication protocols may be one or more of the GSM protocol, the CDMA protocol, the UMTS protocol, the WiMAX protocol, other wireless protocol, or any combination thereof. Proceeding to 406, voice information associated with the first call is converted to first packet data and the voice information associated with the second call is converted to second packet data. The first and second packet data may be in one or more of Frame Relay, Asynchronous Transfer Mode (ATM), IP, other packet format, or any combination thereof. Advancing to 408, the first packet data and the second packet data are routed via a private Internet Protocol (IP) network to at least one other DMA device, where the first call is accessible to a first destination device and the second call is accessible to a second destination device via the other DMA device(s). In one illustrative embodiment, the other DMA device may include a second DMA server. In a second illustrative embodiment, the other DMA device may include a DMAG. The method ends at 410.

[0055] For example, in FIG. 3, when the DMA server 304 receives a first call from the first wireless communications device 364 and a second call from the third wireless communications device 368, the conversion module 348 converts the voice information

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 27 of 469

associated with the first call to first packet data and converts the voice information associated with the second call to second packet data. The routing module 350 routes the first packet data and the second packet data via the private IP network 306 to another DMA device, such as another DMA server or a DMAG.

[0056] Referring to FIG. 5, a flow diagram is provided to illustrate a second method of controlling wireless communications. The method may be performed by a module at a distributed mobile architecture device, such as the DMA 304 in FIG. 3. At 502, packet data corresponding to a call at a first digital mobile architecture (DMA) server is received from a second DMA device via a private IP network. Moving to 504, a destination device for the call is identified and a first wireless communication protocol associated with the destination device is identified. The first DMA server communicates with a plurality of mobile communication devices via a plurality of wireless communication protocols. Continuing to 506, the packet data associated with the call is converted to voice information. For example, a digital-to-analog converter may be used to convert the packet data to voice information. Advancing to 508, the voice information is communicated to the destination device via the identified wireless communication protocol. At 510, if another call is received, then the method repeats steps 504-508. If at 510, another call is not received then the method ends at 512.

[0057] For example, in FIG. 1, when the third DMA server 120 receives packet data corresponding to a call at the first DMA server 116 via the IP network 114, the third DMA server 120 identifies that the call is destined for the fourth wireless communications device 128. The third DMA server 120 identifies that the fourth wireless communications device 128 is associated with the UMTS wireless protocol. The third DMA server 120 converts the packet data associated with the call to voice information and communicates the voice information to the fourth wireless communications device 128 via the UMTS wireless protocol.

[0058] Referring to FIG. 6, a flow diagram is provided to illustrate a third method of controlling wireless communications. The method may be performed by a module at a distributed mobile architecture device, such as the DMAG 302 in FIG. 3. At 602, a call is received at a distributed mobile architecture gateway (DMAG). At 604, if the call is from a legacy network, then the method proceeds to 606. At 606, the destination device and destination DMA server are identified. Continuing to 608, voice information from

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 28 of 469

the call is converted to packet data and the packet data is routed to the destination DMA server. Advancing to 622, if another call is not received, then the method ends at 624.

[0059] At 604, if the call is not from a legacy network, then the method proceeds to 610. At 610 a destination device associated with the call is identified. Moving to 612, if the destination device is associated with a DMA system then the method proceeds to 614. At 614, the destination DMA server associated with the destination device is identified. Advancing to 616, packet data associated with the call is routed to the destination DMA server. Continuing to 622, if another call is not received, then the method ends at 624.

[0060] At 612, if the destination device is associated with a legacy network, then the method proceeds to 618. Continuing to 618 the packet data associated with the call is converted to voice information. Proceeding to 620, the voice information is communicated to the destination device via the legacy network. Advancing to 622, if another call is received, then the method proceeds back to 604. At 622, if another call is not received, then the method ends at 624.

[0061] For example, in FIG. 3, when the DMAG 302 receives a call, the gateway module 334 determines whether the call is from one of the legacy networks 322-328 or from the DMA server 304. When the call is from one of the legacy networks 322-328, the conversion module(s) 332 convert the voice information to packet data and route the packet data to the DMA server 304 via the private IP network 306. When the call is from the DMA server 304, the routing module 334 identifies the destination device associated with the call. If the destination device is associated with one of the legacy networks 322-328, then the conversion module(s) 332 convert the packet data associated with the call to voice information and communicate the voice information to the destination device via one of the legacy networks 322-328. If the destination device is associated with the DMA server 304, then the routing module 334 identifies the DMA server 304 as associated with the destination device and routes the packet data to the destination server 304 via the private IP network 306.

[0062] FIG. 7 is an illustrative embodiment of data associated with a DMAG, in accordance with FIG. 2. More specifically, the table 700 illustrates the different databases of data that may be utilized by the DMAGs of FIG. 2 to provide switching or

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 29 of 469

connection of calls between the legacy networks and the DMA servers of FIG. 2. The data shown in FIG. 7 may increase or decrease based on the size of the DMA network 200 in FIG. 2. The table 700 illustrates different databases 708, 710, 712, 714, 716, and 718 each including tables for a home DMAG 702, a second DMAG 704, and third DMAG 706, corresponding to DMAG 202, DMAG 204, and DMAG 206 in FIG. 2. The home DMAG 702 is also known as the first DMAG 702.

[0063] The DMA server register database 708 includes a home DMA server register that identifies the DMA servers which are associated with the first DMAG 702. For example, the DMA server register database 708 may identify the first group of DMA servers 220 as associated with the first DMAG 202, identify the second group of DMA servers 222 as associated with the second DMAG 204, and identify the third group of DMA servers 224 as associated with the third DMAG 206. In an illustrative embodiment, the DMA server register is implemented as a database.

[0064] The DMA server HLR database 710 includes the home location register for each of the home DMAG 702, the second DMAG 704, and the third DMAG 706. Each home location register of the DMA server HLR database 710 includes calling information for the home mobile stations that are associated respectively with the DMAGs 702-706.

[0065] The DMA server VLR database 712 includes the visitor location registers for the DMAGs 702-706. Each visitor location register of the DMA server HLR database 712 includes calling information for the visitor mobile stations that are associated respectively with the home DMAG 702, the second DMAG 704, and the third DMAG 706.

[0066] The visitor DMA server register database 714 includes a visitor DMA server register that identifies visitor DMA servers associated with the home DMAG 702, a visitor DMA server register of the second DMAG 704 identifies visitor DMA servers associated with the second DMAG 704, and a DMA server register of the third DMAG 706 identifies visitor DMA servers associated with the third DMAG 706.

[0067] The visitor DMA server HLR database 716 includes the home location register for each visitor DMA server of the home DMAG 702, the second DMAG 704, and the third DMAG 706. The home location register includes calling information for the

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 30 of 469

mobile stations of each visitor DMA server that are associated respectively with the first DMAG 702, the second DMAG 704, and the third DMAG 706.

[0068] The visitor DMA server VLR database 718 includes a visitor location register for each visitor DMA server of the home DMAG 702, the second DMAG 704, and the third DMAG 706. Each visitor location register includes calling information for the visitor mobile stations of each visitor DMA server that are associated respectively with the home DMAG 702, the second DMAG 704, and the third DMAG 706.

[0069] The table 720 illustrates the different databases of data that may be utilized by the DMAGs of FIG. 2 to provide switching or connection of calls between the legacy networks and the DMA servers of FIG. 2. The table 720 illustrates different databases 728, 730, 732, 734, 736, and 738 each including tables for home DMAG 722, first DMAG 724, and third DMAG 726. In table 720, the home DMAG 722 is the second DMAG.

[0070] The DMA server register database 728 includes a home DMA server register that identifies the DMA servers which are associated with the home DMAG 722. For example, the DMA server register database 728 may identify the first group of DMA servers 220 in FIG. 2 as associated with the first DMAG 202, identify the second group of DMA servers 222 as associated with the second DMAG 204, and identify the third group of DMA servers 224 as associated with the third DMAG 206. In an illustrative embodiment, the DMA server register is implemented as a database.

[0071] The DMA server HLR database 730 includes the home location register for each of the DMAGs 722-726. Each home location register of the DMA server HLR database 730 includes calling information for the home mobile stations that are associated respectively with the DMAGs 722-726.

[0072] The DMA server VLR database 732 includes the visitor location registers for the DMAGs 732-736. Each visitor location register of the DMA server HLR database 732 includes calling information for the visitor mobile stations that are associated respectively with the home (i.e. second) DMAG 722, the first DMAG 724, and the third DMAG 726.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 31 of 469

[0073] The visitor DMA server register database 734 includes a visitor DMA server register that identifies visitor DMA servers associated with the first DMAG 722, a visitor DMA server register of the home DMAG 724 identifies visitor DMA servers associated with the second DMAG 724, and a DMA server register of the third DMAG 726 identifies visitor DMA servers associated with the third DMAG 726.

[0074] The visitor DMA server HLR database 736 includes the home location register for each visitor DMA server of the home DMAG 722, the first DMAG 724, and the third DMAG 726. The home location register includes calling information for the mobile stations of each visitor DMA server that are associated respectively with the home DMAG 722, the first DMAG 724, and the third DMAG 726.

[0075] The visitor DMA server VLR database 738 includes a visitor location register for each visitor DMA server of the home DMAG 722, the first DMAG 724, and the third DMAG 726. Each visitor location register includes calling information for the visitor mobile stations of each visitor DMA server that are associated respectively with the home DMAG 722, the first DMAG 724, and the third DMAG 726.

[0076] With the configuration of structure described above, the present disclosure provides a system and method of controlling communications through use of a flexible telecommunications device, i.e., the DMA server 304 (FIG. 3), that is distributive and associative, i.e., it can operate stand-alone or seamlessly within an existing cellular or other network. Moreover, the DMA server 304 can be integrated with virtually any third party base station. The DMA server 304 can operate with multiple air interfaces including CDMA IS-95, CDMA 1X, CDMA EVDO, GSM, GPRS, W-CDMA, 802.11 (Wi-fi), 802.16 (Wi-fi), etc. Further, the DMA server 304 can provide integrated prepaid billing, OAMP, network management, and AAA functionality. The DMA server 304 can include a Java based user interface and feature configuration system. Also, the DMA server 304 can provide real time call metering, call detail record (CDR) generation, and real time call provisioning. The DMA server 304 may be implemented in a relatively small footprint and has a relatively low power requirement. Further, the DMA server 304 may be implemented using inexpensive and widely available computer equipment.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 32 of 469

[0077] With one or more of the deployment configurations described above, the present system provides mobile to landline calls from mobile handsets within a DMA server wireless coverage area. Also, mobile to landline calls can be made from mobile handsets roaming into DMA coverage areas. Mobile to mobile calls can be made from home/roaming handsets to DMA handsets and vice versa. Further, mobile to IP calls and IP to mobile calls can be made from within a DMA server coverage area. IP to IP calls can be made from any DMA handset to any IP phone. Additionally, IP to landline calls and landline to IP calls can be made from a DMA handset to any phone. Further, land-line to mobile calls to DMA handsets can be made.

[0078] The systems described above may be adapted to provide various data and telephony features by deploying appropriate software and/or hardware. For example, the systems described above may be adapted to provide call forwarding, call waiting, 3-way calling, caller ID, voice mail, and mobile to mobile SMS service, i.e., text messaging. Further, the systems described above may be adapted to provide broadcast SMS service, mobile to land high-speed IP data (1X or GPRS) service and mobile-to-mobile high speed IP data (1X or GPRS) service. Also, the systems described above may be adapted to provide IP-PBX capability.

[0079] Further, one or more of the illustrated systems can provide IP transport between distributed elements, e.g., DMA servers 304 (FIG. 3). Further, the control logic within the DMA server (FIG. 3) can be distributed and associated. Associated systems can be redundant, self-healing, self-organizing, and scalable. Distributed systems can be "snap-together," i.e., a DMA server (FIG. 3) can be linked to a previously deployed DMA server (FIG. 3) in order to broaden, or otherwise extend coverage. Further, distributed systems can be de-centralized to avoid single points of failure.

[0080] The above-disclosed subject matter is to be considered illustrative, and not restrictive, and the appended claims are intended to cover all such modifications, enhancements, and other embodiments, which fall within the true spirit and scope of the present invention. Thus, to the maximum extent allowed by law, the scope of the present invention is to be determined by the broadest permissible interpretation of the following claims and their equivalents, and shall not be restricted or limited by the foregoing detailed description.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 33 of 469

WHAT IS CLAIMED IS:

1. A method comprising:

receiving a call from a first mobile device at a base transceiver station (BTS) interface of a first distributed mobile architecture (DMA) server, wherein the call is associated with a destination device;

determining that a first distributed mobile architecture gateway (DMAG) supports communication with the destination device based on registration data stored at the first DMA server, wherein the registration data indicates that the destination device is not within a coverage area associated with the first DMA server;

converting voice information associated with the call to packet data; and

routing the packet data to the destination device via the first DMAG.

2. The method of claim 1, wherein the first DMAG is communicatively coupled to one or more legacy networks, and wherein the first destination device is associated with at least one of the one or more legacy networks.

3. The method of claim 1, wherein the call is received at the first DMA server via a first wireless communication protocol.

4. The method of claim 1, wherein converting the voice information to the packet data comprises converting the voice information to internet protocol (IP) packet data.

5. The method of claim 4, wherein the packet data is routed to the first DMAG via a private IP network.

6. The method of claim 1, wherein the first DMAG is in communication with a plurality of legacy communication networks.

7. The method of claim 1, wherein the first DMA server is configured to receive one or more calls while the first DMA server is moving.

8. The method of claim 7, wherein the first DMA server is located within a first coverage area associated with the first DMAG when the call is received.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 34 of 469

9. The method of claim 8, further comprising:

converting additional voice information associated with the call to additional packet data;

in response to determining that the first DMA server has moved into a second coverage area associated with a second DMAG, determining that the second DMAG supports communication with the destination device; and

routing the additional packet data to the destination device via the second DMAG.

10. A method, comprising:

receiving a call from a communication device at a distributed mobile architecture gateway (DMAG) via a network, wherein the call is associated with a destination device;

determining that a first distributed mobile architecture (DMA) server supports wireless communication with the destination device based on registration data stored at the DMAG;

converting information associated with the call to packet data; and

routing the packet data to the destination device via the first DMA server.

11. The method of claim 10, wherein the call is received at the DMAG according to a first protocol associated with a legacy network, and wherein converting the voice information to packet data comprises converting the voice information to internet protocol (IP) packet data.

12. The method of claim 11, wherein the packet data is routed to the first DMA server via an IP network.

13. The method of claim 11, wherein the registration data stored at the DMAG indicates that the first DMA server is associated with a first coverage area, and wherein the registration data indicates that the destination device is within the first coverage area.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 35 of 469

14. The method of claim 13, further comprising:

converting additional voice information associated with the call to additional packet data;

in response to determining that the destination device has moved into a second coverage area associated with a second DMA server, determining that the second DMA server supports communication with the destination device based on the registration data stored at the DMAG; and

routing the additional packet data to the destination device via the second DMA server.

15. A non-transitory computer-readable storage medium, comprising instructions, that when executed by a processor, cause the processor to:

receive a call from a communication device at a distributed mobile architecture gateway (DMAG), wherein the call is associated with a destination device;

determine that a first distributed mobile architecture (DMA) server supports communication with the destination device based on registration data stored at the DMAG;

convert information associated with the call to packet data to be routed to the destination device via the first DMA server.

16. The non-transitory computer-readable storage medium of claim 15, wherein the packet data is routed to the first DMA server via an internet protocol (IP) network

17. The non-transitory computer-readable storage medium of claim 15, further comprising instructions that, when executed by the processor, cause the processor to

receive second packet data from a second DMA server at the distributed mobile architecture gateway (DMAG), wherein the second packet data is associated with a second destination device;

determine that a network supports communication with the second destination device based on the registration data stored at the DMAG.

18. The non-transitory computer-readable storage medium of claim 17, wherein the second packet data is associated with data traffic.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 36 of 469

19. The non-transitory computer-readable storage medium of claim 15, wherein the DMAG supports communication with the network via a first network interface.

20. The non-transitory computer-readable storage medium of claim 15, wherein the DMAG supports communication with at least one additional network via at least one additional network interface.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 37 of 469

ABSTRACT

[0081] A method of controlling wireless communications is provided. A call is received from a first mobile device at a base transceiver station (BTS) interface of a first distributed mobile architecture (DMA) server. The call is associated with a destination device. The first DMA server determines that a first distributed mobile architecture gateway (DMAG) supports communication with the destination device based on registration data stored at the first DMA server. Voice information associated with the call is converted to packet data. The packet data is routed to the destination device via the first DMAG.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 38 of 469

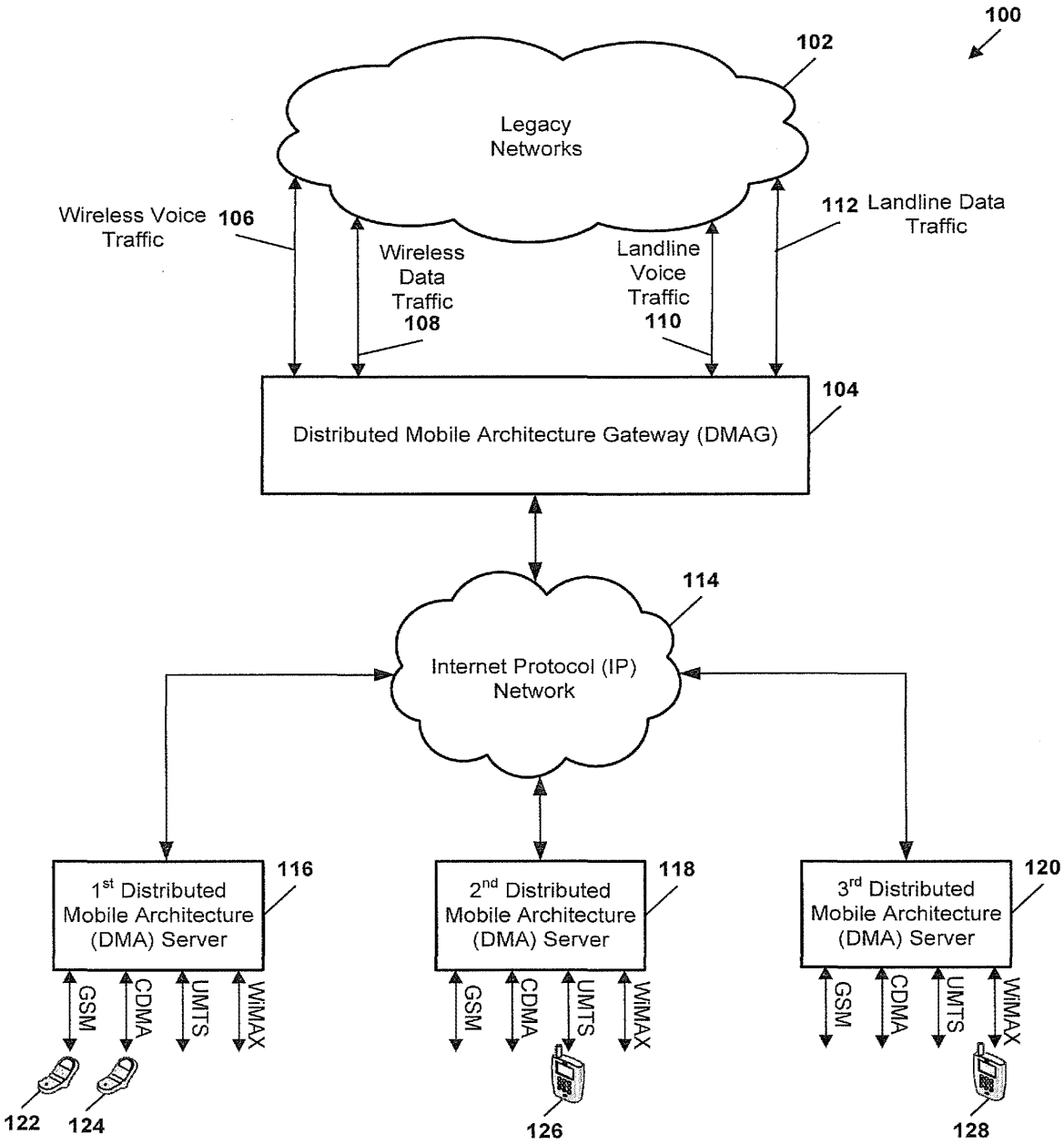

100
102
Legacy Networks
Wireless Voice Traffic 106
Wireless Data Traffic 108
Landline Voice Traffic 110
112 Landline Data Traffic
104
Distributed Mobile Architecture Gateway (DMAG)
114
Internet Protocol (IP) Network
1st Distributed Mobile Architecture (DMA) Server
116
2nd Distributed Mobile Architecture (DMA) Server
118
3rd Distributed Mobile Architecture (DMA) Server
120
GSM
CDMA
UMTS
WiMAX
122
124
126
128

FIG. 1

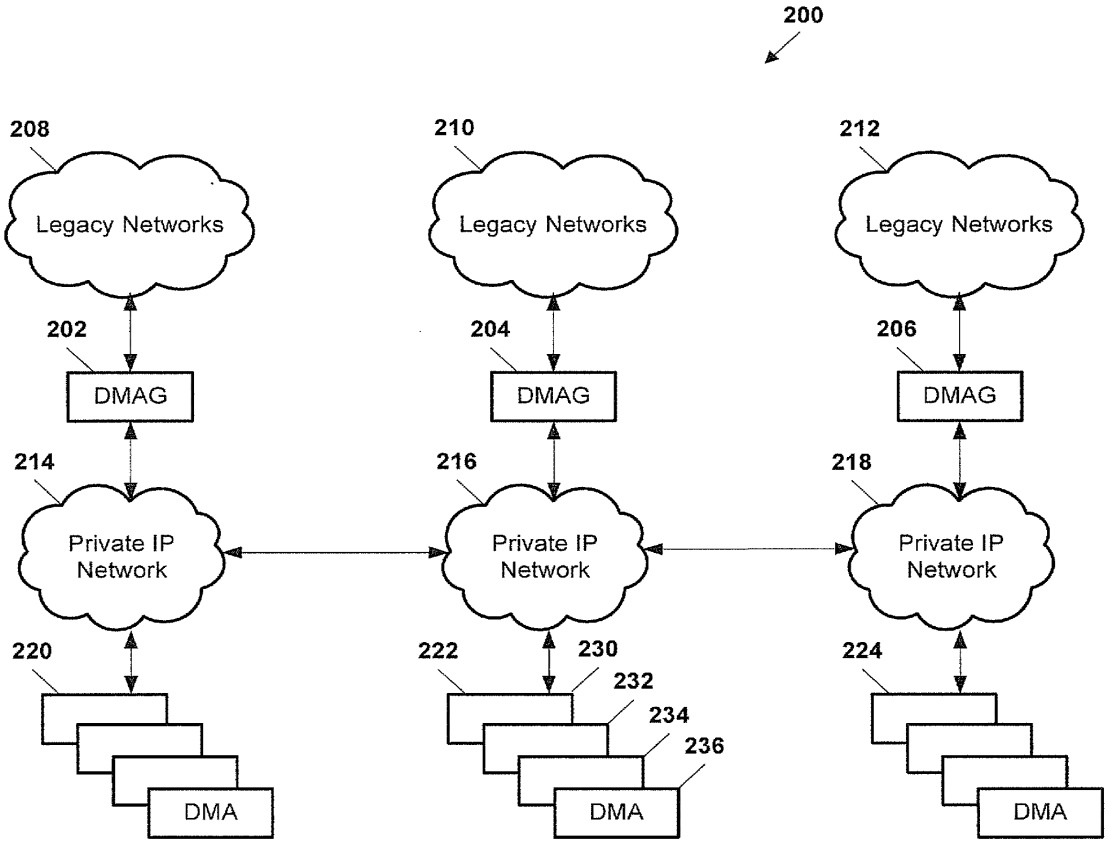

200
208
Legacy Networks
202
DMAG
214
Private IP Network
220
DMA
210
Legacy Networks
204
DMAG
216
Private IP Network
222
230
232
234
236
DMA
212
Legacy Networks
206
DMAG
218
Private IP Network
224
DMA

FIG. 2

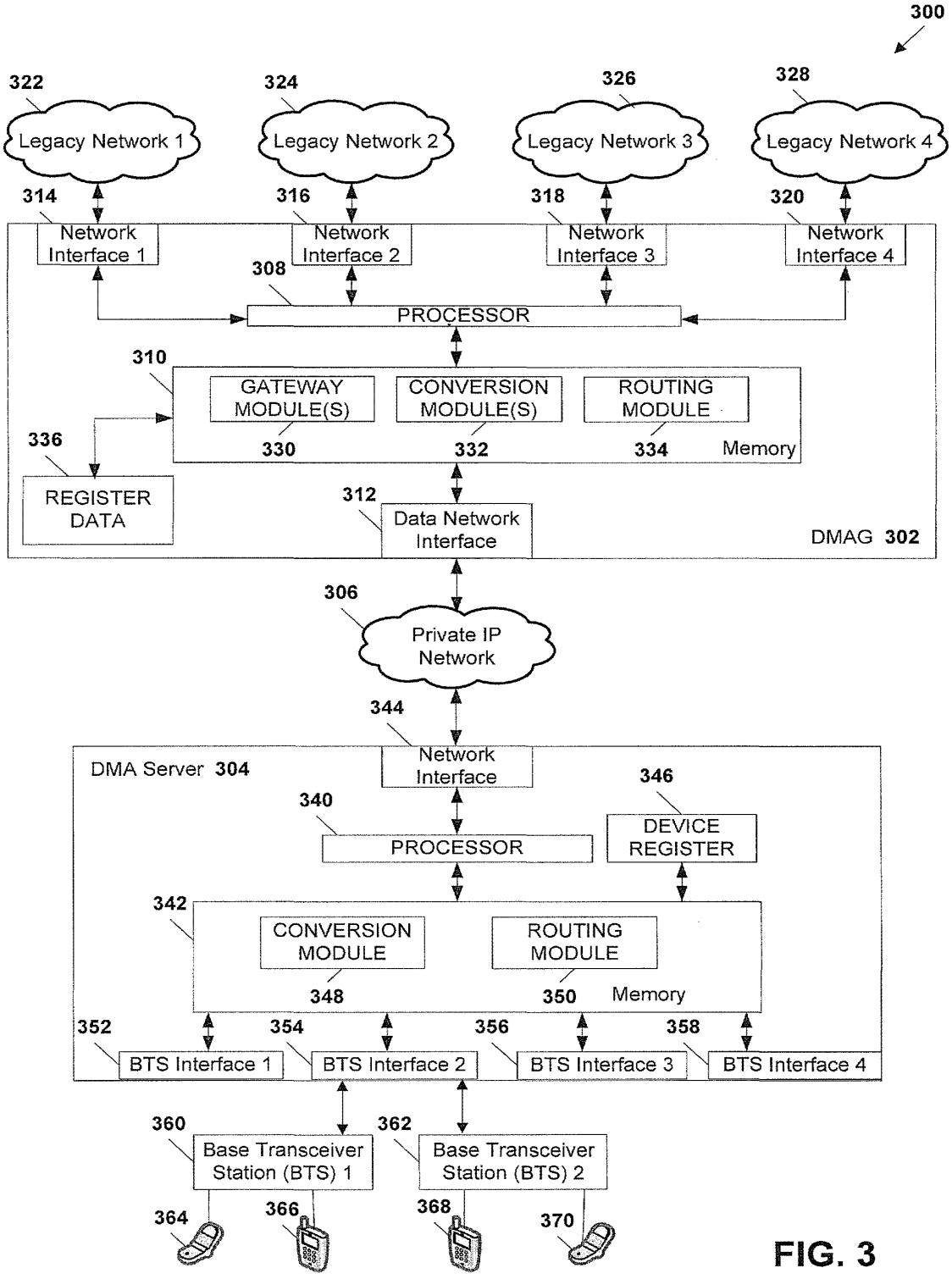

300
322
Legacy Network 1
324
Legacy Network 2
326
Legacy Network 3
328
Legacy Network 4
314
Network Interface 1
316
Network Interface 2
318
Network Interface 3
320
Network Interface 4
308
PROCESSOR
310
GATEWAY MODULE(S)
CONVERSION MODULE(S)
ROUTING MODULE
330
332
334
Memory
336
REGISTER DATA
312
Data Network Interface
DMAG 302
306
Private IP Network
344
DMA Server 304
Network Interface
346
340
PROCESSOR
DEVICE REGISTER
342
CONVERSION MODULE
ROUTING MODULE
348
350
Memory
352
354
356
358
BTS Interface 1
BTS Interface 2
BTS Interface 3
BTS Interface 4
360
Base Transceiver Station (BTS) 1
362
Base Transceiver Station (BTS) 2
364
366
368
370

FIG. 3

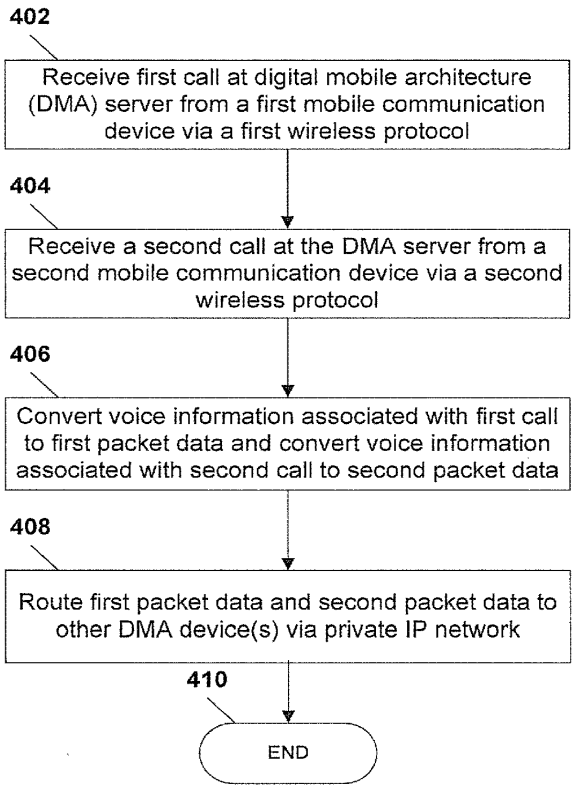

402
Receive first call at digital mobile architecture (DMA) server from a first mobile communication device via a first wireless protocol
404
Receive a second call at the DMA server from a second mobile communication device via a second wireless protocol
406
Convert voice information associated with first call to first packet data and convert voice information associated with second call to second packet data
408
Route first packet data and second packet data to other DMA device(s) via private IP network
410
END

FIG. 4

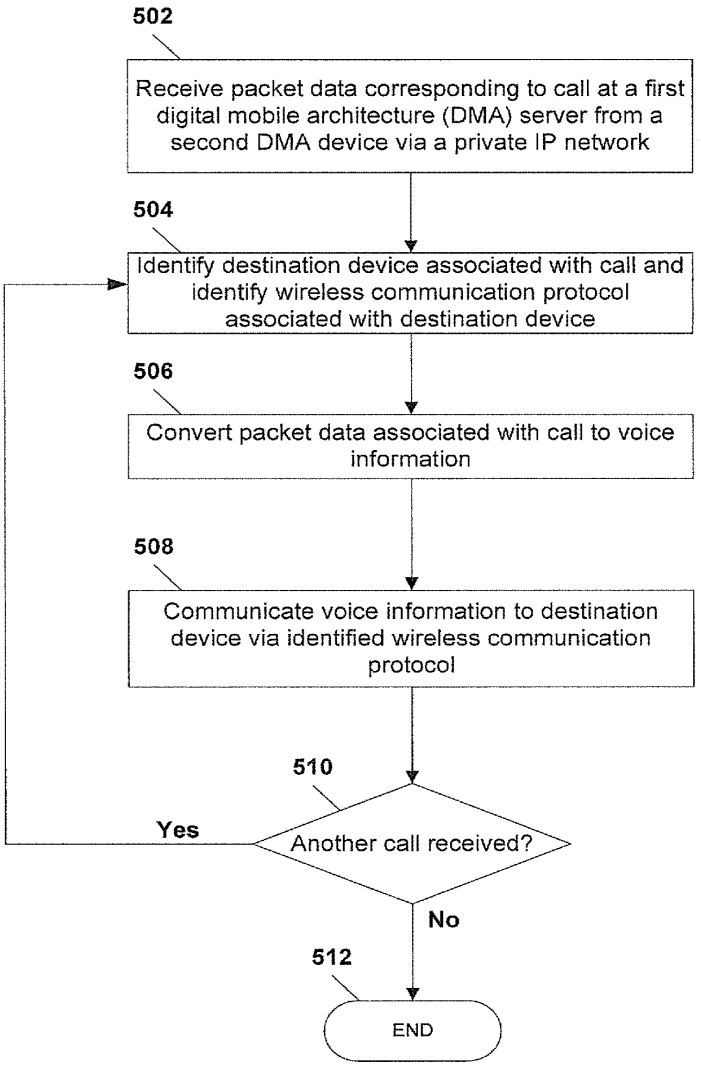

502
Receive packet data corresponding to call at a first digital mobile architecture (DMA) server from a second DMA device via a private IP network
504
Identify destination device associated with call and identify wireless communication protocol associated with destination device
506
Convert packet data associated with call to voice information
508
Communicate voice information to destination device via identified wireless communication protocol
510
Another call received?
Yes
No
512
END

FIG. 5

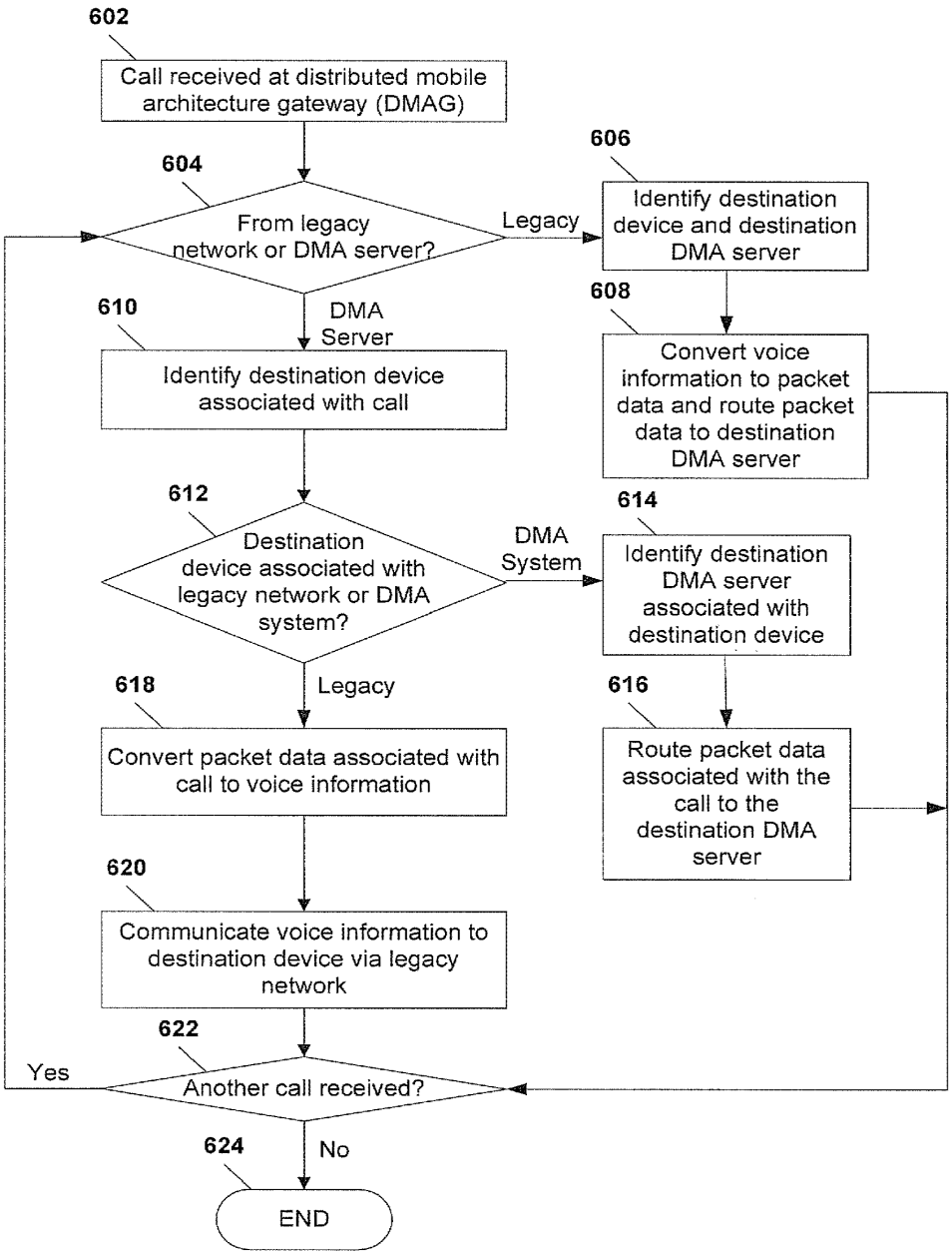

602
Call received at distributed mobile architecture gateway (DMAG)
604
From legacy network or DMA server?
Legacy
606
Identify destination device and destination DMA server
608
Convert voice information to packet data and route packet data to destination DMA server
DMA Server
610
Identify destination device associated with call
612
Destination device associated with legacy network or DMA system?
DMA System
614
Identify destination DMA server associated with destination device
Legacy
618
Convert packet data associated with call to voice information
616
Route packet data associated with the call to the destination DMA server
620
Communicate voice information to destination device via legacy network
622
Yes
Another call received?
624
No
END

FIG. 6

700

	708	710	712	714	716	718
	DMA Node Register	DMA Node HLR	DMA Node VLR	Visitor DMA Node Register	Visitor DMA Node HLR	Visitor DMA Node VLR
702	Home DMA Server Register	HLR of each DMA Server	VLR of each DMA server	Visitor DMA server Register	HLR of each visitor DMA server	VLR of each Visitor DMA server
704	DMA server Register of 2nd DMAG	HLR of each DMA server of 2nd DMAG	VLR of each DMA server of 2nd DMAG	Visitor DMA server Register of 2nd DMAG	HLR of each Visitor DMA server of 2nd DMAG	VLR of each Visitor DMA server of 2nd DMAG
706	DMA server Register of 3rd DMAG	HLR of each DMA server of 3rd DMAG	VLR of each DMA server of 3rd DMAG	Visitor DMA server Register of 3rd DMAG	HLR of each Visitor DMA server of 3rd DMAG	VLR of each Visitor DMA server of 3rd DMAG

720

	728	730	732	734	736	738
	DMA Node Register	DMA Node HLR	DMA Node VLR	Visitor DMA Node Register	Visitor DMA Node HLR	Visitor DMA Node VLR
722	Home DMA Server Register	HLR of each DMA Server	VLR of each DMA server	Visitor DMA server Register	HLR of each visitor DMA server	VLR of each Visitor DMA server
724	DMA server Register of 1st DMAG	HLR of each DMA server of 1st DMAG	VLR of each DMA server of 1st DMAG	Visitor DMA server Register of 1st DMAG	HLR of each Visitor DMA server of 1st DMAG	VLR of each Visitor DMA server of 1st DMAG
726	DMA server Register of 3rd DMAG	HLR of each DMA server of 3rd DMAG	VLR of each DMA server of 3rd DMAG	Visitor DMA server Register of 3rd DMAG	HLR of each Visitor DMA server of 3rd DMAG	VLR of each Visitor DMA server of 3rd DMAG

FIG. 7

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	6122499		2000-09-19	Magnusson	
	2	6141564		2000-10-31	Bruner et al.	
	3	6411825	B1	2002-06-25	Csapo et al.	
	4	6421325	B1	2002-07-16	Kikinis	
	5	6515985	B2	2003-02-04	Shmulevich et al.	
	6	6539237	B1	2003-05-25	Sayers et al.	
	7	6584098	B1	2003-06-24	Dutnall	
	8	6611533	B1	2003-08-26	Liao et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

	9	6614784	B1	2003-09-02	Glitho et al.	
	10	6647426	B2	2003-11-11	Mohammed	
	11	6694134	B1	2004-02-17	Lu et al.	
	12	6751207	B1	2004-06-15	Lee et al.	
	13	6760325	B1	2004-07-06	Hameleers et al.	
	14	6763226	B1	2004-07-13	McZeal, Jr.	
	15	6763233	B2	2004-07-13	Bharatia	
	16	6791988	B1	2004-09-14	Hameleers et al.	
	17	6795444	B1	2004-09-21	Vo et al.	
	18	6807431	B2	2004-10-19	Sayers et al.	
	19	6819652	B1	2004-11-16	Akhtar, et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

	20	6829473	B2	2004-12-07	Raman et al.	
	21	6831903	B2	2004-12-14	Kang	
	22	6839356	B2	2005-01-04	Barany et al.	
	23	6859652	B2	2005-02-22	Karabinis et al.	
	24	6879582	B1	2005-04-12	Dhara et al.	
	25	6879677	B2	2005-04-12	Trandal et al.	
	26	6917813	B2	2005-07-12	Elizondo	
	27	6958983	B2	2005-10-25	Musikka et al.	
	28	7050414	B2	2006-05-23	Lin	
	29	7072650	B2	2006-07-04	Stanforth	
	30	7117015	B2	2006-10-03	Scheinert et al.	

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 48 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

	31	7133923	B2	2006-11-07	MeLampy et al.	
	32	7154901	B2	2006-12-26	Chava et al.	
	33	7003286	B2	2006-02-21	Brown et al.	

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20010055298	A1	2001-12-27	Baker et al.	
	2	20030100342	A1	2003-05-29	Ham et al.	
	3	20030153343	A1	2003-08-14	Crockett et al.	
	4	20040014466	A1	2004-01-22	Jesse et al.	
	5	20040019539	A1	2004-01-29	Raman et al.	
	6	20040259556	A1	2004-12-23	Czys	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

	7	20060046760	A1	2006-03-02	Bertino et al.	
	8	20060098661	A1	2006-05-11	Pan	
	9	20060234774	A1	2006-10-19	Pan et al.	
	10	20080039144	A1	2008-02-14	Pan et al.	
	11	20060234747	A1	2006-10-19	Pan	
	12	20070232267	A1	2007-10-04	Pan	
	13	20070202847	A1	2007-08-30	Pan	
	14	20070287452	A1	2007-12-13	Pan	
	15	20080146158	A1	2008-06-19	Pan et al.	
	16	20020051518	A1	2002-05-02	Bondy et al.	
	17	20040203621	A1	2004-10-14	Brown et al.	

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 50 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

	18	20040203677	A1	2004-10-14	Brown et al.	
	19	20050250491	A1	2005-11-10	Roy	
	20	20060046714	A1	2006-03-02	Kalavade	
	21	20060052113	A1	2006-03-09	Ophir et al.	
	22	20070060124	A1	2007-03-15	Kalavade	
	23	20070076697	A1	2007-04-05	Huotari et al.	
	24	20070243891	A1	2007-10-18	Civanlar et al.	
	25	20070271606	A1	2007-11-22	Amann et al.	
	26	20070291910	A1	2007-12-20	Bucchieri et al.	
	27	20080101410	A1	2008-05-01	Barkley et al.	
	28	20080168523	A1	2008-07-10	Ansari et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

	29	20090067441	A1	2009-03-12	Ansari et al.	
	30	20100080214	A1	2010-04-01	Li et al.	
	31	20100094878	A1	2010-04-15	Soroca et al.	
	32	20100217837	A1	2010-08-26	Ansari et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	0365885	EP	A2	1990-05-02	Motorola, Inc.		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	HOFFPAUIR et al., United States Statutory Invention Registration No. H1,918 published November 7, 2000, 19 pages	☐
	2	Notice to File Corrected Application Papers for US Patent Application No. 12/108,209 (Attorney Docket No. 1082-0008) received from the United States Patent and Trademark Office (USPTO) dated May 9, 2008, 2 pages.	☐

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 52 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

	3	Non-Final Office Action for US Patent Application No. 12/108,209 (Attorney Docket No. 1082-0008) received from the United States Patent and Trademark Office (USPTO) dated December 23, 2010, 16 pages.	☐
	4	Notice of Allowance and Fee(s) Due for US Patent Application No. 12/108,209 (Attorney Docket No. 1082-0008) received from the United States Patent and Trademark Office (USPTO) dated June 23, 2011, 17 pages.	☐

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

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

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

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

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

CERTIFICATION STATEMENT

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

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

OR

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

☐ See attached certification statement.

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

☒ A certification statement is not submitted herewith.

SIGNATURE

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

Signature	/Jeffrey G. Toler/	Date (YYYY-MM-DD)	2011-09-16
Name/Print	Jeffrey G. Toler	Registration Number	38,342

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

(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 365 885 A2**

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **89118458.2**

(51) Int. Cl.5: **H04B 7/204**

(22) Date of filing: **05.10.89**

(30) Priority: **28.10.88 US 263849**

(43) Date of publication of application:
02.05.90 Bulletin 90/18

(84) Designated Contracting States:
AT BE CH DE ES FR GB GR IT LI LU NL SE

(71) Applicant: **MOTOROLA, INC.**
1303 East Algonquin Road
Schaumburg IL 60196(US)

(72) Inventor: **Bertiger, Bary Robert**
9878 E. Aster
Scottsdale Arizona 85260(US)
Inventor: **Leopold, Raymond Joseph**
1631 W. Carla Vista Drive
Chandler Arizona 85224(US)
Inventor: **Peterson, Kenneth Maynard**
6508 S. Lakeshire Drive Unit A
Tempe Arizona 85203(US)

(74) Representative: **Holt, Michael et al**
MOTOROLA European Intellectual Property Operations, Jays Close, Viables Ind. Estate
Basingstoke, Hants, RG22 4PD(GB)

(54) Satellite cellular telephone and data communication system.

(57) A system for facilitating global cellular/trunked mobile communication is disclosed. This system permits communication with hand held and mobile mounted cellular telephones. The system permits two-way communications anywhere on or above the earth up to a particular height above the earth of several hundred nautical miles. The system employs a number of low-earth orbiting satellites (1,2, etc.) moving about the earth in orbit. Links (i) are provided from the satellites directly to the users and via the public switched telephone network (20) to other users (30). The satellites are interconnected via links (j) in a ring structure surrounding the earth. Switching is performed by each of the satellites. In addition, each of the satellites hands off a call as it moves out of the range of a particular user.

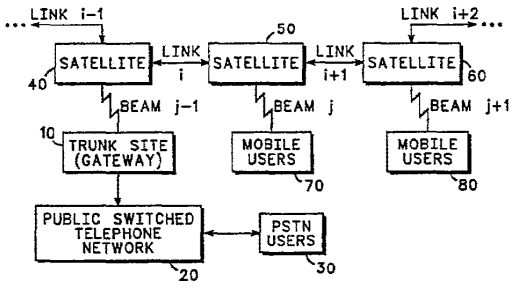


FIG. 2

EP 0 365 885 A2

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 55 of 469

SATELLITE CELLULAR TELEPHONE AND DATA COMMUNICATION SYSTEM

Background of the Invention

The present invention pertains to global mobile communications and more particularly to a satellite cellular telephone and data communication system.

Present geostationary satellite communication systems allow point-to-point communication. That is, the satellite functions as a relay station or a "bent pipe". The satellite simply receives information from one point on earth and transmits it to another fixed point on earth.

One such point-to-point satellite communication system is shown in U.S. Patent 4,720,873. This system shows point-to-point communications through a satellite for network programming and advertising purposes.

Some basic multiplexing functions may be supplied within the satellites of a satellite communication system. One such system is shown in U.S. Patent 4,480,328. This patent teaches a satellite communication system in which the satellite is a relay station for TDMA multiplexed data.

The above-mentioned systems and other systems teach the use of a single satellite for communications from one point to another. These satellite systems show no selectivity or switching of data among a plurality of users.

Accordingly, it is an object of the present invention to provide a global low-earth orbiting multiple satellite cellular communication system which interfaces directly among a number of cellular telephone and data transmission equipped users and also interfaces these users to the public switched telephone network (PSTN).

Summary of the Invention

In accomplishing the object of the present invention, a novel satellite cellular telephone and data communication system is shown.

A satellite cellular telephone communication system establishes communication among a plurality of users. This communication system includes satellite switches positioned in low-earth orbit. Wireless communication links couple the users to the satellite switches. The satellite switches establish a communication link between selected ones of the users.

Each user's present location is determined and the system is periodically updated. Then the satellites relay these locations to the proper ground-based data base for storage. When a mobile user places a call, the satellite which is in his spatial vicinity handles the call. When a mobile user is called, the satellite switches route the call through the appropriate satellites to the called user's current location. Other user-unique data may also be stored at these same data base storage sites.

Brief Description of the Drawings

FIG. 1 is a layout diagram depicting the satellite switching system configuration of the present invention.

FIG. 2 is a block diagram depicting the interconnection of the satellite switching units with its association mobile users and interconnection to the public switched telephone network.

FIG. 3 is a projection of the areas served by a plane of cellular satellite switches about the earth.

FIG. 4 is a block diagram of a data base arrangement for a satellite cellular communication system.

Description of the Preferred Embodiment

Referring to FIG. 1, a satellite configuration for the satellite cellular telephone communication system is shown. In this configuration, a number of satellites are shown in low-earth orbit. A number of satellites are placed in each orbiting plane. There are several orbiting planes (3 through 8) as shown which are highly inclined in nature and provide switching coverage for the entire earth.

This satellite cellular structure is somewhat analogous to the present day cellular mobile telephone system. In that system, cellular sites are fixed and users are mobile. As a user travels from one cell site to another, his telephone call is handed off from one cellular switching unit to another.

In the present invention, users are relatively fixed at any given time while the satellites, which are the cells, are in continuous movement. With a hand-held or mobile mounted cellular telephone, connection to one of the satellite switches shown in FIG. 1 is made directly from the hand-held mobile mounted or remotely fixed telephone to one of the nearest satellite switches. Each satellite is moving about the earth. As the satellite which originally acted as the switching unit for a particular user leaves a cell of that switch, the user's call is "handed off" to the appropriate adjacent cell. Adjacent cells may be cells within one satellite or cells of other satellites located either in a particular

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 56 of 469

orbiting plane or an adjacent orbiting plane. Users may "roam", but this roaming distance is relatively small compared to the traveling distance of the satellite switches.

Similar to the cellular mobile telephone system, the satellite cellular communication system provides spectral efficiency. This means that the same frequency may be simultaneously used by different satellite switches. Spectral efficiency is provided by the spatial diversity between the satellite switches and users.

The users may be located anywhere on a land mass, on the water or in the air at an altitude less than that of the low-earth orbiting satellites. For example, a person on one land mass could call a person on another land mass, a person on a boat or a person in an aircraft.

Low power hand-held mobile mounted or fixed radio telephones may be used in this system. The power requirement is less than 10 watts with present technology.

In this system, each satellite shown is a switching unit. Current satellite communication systems act primarily as a relay station or "bent pipe". That is, they provide fixed point-to-point communications. In the present invention, a switching function is provided within each of the orbiting satellites.

As previously mentioned, each of the orbiting planes of satellites is highly inclined in the preferred embodiment of the invention. Orbiting satellite planes with lower inclination are also workable. However, the lower inclination requires more satellite switching units and/or higher orbiting altitudes to achieve whole earth coverage than does the highly inclined orbiting satellite configuration.

In a preferred embodiment, highly inclined orbit configuration, it was found that satisfactory earth coverage could be accomplished with forty-eight (48) low earth orbiting satellites. These satellites could be arranged in six (6) highly inclined orbiting planes, eight (8) satellites per plane. Other configurations could be used. Other lower inclined orbiting arrangements would require substantially more satellites in order to achieve the same coverage of the earth as highly inclined configuration.

Each satellite contains a satellite switching unit, suitable antennas 11 (helical antennas for up/down links and lenses for cross links, for example) and an unfolding array of solar cells 12 along with storage batteries (not shown) connected to the solar cells to provide power for the switching unit. The satellite buses or vehicles themselves are low-earth orbiting satellites such as those commercially available. The satellites are put into orbit by a launching vehicle. When in orbit, the solar cell array is opened and the switching unit thereby activated. The satellites are then individually brought on line via standard telemetry, tracking and control (TT&C) channels to form the network.

As shown in FIG. 1, a user A with a hand-held telephone goes off-hook. This request for a channel is received by a particular satellite 1, as shown in FIG. 1. A frequency channel is assigned to the user and the caller's desired number is then routed through the system. Each satellite is a distributed local processor and determines how switching of the call is to occur. Satellite 1 switches the call to the appropriate cell contained either within its own cell complement or to the appropriate satellite cell complement. The path is determined by each satellite switching unit until the call is received by satellite 2. Satellite 2 then routes this call to the particular hand-held user B shown in FIG. 1.

Although two hand-held users are shown, the users may be on the water, in a moving vehicle, airborne or part of a PSTN where the link is through a gateway. Each satellite is a local processor. The system determines to which appropriate satellite or cell the call is to be switched. Each satellite determines an optimal path from itself to the next appropriate satellite. These determinations may be made based upon the office code portion of the telephone number of the called user.

Each satellite typically may project four (4) or more lobes onto the earth and contain four (4) or more corresponding cells for switching. These lobes of coverage are achieved via antennas (helical typically) with fixed beam widths appropriate to the number of lobes. Overlapping cells will be differentiated using present cellular techniques. These areas or lobes are shown in FIG. 3 for one particular plane of satellites about the earth. This figure depicts a high inclined orbiting satellite cellular switches. Each satellite determines the optimal path from it to the next satellite through which to route a particular call or data transmission. These satellite switches operate on data packets and therefore may transmit digital voice or data. Downlink and uplink data/digital voice is received on an FDM basis demodulated and then packetized for satellite-to-satellite communication.

FIG. 2 depicts the interconnection of a portion of one plane of satellites. In addition, the connection of the satellite to the satellite's corresponding mobile users and to the public switched telephone network is shown. Three satellites are shown. Satellite 40, Satellite 50 and Satellite 60. Satellite 40 is connected to Satellite 50 by link i. Satellite 50 is connected to Satellite 60 by link i+1. Satellite 60 is connected to the next sequential satellite of the plane (not shown) via link i+2. Satellite 40 is connected to the next preceding satellite (not shown) via link i-1. Each plane of satellites forms a ring of connected satellites around the earth.

As previously mentioned, the drawing of FIG. 2 shows one plane of the satellites. In addition, each

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 57 of 469

satellite is connected to one or more satellites in other orbiting planes. That is, each satellite is connected to a previous and next satellite in its orbiting plane and to one or more satellites in other orbiting planes.

The intersatellite links link i-1, link i, etc. may be implemented via data transmission on a microwave beam or via a laser beam. Existing technologies currently provide for such data transmission.

Connection between the satellites and its mobile users is achieved by beams j-1, and j+1, for example. These beams correspond to the lobes shown in FIG. 3 and to the switching cells mentioned above. These beams are achieved via the satellite up/down link antennas which provide communication to users via the users omnidirectional antenna. The limit on the number of users that a particular satellite may handle at one time depends on bandwidth allocated plus power available on the satellite. Typically this number may be 50,000 users per satellite.

Satellite 40 is shown connected to a trunk site or gateway 10 via beam j-1. Any satellite, such as Satellite 40, is capable of transmitting and receiving data from a gateway, such as gateway 10. This gateway link can be accomplished using the packetized data similar to the satellite-to-satellite links.

Gateway 10 includes units which interconnect to the public switched telephone network (PSTN) 20. All public switched telephone network users 30 are connected to the public switched telephone network 20. As a result of the satellite 40 being connected through gateway 10 to PSTN 20, a mobile user of the satellite cellular system which is connected directly via a beam to a satellite may transmit voice or data via the satellite structure (satellite-to-satellite via corresponding links), through gateway 10, through the public switched telephone network 20 to selected users of the PSTN 30 or vice versa.

Each satellite provides several data transmission beams. These data transmission beams project the lobes of coverage shown in FIG. 3 which depicts four beams. Each satellite projects four such lobes. As shown in FIG. 2, a satellite may use one or more of its beams to provide interface to a gateway. At least one beam is required for establishing a link between each gateway and the satellite. Typically a satellite links to only one gateway. One gateway provides sufficient trunking to interconnect a number of mobile users to the public switched telephone network 20.

Each satellite performs internal switching among its four beams or cells. This is analogous to intraoffice switching for conventional telecommunication systems.

The up/down linking arrangement between the satellites and its mobile users or gateways via the beams may transmit and receive data in the range of approximately 2.1 to 3.9 GHz, for example. The present technology and band availability makes this a preferred data transmission range. However, the scope of the present invention is not limited to data transmission exclusively within this range.

As previously mentioned, the data (digital voice or data) is transmitted in packet form. As a result, high-speed data transmission as well as voice data transmission may be accomplished via the satellite system. Data transmission rates, given the present available bandwidths, are a least 1200 baud. However, with extended bandwidth, substantially higher data rates can be achieved by this system.

FIG. 4 depicts one satellite switching unit 100 directly connected to mobile users 120 via beam 102. Satellite 100 is connected to data base computer 110 via beam 104. Satellite 100 is also connected to data base computer 130 via beam 106. This connection may be direct via a beam 106 as shown in FIG. 4 or indirect through other satellites to data base computer 130.

A mobile user might "roam" or travel in a home area. The home area may be a city, such as New York, Los Angeles, etc. The data base computer 110 contains all the information relative to each of its mobile users. As long as a particular mobile user is operating within his home area, all the available information concerning that user is available at the local home area data base computer.

If, for example, a home area user in Los Angeles travels to New York City and attempts to use his satellite cellular telephone for communication, the data base computer in the user's new area, New York City, is not aware of the existence of that user. If data base computer 110 is the mobile user's home area, Los Angeles, data base computer 110 has all the information for this particular mobile user. As a result, the mobile user would not be allowed to place calls because he was not recognized by his home area's data base computer.

In order to overcome this problem, each mobile user is periodically interrogated by the system as to its location so when he goes off-hook, his call for service can be recognized and routed. However, since the data base of a particular user is stored in his home area data base computer via the satellite system, the satellite system first interrogates the home area to determine that he is no longer there and to obtain the user's switching information. When that determination is made, the new home area's data base computer can be updated to include this "roaming" user. As a result, this user is then allowed to originate and receive calls in his new area. Because the satellite system interrogates the user's home data base computer to determine

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 58 of 469

his location, the user can be found throughout the entire satellite system. Thus, the system provides the capability for finding "roaming" users and establishing communications with them.

To facilitate tracking of each mobile user, each mobile telephone provides a control signal which is periodically monitored so that when a subscriber originates a call, the nearest satellite can track him and through the satellite network interrogate his home data base computer to determine his pertinent customer information. The mobile telephone may automatically indicate to the satellite network a new location for updating the data base computer. This control signal allows the incoming calls of "roaming" users to be validated via satellite-to-satellite linking to the home area's data base computer.

Each satellite in the satellite cellular communication system is self-navigating. That is, it uses the Global Positioning Satellite system (GPS) or time and ephemeris data from which to compute its location information. In addition, from the fixed location of the Global Positioning Satellite system or other vehicle, each satellite can determine its position and alter its course accordingly to stay within its proper orbit while providing switching services.

Each satellite may switch a call intrasatellite (within the particular switching unit or cell) or may connect the call via a microwave or laser links (link i, i+1, etc.) to another satellite within its plane or out of plane (adjacent). Each satellite may distinguish a particular telephone number and determine whether that number is within its own calling area or the area of another satellite. If it is within the area of another satellite, the call is cross-linked to the next appropriate satellite or cell which makes the same determination until the satellite serving that telephone number is reached. That satellite down-links to the particular mobile user sought to be called. Due to this structure, the satellite network provides a distributed nodal switching capability. Each satellite is a local switch for a particular area, but the area is constantly changing. Therefore, calls are handed-off as satellites move out of the range of a particular telephone user.

Various multiplexing techniques (i.e. FDMA, TDM CDMA, etc.) may be used to enhance the transmission capability between various satellites on the links as shown in FIG. 2.

Since the switching units of this system are orbiting the earth and relatively secure from tampering, this system provides the capability to support secure voice and data transmission via data encryption and decryption techniques commonly known in the art. Since the switching units enjoy the security of being hundreds of miles above the earth, the system also lends itself to military communication applications.

Although the current preferred embodiment of the invention has been illustrated, and that form described in detail, it will be readily apparent to those skilled in the art that various modifications may be made therein without departing from the spirit of the invention or from the scope of the appended claims.

Claims

1. A satellite cellular communication system for establishing communication among a plurality of users comprising:
satellite switching means (1,2, etc.) positioned in low- earth orbit; and
link means (i) for coupling said users to said satellite switching means whereby a communication link is established between selected ones of said users via said satellite switching means.

2. A satellite cellular communication system as claimed in claim 1, said satellite switching means including:
a plurality of satellite switching unit means (40-60 etc.) positioned surrounding the earth in low-earth orbit; and
second link means (j) for permitting multi-directional communication between one satellite switching unit means and any adjacent satellite switching unit means.

3. A satellite cellular communication system as claimed in claim 2, said second link means including microwave communication means.

4. A satellite cellular communication system as claimed in claim 2, said second link means including laser communication means.

5. A satellite cellular communication system as claimed in claim 2, said satellite switching unit means including:
antenna means (11) coupled to said plurality of users for establishing communication between said users and satellite switching unit means;
solar cell means (12) for providing power for said satellite switching unit means; and
storage battery means connected to said solar cell means for storing said power.

6. A satellite cellular communication system as claimed in claim 1, said satellite switching means including a plurality of cell means coupled to one another, one said cell means operating to hand-off said established communication link between users to another one of said cell means.

7. A satellite cellular communication system as claimed in claim 1, wherein each of said users is connected to said link means by cellular telephone means (A,B).

8. A satellite cellular communication system for establishing communication among a plurality of

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 59 of 469

users comprising:
satellite switching means (1,2, etc.) positioned in low-earth orbit;
link means (j) for directly coupling certain ones of said users to said satellite switching means; and
public switched telephone network means (10,20) coupled to said satellite switching means via said link means, other ones of said users being connected to said public switched telephone network means, said public switched telephone network means operating to selectively connect users of said public switched telephone network means with users directly coupled to said satellite switching means via said link means.

9. A satellite cellular communication system as claimed in claim 8, wherein there is further included means for connecting (10) said link means to said public switched telephone network means, said means for connecting providing gateway facility services between said satellite switching means and said public switched telephone network means.

10. A satellite cellular communication system for establishing communication among a plurality of users comprising:
satellite switching means (1,2, etc.) positioned in low-earth orbit;
link means (j) for coupling said users to said satellite switching means whereby a communication link is established between selected ones of said users via said satellite switching means; and
data base means (110-130) coupled to said satellite switching means via said link means, said data base means for storing and transmitting switching information describing each of said plurality of users.

11. A satellite cellular communication system for establishing communication among a plurality of users comprising:
satellite switching means (1,2, etc.) positioned in low earth orbit;
link means (j) for coupling said users to said satellite switching means whereby a communication link is established between selected ones of said users via said satellite switching means;
cellular telephone means (A,B) having a control signal for connecting each of said users to said satellite switching means via said link means;
data base means (110-130) coupled to said satellite switching means via said link means, said data base means for storing and transmitting switching information describing each of said plurality of users; and said satellite switching means operating in response to said control signal of each of said user's cellular telephone means to update said data base means with a present location of each user.

12. A satellite cellular communication system for establishing communication among a plurality of users comprising:
satellite switching means (1,2, etc.) positioned in orbit about the earth; and
link means (j) for coupling said users to said satellite switching means whereby a communication link is established between selected ones of said users via said satellite switching means.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 60 of 469

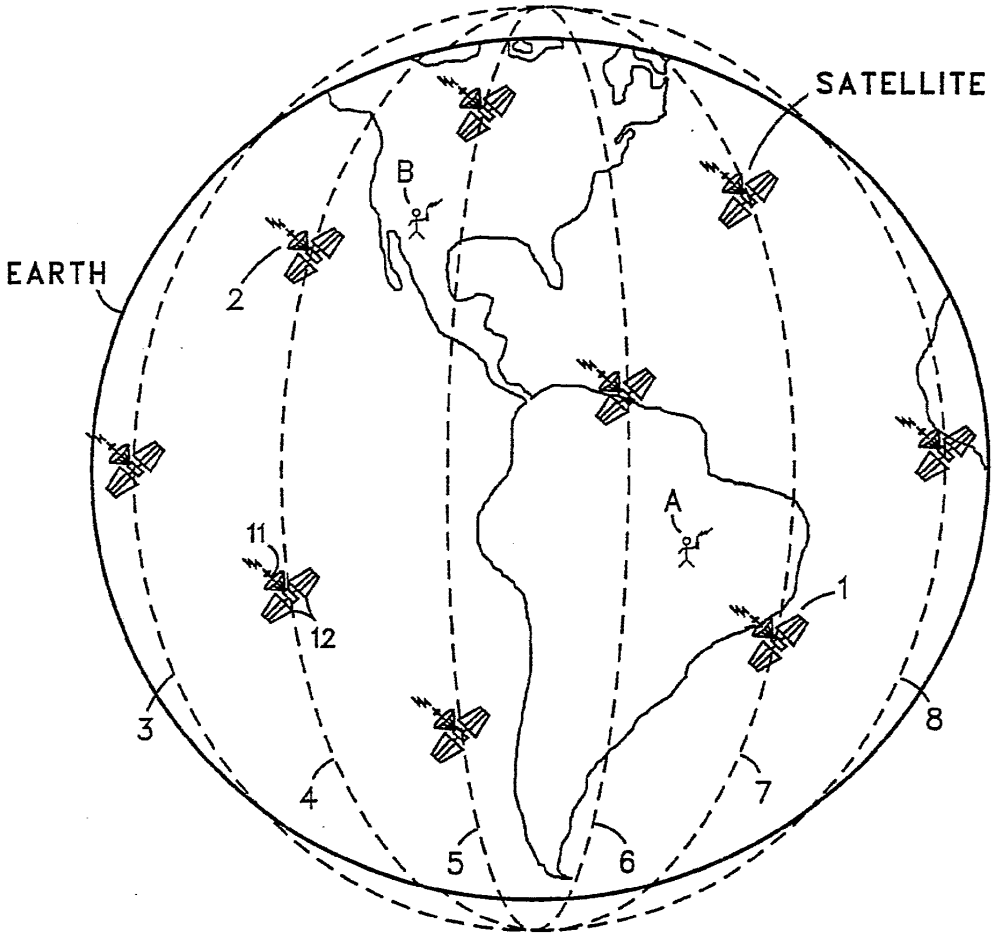


FIG. 1

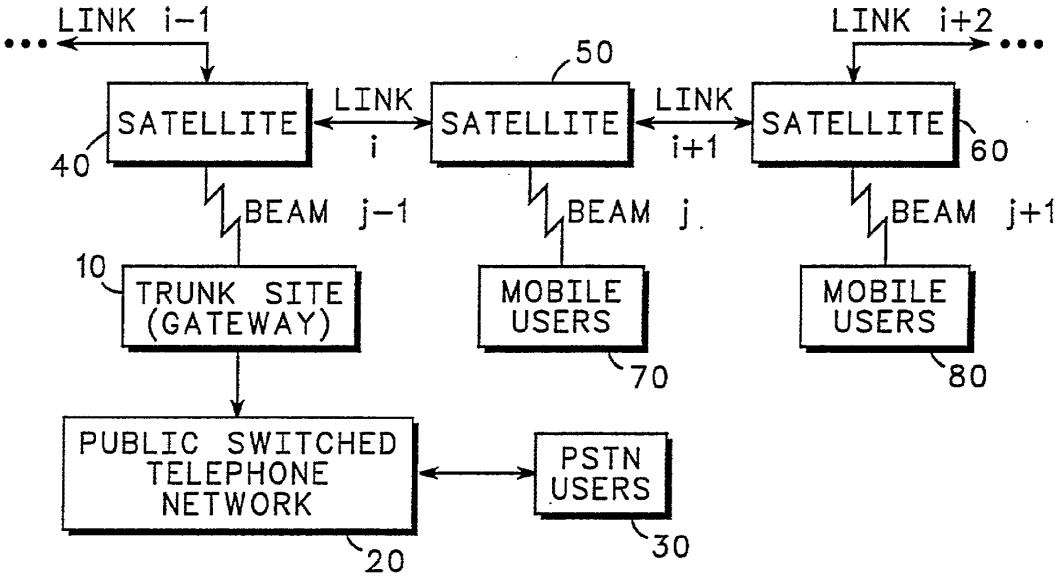
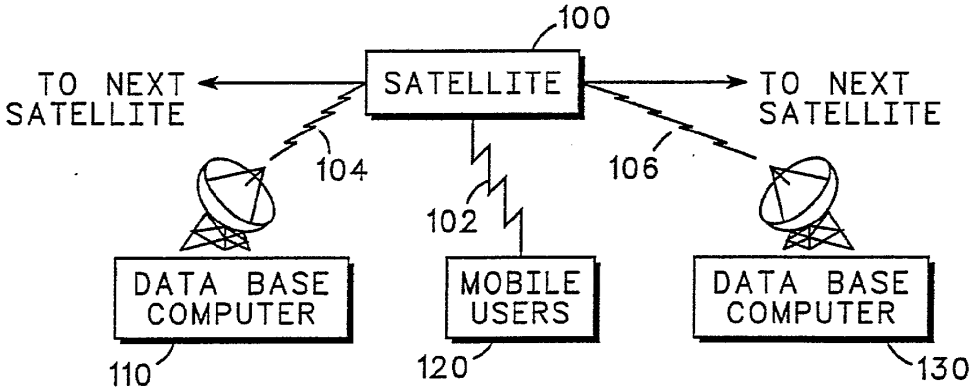


FIG. 2

FIG. 4



Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 62 of 469

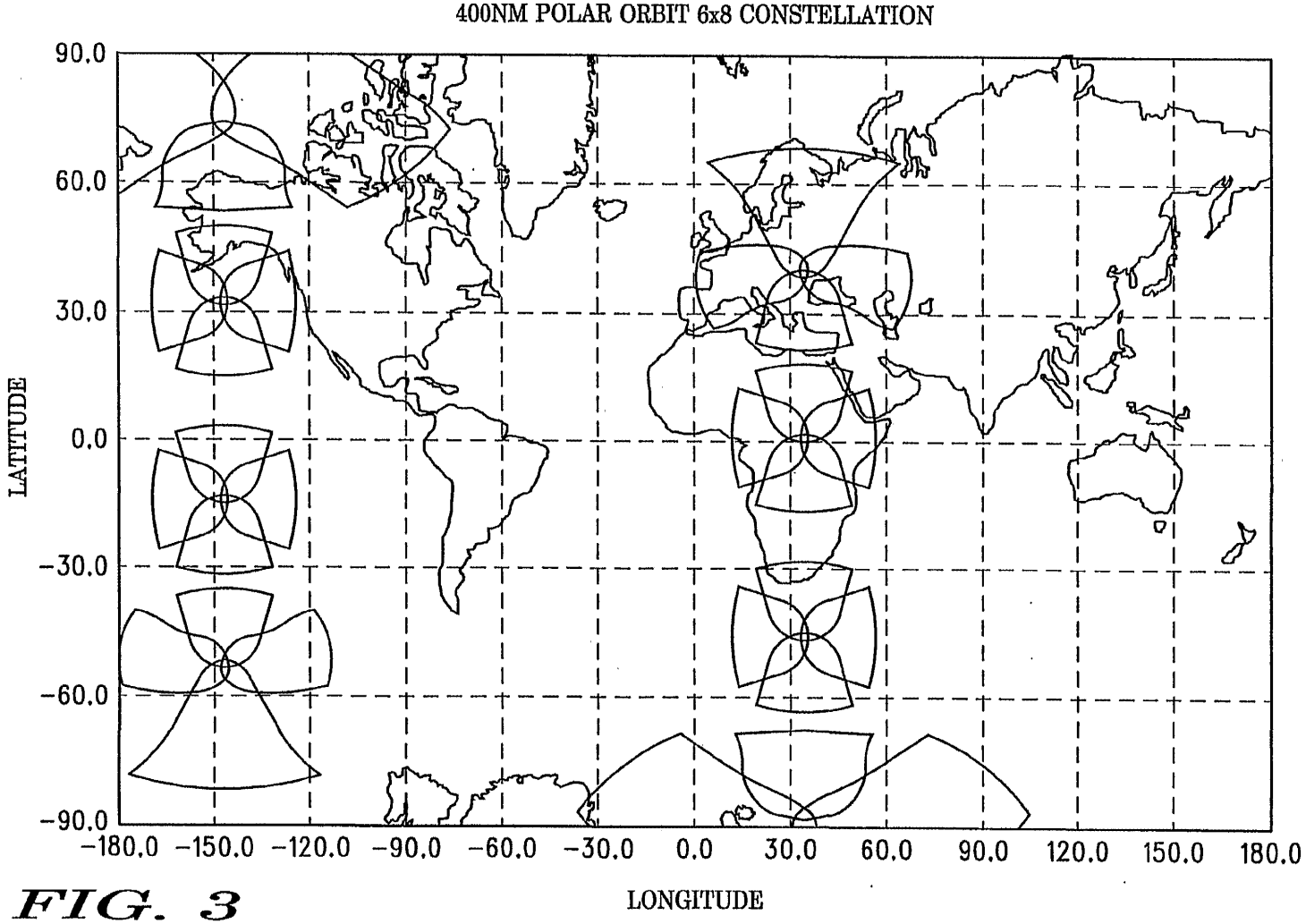


FIG. 3

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 63 of 469

Electronic Patent Application Fee Transmittal	
Application Number:	
Filing Date:	
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATION
First Named Inventor/Applicant Name:	Shaowei Pan
Filer:	Jeffrey G. Toler/Hanna Kim
Attorney Docket Number:	1082-0008-C1
Filed as Small Entity	

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	82	82
Utility Search Fee	2111	1	270	270
Utility Examination Fee	2311	1	110	110
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**462**

Electronic Acknowledgement Receipt	
EFS ID:	10970223
Application Number:	13235021
International Application Number:	
Confirmation Number:	2302
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATION
First Named Inventor/Applicant Name:	Shaowei Pan
Customer Number:	60533
Filer:	Jeffrey G. Toler/Hanna Kim
Filer Authorized By:	Jeffrey G. Toler
Attorney Docket Number:	1082-0008-C1
Receipt Date:	16-SEP-2011
Filing Date:	
Time Stamp:	17:18:07
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$462
RAM confirmation Number	4324
Deposit Account	502469
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		1082-0008-C1_Non-Provsiional-Application.pdf	6463165 96f98c4f6ab690f5a6d4633f185294286e4aad01	yes	38

Multipart Description/PDF files in .zip description

Document Description	Start	End
Transmittal of New Application	1	2
Application Data Sheet	3	5
Oath or Declaration filed	6	7
Power of Attorney	8	9
Specification	10	33
Claims	34	37
Abstract	38	38

Warnings:

Information:

2	Drawings-only black and white line drawings	1082-0008-C1_Figures.pdf	725044 8f1c678a6a256d5430dbf3a5b0aa90e1895185d6	no	7

Warnings:

Information:

3	Information Disclosure Statement (IDS) Form (SB08)	1082-0008-C1_IDS.pdf	1364530 c6200ee3b589f16dfbca8343630542 3a54babc86	no	9

Warnings:

Information:

This is not an USPTO supplied IDS fillable form

4	Foreign Reference	EP0365885A2.pdf	572302 b774580376ef746286e84d6148296f1a1c88ae06	no	9

Warnings:

Information:

5	Non Patent Literature	USH001918_Hoffpauir.pdf	265573 0648c74662ac224542507fb9baf88c65bdadbb8a	no	19
Warnings:					
Information:					
6	Non Patent Literature	NTFCP_05-09-2008.pdf	58214 dfa0303279d93e6d01189e1256a09555956e04f7	no	2
Warnings:					
Information:					
7	Non Patent Literature	NFOA_12-23-2010.pdf	544764 5697f106e46efdf08198b63d512d34dcaf541f5e	no	16
Warnings:					
Information:					
8	Non Patent Literature	NOA_06-23-2011.pdf	771464 229af6a3ee879fbbf860c507268be9a9ba18968b	no	17
Warnings:					
Information:					
9	Fee Worksheet (SB06)	fee-info.pdf	33074 2791fea0096f58dc6701d9313fda58f82bc79f96	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	10798130		

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

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

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

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
13/235,021	09/16/2011	2617	462	1082-0008-C1	20	3

CONFIRMATION NO. 2302

60533
TOLER LAW GROUP
TOLER LAW GROUP
8500 BLUFFSTONE COVE
SUITE A201
AUSTIN, TX 78759

FILING RECEIPT

OC000000050075500

Date Mailed: 09/29/2011

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Shaowei Pan, Kildeer, IL;

Assignment For Published Patent Application

Lemko Corporation, Schauburg, IL

Power of Attorney: The patent practitioners associated with Customer Number 60533

Domestic Priority data as claimed by applicant

This application is a CON of 12/108,209 04/23/2008

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)

If Required, Foreign Filing License Granted: 09/27/2011

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/235,021**

Projected Publication Date: 01/05/2012

Non-Publication Request: No

Early Publication Request: No
**** SMALL ENTITY ****

Title

SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS

Preliminary Class

455

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 70 of 469

set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 71 of 469

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 13/235,021

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	95		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	310		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	125		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	20 minus 20 =	*	x 30 =	0.00	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*	x 125 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	530		TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/235,021	09/16/2011	Shaowei Pan	1082-0008-C1

CONFIRMATION NO. 2302

60533
TOLER LAW GROUP
TOLER LAW GROUP
8500 BLUFFSTONE COVE
SUITE A201
AUSTIN, TX 78759

PUBLICATION NOTICE

OC000000051819432

Title:SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS

Publication No.US-2012-0002607-A1
Publication Date:01/05/2012

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 73 of 469

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	13235021
Filing Date	2011-09-16
First Named Inventor	SHAOWEI PAN
Art Unit	2473
Examiner Name	YAO, Kwang Bin
Attorney Docket Number	1082-0008-C1

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5623495		1997-04-22	ENG ET AL.	
	2	7120436		2006-10-10	KIM	
	3	6751207	B1	2004-06-15	LEE ET AL.	
	4	6760325	B1	2004-07-06	HAMELEERS ET AL.	
	5	6678155	B1	2004-01-13	BRESNIKER	
	6	6704409	B1	2004-03-09	DILIP ET AL.	
	7	7171216		2007-01-30	CHOKSI	
	8	7856233	B2	2010-12-21	PAN	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	9	4284848		1981-08-18	FROST	
	10	5590175		1996-12-31	GALLANT ET AL.	
	11	6816706	B1	2004-11-09	HOHNSTEIN ET AL.	
	12	6871072	B1	2005-03-22	MECHE	
	13	7136651	B2	2006-11-14	KALAVADE	
	14	5734979		1998-03-31	LU ET AL.	
	15	7760695	B2	2010-07-20	GOPALAKRISHNAN ET AL.	
	16	6131038		2000-10-10	SEKINE ET AL.	
	17	6807432	B2	2004-10-19	HWANG	
	18	6418308	B1	2002-07-09	HEINONEN ET AL.	
	19	8089920		2012-01-03	PAN	

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 75 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	20	7120435	B2	2006-10-10	USHER ET AL.	
	21	7313399	B2	2007-12-25	RHEE ET AL.	
	22	7324478	B2	2008-01-29	PARK ET AL.	
	23	7787879	B1	2010-08-31	PHILIPS ET AL.	
	24	7349412	B1	2008-03-25	JONES ET AL.	
	25	7328268	B1	2008-02-05	FOLTAK ET AL.	
	26	5933784		1999-08-03	GALLAGHER ET AL.	
	27	5991639		1999-11-23	RAUTIOLA ET AL.	
	28	6160804		2002-12-12	AHMED ET AL.	
	29	6542497	B1	2003-04-01	CURRY ET AL.	
	30	6697355	B1	2004-02-04	LIM	

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 76 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	31	7385947	B2	2008-06-10	WU ET AL.	
	32	7406069	B2	2008-07-29	YASHAR ET AL.	
	33	7003286	B2	2006-02-21	BROWN ET AL.	
	34	7054322	B2	2006-05-30	D'ANNUNZIO ET AL.	
	35	6735184	B1	2004-05-11	DAVIDSON ET AL.	
	36	6985454	B1	2006-01-10	WIEDEMAN ET AL.	
	37	7133670		2006-11-07	MOLL ET AL.	
	38	7552670		2009-06-30	GOLDMAN ET AL.	
	39	7054307	B2	2006-05-30	PAPADIMITRIOU ET AL.	
	40	7738488	B2	2010-06-15	MARISCO ET AL.	
	41	6731932	B1	2004-05-04	RUNE ET AL.	

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 77 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	42	7840230		2010-11-23	PAN	
	43	7424313	B2	2008-09-09	HAM ET AL.	
	44	7359700	B2	2008-04-15	SWENSON ET AL.	
	45	7299039	B2	2007-11-20	LEE ET AL.	
	46	7158621	B2	2007-01-02	BAYNE	
	47	6937708	B2	2005-08-30	HIROSE	
	48	7979066		2011-07-12	PAN	
	49	7855988		2010-12-21	PAN	
	50	8107409		2012-01-31	PAN	
	51	8046420		2011-10-25	PAN	

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 78 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20080101314	A1	2008-05-01	BACHMUTSKY	
	2	20090022155	A1	2009-01-22	ROSENBERG ET AL.	
	3	20030096628	A1	2003-05-22	BAR-ON ET AL.	
	4	20060063544	A1	2006-03-23	ZHAO ET AL.	
	5	20060159039	A1	2006-07-20	JUNG ET AL.	
	6	20020061746	A1	2002-05-23	JO ET AL.	
	7	20020160772	A1	2002-10-31	GAILEY ET AL.	
	8	20030092441	A1	2003-05-15	TAHA ET AL.	
	9	20030100302	A1	2003-05-29	ARMBRUSTER ET AL.	
	10	20070010245	A1	2007-01-11	LEVITAN	

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 79 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	11	20040253984	A1	2004-12-16	CSAPO ET AL.	
	12	20030088698	A1	2003-05-08	SINGH ET AL.	
	13	20060221912	A1	2006-10-05	OLIVIER ET AL.	
	14	20060217121		2006-09-28	SOLIMAN ET AL.	
	15	20050064922		2005-03-24	OWENS ET AL.	
	16	20070232304		2007-10-04	GOLDMAN ET AL.	
	17	20070021097		2007-01-25	GAETA ET AL.	
	18	20020016180		2002-02-07	DEROSIER ET AL.	
	19	20060148465		2006-07-06	PERDOMO ET AL.	
	20	20090327819	A1	2009-12-31	PAN	
	21	20070021118		2007-01-25	OPHIR	

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 80 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	22	20090227230		2009-09-10	CAMILLERI ET AL.	
	23	20110060853	A1	2011-03-10	PAN	
	24	20110059740	A1	2011-03-10	PAN	
	25	20070087738	A1	2007-04-19	MELKESETIAN	
	26	20040204097	A1	2004-10-14	SCHEINERT ET AL.	
	27	20110223921	A1	2011-09-15	PAN ET AL.	
	28	20090325584	A1	2009-12-31	PAN	
	29	20100057485		2010-03-04	LUFT	
	30	20100048197		2010-02-25	JIANG	
	31	20090215449		2009-08-27	AVNER	
	32	20070008968	A1	2007-01-11	BAKER ET AL.	

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 81 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	33	20060114934	A1	2006-06-01	SHIN ET AL.	
	34	20030048766	A1	2003-03-13	D'ANNUNZIO ET AL.	
	35	20020009060	A1	2002-01-24	GROSS	
	36	20070230352	A1	2007-10-04	KOKKU ET AL.	
	37	20050091392	A1	2005-04-28	GESSWEIN ET AL.	
	38	20060258358	A1	2006-11-16	KALLIO	
	39	20070147598	A1	2007-06-28	SOMES ET AL.	
	40	20090003269	A1	2009-01-01	KUMAZAWA ET AL.	
	41	20050070278	A1	2005-03-31	JIANG	
	42	20060142011	A1	2006-06-29	KALLIO	
	43	20070213075		2007-09-13	JIANG	

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 82 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	44	20100048197		2010-02-25	JIANG	
	45	20050075106		2005-04-07	JIANG	
	46	20100048208		2002-02-25	GUNARATNAM ET AL.	
	47	20060141984		2006-06-29	TAGLIENTI ET AL.	
	48	20020058502	A1	2002-05-16	STANFORTH	
	49	20060203746	A1	2006-09-14	MAGGENTI ET AL.	
	50	20010046859	A1	2001-11-29	KIL	
	51	20060046760	A1	2006-03-02	BERTINO ET AL.	
	52	20020045444	A1	2002-04-18	USHER ET AL.	
	53	20090186626	A1	2009-07-23	RAGHOTHAMAN	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 83 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2007102003	WO	A1	2007-09-13	GHOST TELECOM LIMITED		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	PAN, US PATENT APPLICATION NO. 13/309,003; "PROVIDING COMMUNICATIONS USING A DISTRIBUTED MOBILE ARCHITECTURE"; FILED 2011-12-20; ATTORNEY DOCKET NO. 1082-0001-C2	☐

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

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

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

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

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 84 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

CERTIFICATION STATEMENT

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

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

OR

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

☐ See attached certification statement.

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

☒ A certification statement is not submitted herewith.

SIGNATURE

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

Signature		Date (YYYY-MM-DD)	2012-04-17
Name/Print	JEFFREY G. TOLER	Registration Number	38342

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

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 85 of 469

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
13 September 2007 (13.09.2007)

PCT

(10) International Publication Number
WO 2007/102003 A1

(51) International Patent Classification:
H04Q 7/38 (2006.01) *H04Q 7/32* (2006.01)

(21) International Application Number:
PCT/GB2007/000799

(22) International Filing Date: 7 March 2007 (07.03.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0604573.6 7 March 2006 (07.03.2006) GB

(71) Applicant *(for all designated States except US)*: **GHOST TELECOM LIMITED** [GB/GB]; Lodge Farm, Village Road, Dorney, Berkshire SL4 6QJ (GB).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **CAMILLERI, Michael** [GB/GB]; Lodge Farm, Village Road, Dorney, Berkshire SL4 6QJ (GB). **MERINO GONZALEZ, Jose Luis** [ES/ES]; Urb. Punta Lara 26B, Nerja, E-29780 Malaga (ES).

(74) Agent: **ORIGIN LIMITED**; 52 Muswell Hill Road, London N10 3JR (GB).

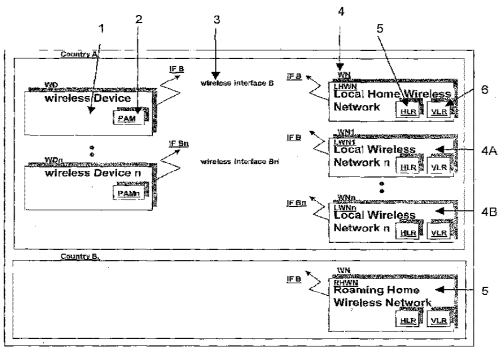
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,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

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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

(54) Title: METHOD OF AND APPARATUS FOR INTERFACING AND CONNECTING A WIRELESS DEVICE AND A WIRELESS NETWORK USING A SUBSCRIBER IDENTITY MODULE HAVING PLURAL IMSI ASSOCIATED WITH DIFFERENT NETWORK OPERATORS



(57) Abstract: A wireless device includes a single SIM, plus an application module adapted to enable the device to operate as though it included two or more different SIMs. The module, referred to as a 'proprietary applications module' (PAM) is connected to, or built into, a -wireless device (WD). The PAM is capable of switching all incoming traffic by associating the WD to one specific subscriber identity sub-module, referred to as "Local SIM" (LS). It can also switch or re-route all outgoing traffic by associating the same WD with a different subscriber identity sub-module, typically a "Roaming SIM" (RS). The "Local SIM" comprises an IMSI associated with a first network operator based in a first country; the "Roaming SIM" comprises an IMSI associated with a second network operator in a second country. In a preferred embodiment, the PAM, RS and LS are built-into a single SIM for use in a WD; alternatively the PAM is built-into a WD and the RS and LS are built-into the single SIM.

WO 2007/102003 A1

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 86 of 469

METHOD OF AND APPARATUS FOR INTERFACING AND CONNECTING A WIRELESS DEVICE AND A WIRELESS NETWORK USING A SUBSCRIBER IDENTITY MODULE HAVING PLURAL IMSI ASSOCIATED WITH DIFFERENT NETWORK OPERATORS

FIELD OF THE INVENTION

This invention relates to a method and apparatus for interfacing and connecting a wireless device and a wireless network using a subscriber identity module (SIM). It enables incoming and out-going SMS, voice and data calls to be routed cost effectively and flexibly.

BACKGROUND OF THE INVENTION

Wireless devices can now handle voice and/or data, allowing simplex and/or duplex voice calls, video calls, text messaging, and internet browsing. Some wireless communication devices can now handle voice-over-internet-protocol (VoIP) calls, and others are able to handle multimedia (voice, video, graphics) calls through wireless networks and/or through wireless networks connected to the internet or media servers.

Different types of calls, initiated by wireless devices, can be restricted for some or most of their outgoing traffic; for example voice and data calls, as well as internet web browsing, can be restricted to those call tariffs made available by the wireless network(s) that is subscribed to. Those wireless networks could be operated by traditional wireless network operators or so called virtual network operators. The restrictions can even limit which web servers the user is actually allowed to access. In most or all cases the restrictions will limit the users in their home country to only one wireless network, i.e. the home wireless network to which the user is subscribed to.

Users of wireless devices subscribed to a specific wireless network in their home country, may however wish to have a choice of call set-up route(s), and also have the choice of viewing any web server or web-page that they desire, and to initiate their outgoing calls at the tariff of their choice and through any of the wireless network(s) available in their home country as well as when roaming abroad. This would give each wireless device user the

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 87 of 469

freedom to choose the cheapest option for each call set-up route for any outgoing traffic, such as outgoing –SMS, -voice call, -data call.

There are several ways of achieving this, but all have drawbacks.

It is known to provide a wireless device (e.g. a mobile telephone) with 2 separate SIMs, each associated with a different network operator; the 2 separate SIMs sometimes need to be cut down to fit a single SIM reader, or else a special carrier for two SIMs is provided that itself connects to a conventional SIM package. These devices are sometimes called 'ghost SIMs'. So, for example, a person who frequently travels between the UK and the US would have a single mobile telephone that he could use in both countries, fitted with a dual SIM 'ghost'. If his home mobile operator is based in the UK, he would normally pay roaming charges when he makes calls from the US; call costs can be 10X greater from the US because of this. But with a dual SIM 'ghost' on his mobile telephone, the user can toggle between SIMs by repeatedly turning the device off/on. So he can use a SIM from a US operator when in the US and a SIM from a UK operator when in the UK. But that means that incoming calls to the UK telephone number will go unanswered when the US SIM is being used, and vice versa, which is inconvenient. The user could simply toggle the phone to the US SIM only when he needs to make a call from the US, and then remember to toggle back afterwards. But that is inconvenient. And the user also has to obtain the 2 separate SIMs in the first place, which can again be inconvenient.

He could alternatively keep 2 different mobile telephones, one for use in the UK and one for the US, with each associated with a UK and US operator respectively. Then, no roaming charges will be paid when he calls from the US, because he uses the mobile telephone associated with the US operator. But having 2 different mobile telephones is costly and inconvenient, especially as people will no doubt call him on his UK mobile telephone number when he is in the US, so he would need to have both devices constantly at hand when traveling in the US.

Another solution is to have a conventional mobile telephone using just a single SIM, but to have 2 different SIMs, and to physically swap the SIM from a UK operator into the device when in the UK, and swap in a SIM from a US operator when in the US. But that is very inconvenient, and can mean that calls to the UK telephone number will just divert to voicemail when the US SIM is in use, and vice versa when the UK SIM is in use.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 88 of 469

Before summarising the invention, we will explain some background terms. The IMSI is a unique non-dialable number allocated to each mobile subscriber that identifies the subscriber and his or her operator subscription. The IMSI is stored in the Subscriber Identity Module (SIM). The IMSI is made up of three parts (1) the mobile country code (MCC) consisting of three digits, (2) the Mobile Network Code (MNC) consisting of two digits, and (3) the Mobile Subscriber Identity Number (MSIN) with up to 10 digits.

A Home Location Register (HLR) is a database that contains mobile subscriber information for all subscribers to an operator. A Visitor Location Register (VLR) is a database owned and maintained by a mobile operator. It contains temporary information about mobile subscribers that are currently located in a geographic area served by that mobile operator, but whose Home Location Register (HLR) is elsewhere.

HLR subscriber information includes the International Mobile Subscriber Identity (IMSI), service subscription information, location information (the identity of the currently serving Visitor Location Register (VLR) to enable the routing of mobile-terminated calls), service restrictions and supplementary services information. The HLR also initiates transactions with VLRs to complete incoming calls and to update subscriber data.

When a mobile subscriber roams away from his home location and into a remote location (typically to a different country), SS7 messages are used to obtain information about the subscriber from the HLR, and to create a temporary record for the subscriber in the VLR. There is usually one VLR per operator. The VLR automatically updates the HLR with the new location information, which it does using an SS7 Location Update Request Message. The Location Update Message is routed to the HLR through the SS7 network, based on the global title translation of the IMSI that is stored within the SCCP Called Party Address portion of the message. The HLR responds with a message that informs the VLR whether the subscriber should be provided service in the new location.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 89 of 469

SUMMARY OF THE INVENTION

The present invention is a wireless device including a single SIM, the wireless device further including an application module adapted to enable the device to operate as though it included two or more different SIMs.

The application module may be adapted to switch the single SIM between (a) operating as a local SIM and (b) operating as a roaming SIM. The application module can be a software module that is downloaded to the device.

The user can manually control the switching between the local SIM and roaming SIM operation; switching can for example be done by an end-user operating a switch, or an end-user interacting with an on-screen menu displayed on the device.

In one implementation, when the device is operating with a local SIM, it uses a Local SIM sub-module that is associated with a network operator 1 based in country A; when the device is operating with a roaming SIM, it uses a roaming SIM sub-module that is associated with a network operator 2 based in country B. The local SIM sub-module includes an IMSI number associated with a subscriber and operator 1. The roaming SIM sub-module includes an IMSI number associated with the subscriber and operator 2. Its standby mode is to use the local SIM sub-module so that incoming calls using the IMSI number associated with operator 1 are received. But the user can use the roaming SIM sub-module so that outgoing calls use the IMSI number associated with operator 2. The advantage to the user comes because the tariff associated with operator 2 for outgoing calls is lower than the tariff associated with operator 1 for outgoing calls; the tariff associated with operator 2 for outgoing calls made when the subscriber is outside country A can for instance be lower than the tariff associated with operator 1 for outgoing calls made when the subscriber is outside country A. The tariff associated with operator 2 for outgoing calls made when the subscriber is inside country A can also be lower than the tariff associated with operator 1 for outgoing calls made when the subscriber is inside country A. Operator 2 might also place fewer restrictions than operator 1, including restrictions on destination servers accessed. When a call terminates, the device reverts to its standby mode of using the local SIM sub-module.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 90 of 469

The local SIM sub-module and the roaming SIM sub-module are sub-modules within the single SIM (so that, for example, the application module, although in the wireless device, is not part of the SIM itself). Alternatively, the application module, the local SIM sub-module and the roaming SIM sub-module are each sub-modules within the single SIM.

Other implementation features are that: the application module controls communication to a wireless network and includes one or more of the following sub-modules: SIM control unit; features control unit; local SIM sub-module, roaming SIM sub-module; external switch controlling the selection of either the local SIM or roaming SIM sub-modules. The SIM control unit enables the local SIM sub-module or roaming SIM sub-module to be selected. The features control unit enables the caller ID to be modified. The features control unit enables the roaming SIM sub-module to be selected when a user presses a predefined key on a wireless device in which the single SIM is used. The external switch allows the applications module to control the selection of the local SIM sub-module or the roaming SIM sub-module. The applications module selects the local SIM sub-module as a default when powered on. The SIM control unit stores a PIN associated with each of the local and roaming sub-modules and uses that PIN automatically to eliminate the need for manual entry of that PIN. The SIM control unit selects the local SIM sub-module as a default when powered on.

The present invention can enable communications with a mobile virtual network operator, virtual telecoms operator or a virtual telecoms provider. The wireless device itself can be a mobile telephone, wireless card, smart phone or wireless module.

Another aspect of the invention is a downloadable software based application module that, when running on a wireless device, results in that device being a device as defined above.

A further aspect is a method of communicating with a wireless network, comprising the step of using a wireless device as defined above.

A final aspect is a SIM including a local SIM sub-module with a first IMSI and a second SIM sub-module with a different IMSI, the SIM being switchable between either of the

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 91 of 469

sub-modules. The SIM is physically packaged in the same package as a conventional SIM. The SIM may include an application module to control the switching. The SIM, when used in combination with a wireless device, renders that wireless device as a wireless device as defined above.

In a preferred implementation, a proprietary applications module (**PAM**) in the SIM is connected to, or built into, a wireless device (**WD**). The PAM is capable of switching all incoming traffic by associating the WD to one specific subscriber identity sub-module (SIM), referred to as "Local SIM" (**LS**). It can also switch or re-route all outgoing traffic by associating the same WD with a different subscriber identity sub-module (SIM), which we will call a "Roaming SIM" (**RS**). The PAM, RS and LS can be embedded into one single physical SIM.

The PAM establishes data communication between the WD and a wireless network (WN). Each time the WD powers-on, the PAM selects the Local SIM, which gives a location update to the home location register (HLR) attached to its local home wireless network (LHWN). This allows all incoming traffic to be associated with the Local SIM. The PAM can however switch from the Local SIM towards the Roaming SIM; the Roaming SIM then gives location updates to a visitor location register (VLR) attached to any of the available wireless networks (WN or WNn), associated with the Roaming SIM. This can be done any time the WD user chooses so manually (or, optionally, automatically). This is normally done prior to the WD user initiating outgoing traffic, such as outgoing voice and data calls and, optionally, also outgoing short message service (SMS).

This allows the WD to make use of any of the available local wireless networks. By associating the WD with the Roaming SIM, outgoing traffic will be billed at the roaming tariffs established between the home wireless network (RHWN) and each individual local wireless network (LHWN or LWN1 to LWNn). This can be much cheaper for the subscriber and can give greater flexibility – for example enabling a broader range of web servers to be used.

The PAM will, after ending each originated outgoing traffic session, switch (automatically or manually using an external switch) back to the Local SIM, which provides a location update to its home location register (HLR) attached to its local home wireless network

(LHWN) when the WD is in its Local SIM home country. This allows the WD to receive any incoming traffic at no charge as 'calling-party-pays' is applicable to its local home wireless network (LHWN). Alternatively and optionally, when the WD is in a different country, the Local SIM is also still used; it sends location updates to a visitor location register (VLR) attached to a roaming wireless network (RWN). This allows the WD to receive any incoming traffic at the tariff rate established by its local home wireless network (LHWN).

But in essence, the WD user always has the option to choose which SIM operation (Local SIM or Roaming SIM) it will use for its incoming and/or outgoing traffic.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 93 of 469

BRIEF DESCRIPTION OF THE DRAWINGS

FIGURE 1 is a block diagram of a communications system with wireless devices communicating through a wireless interface and a wireless network(s) in accordance with the present invention.

FIGURE 2 shows two example implementations and some of the different combinations using the proprietary applications module (PAM).

FIGURES 3 and 4 are example implementations with respect to the sub-modules of the proprietary application module (PAM).

DETAILED DESCRIPTION OF THE DRAWINGS

Specifically, **Figure 1** is a block diagram of a wireless communications system, which can be used to implement an embodiment of the present invention. For this exemplary embodiment, there is shown a wireless device (WD) **1**, with a built-in PAM **2**, and a wireless network which provides connection for voice and data communication between the WD and the wireless network through a wireless interface IF-B **3**. The wireless interface IF-B **3** in turn allows connection to any communication device with a wired or wireless connection wired to such wireless networks. Examples of components in this system include, but are not limited to, a fixed network, an application server, a media server, a voice over IP network or even a different wireless network, or a multiple configuration of the previous. There can be multiple wireless devices (WD n), multiple wireless interfaces (IF-Bn), multiple wireless networks (WNn), multiple fixed networks, multiple application servers, a media servers, multiple voice over IP networks.

In **Figure 1**, there is shown a wireless device (WD) **1**, with a built-in PAM **2**, and several wireless networks (WN, WNn) **4, 4A, 4B**, such as a local home wireless network (LHWN) **4**, additional different wireless networks (WN1, WNn) **4A, 4B** called local wireless networks (LWN1, LWNn) **4A, 4B** and a different wireless network (WN) called the roaming home wireless network (RHWN) **5**.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 94 of 469

The wireless device WD **1** has an embedded PAM **2**. The WD **1** is configured in accordance with a combination of technologies used in the field of handheld wireless devices and personal digital handheld wireless devices, such as (but not limited to) wireless phones, cellular phones, mobile phones, hand held radio frequency digital communication devices, personal digital assistants and so called smart-phones, which can each communicate with the wireless networks as described.

A wireless network WN **4** is shown. The wireless network is configured in accordance with a combination of technologies used in the field of wireless digital communications networks; such as but not limited to GSM-GPRS-WAP based wireless networks, GSM-GPRS-WAP-EDGE based wireless networks, UMTS based wireless networks, PCS based wireless networks, DCS based wireless networks, TDMA based wireless networks, WiFi or WiMax based wireless networks.

The preferred embodiment of the present invention and its advantages will now be described. Essentially, in accordance with an embodiment of the present invention, we have a method and apparatus for interfacing and connecting a wireless device(s) **1** and a wireless network **4**, **4A**, **4B** and **5** for in-and out-going traffic, such as SMS and/or voice and/or data call(s). The method and apparatus enable routing, interfacing and connecting a handheld wireless device and a wireless network. Calls can be set up in accordance with a user's own choice of routing to any 3rd party end user, connecting over wireless networks, fixed networks, servers or the internet.

The WD **1** with a built-in PAM **2** establishes data communication between the WD **1** and a wireless network **4 – 5** coupled to a digital communication system associated with one of the Local SIM (LS) **21** or Roaming SIM (RS) **22** identities; both LS **21** and RS **22** are embedded into a single SIM, and are each defined by a unique IMSI number. As a first step, the PAM **2**, **2n** chooses either the Local SIM (LS) **21** or Roaming SIM (RS) **22** identity. The WD **1** provides location updates each time the PAM **2** (e.g. built into the WD) changes SIM identity (e.g. selects a different SIM sub-module, LS **21** or RS **22**, each embedded into the single SIM, which itself resides in the WD **1**. Each sub-module LS **21** and RS **22** is associated with a different IMSI and therefore network operator. WD **1** also

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 95 of 469

provides a location update each time it changes wireless network name or wireless network country or region or state.

When the WD **1** is in the home country associated with the Local SIM (LS) **21**, the PAM **2** establishes data communication between the WD **1** and a wireless network (WN) **4 – 5**. As a first step, the PAM **2** selects the Local SIM **21** to provide location updates to its home location register (HLR) **6** attached to its local home wireless network (LHWN) **4**, associated with the Local SIM **21**. This occurs each time the WD **1** powers-on, allowing all incoming traffic to be associated with the Local SIM **21**. The PAM **2** can switch from the Local SIM **21** to the Roaming SIM **22** (which involves changing the IMSI number declared by the WD **1**) to give location updates to a visitor location register (VLR) **7** attached to any of the available wireless networks (WN or WNn) **4, 4A, 4B** , associated with the Roaming SIM **22**, any time the WD **1** user chooses. This choice is done manually or optionally automatically prior to any time the WD **1** user is about to initiate outgoing traffic, such as outgoing voice and/or data calls and optionally also outgoing SMS.

This allows the WD **1** to make use of any of the available local wireless networks **4, 4A, 4B**, based in the home country of the LS **21**; associating the WD **1** with the Roaming SIM **22** enables the outgoing traffic to be at the roaming tariffs established between the roaming home wireless network (RHWN) **5**, based in a different country to the country of the LS **21**, and each individual local wireless network (LHWN or LWN1 to LWNn) **4, 4A, 4B**.

The PAM **2** will, after ending each originated outgoing traffic session, switch to the Local SIM (LS) **21** to provide location updates to its home location register (HLR) **6** attached to its local home wireless network (LHWN) 4 when the WD **1** is in its Local SIM **21** home country. Switching can be done automatically or manually by the user, through an internal user menu or an external switch. This switching allows the WD **1** to receive any incoming traffic at no charge as 'calling party pays' is applied by its local home wireless network (LHWN) 4. Alternatively and optionally, location updates can be made to a visitor location register (VLR) **7** attached to a roaming wireless network (RWN) **5** when the WD **1** is in a country different then the one associated with the LS, allowing the WD **1** to receive any incoming traffic at the tariff rate established by its local home wireless network (LHWN) **4** and the roaming wireless network for such incoming roaming calls. The WD **1** user always

has the option to choose which of the SIM (Local SIM **21** or Roaming SIM **22**) it will use for either or both of its incoming or its outgoing traffic.

Figure 2 show two of the preferred integration embodiments of the proprietary application module (PAM) of the invention, which in the context of the foregoing are self explanatory, basically showing the integration of a PAM within a wireless device.

Figures 3 and 4 show two different preferred embodiments of the proprietary application module (PAM) of the invention, which in the context of the foregoing are self explanatory, basically showing some examples of the different combinations of PAM by combining its sub-modules respectively. In particular, the embodiment of the proprietary application module (PAM) of the invention as shown in **Figure 4** allows for the integration of the PAM within a single subscriber identity module (SIM) capable of handling at least two different identities, corresponding respectively to the LS and the RS as described above.

It should be clear from the preceding disclosures that the present invention provides a method and apparatus of interfacing and connecting a wireless device(s) and a wireless network(s) for in- and out-going traffic, such as SMS and/or voice and/or data call(s) routing. The principals, preferred embodiments and modes of operation of the present invention have been described in the claims, descriptions of implementation and drawings. This invention provides an advantage allowing any wireless device (WD) with a built-in proprietary applications module (PAM) and any wireless network (WN) to be interconnected through the existing wireless interfaces using any of the (at least two) SIM identities that declare different IMSI numbers, such as a Local SIM (LS) or Roaming SIM (RS). Moreover this invention provides an advantage allowing any wireless device with a built-in PAM to choose the call routing for both in- and out-going calls.

This ability to interconnect and communicate the LS and/or RS between the PAM and a wireless device (WD) (that includes the built-in PAM), with a wireless network (WN, WNn), is particularly advantageous for data and voice calls and optionally SMS routing. Freedom of choice of wireless networks is not readily possible with prior art approaches;

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 97 of 469

but is fully in the hand of the end-user of any wireless network for any WD with a built-in PAM, that implements this invention.

The implementation of this invention and any variations and improvements, where the PAM(s) would reside in the wireless end-users wireless device(s) (WD), could in effect allow setting-up a "mobile virtual network operator" (MVNO), a "virtual telecoms operator" (VTO) or a "virtual telecoms provider (VTP), thus introducing more competition in the wireless and/or cellular market place, greatly benefiting end-users, without the need for any wireless device and/or wireless handheld user to change its current Local SIM subscription (LS) with its current home wireless network operator in the country the end-user resides.

Instead, the end-user can benefit from the advantages of this invention by simply downloading or embedding a PAM, as described within this invention, within his wireless device (WD) and additionally subscribe to a Roaming SIM subscription (RS) with a so called roaming wireless network operator (RHWN) based in a country different from the country where he resides; the roaming wireless network operator must have an advantageous call tariff for roaming calls, and in particular a more advantageous call tariff for the end-user when originating calls with such RS from the country he resides in compared to calls tariffs when originating calls with his LS from the country he resides in.

This allows the end-user to keep his original phone number identity associated with the LS and the corresponding local home wireless network (LHWN) based in the country (Country A) where the end-user resides, whilst benefiting from the advantageous tariffs whenever applicable for his originated outgoing calls associated with the RS and the corresponding roaming home wireless network (RHWN) based in a country different from the previously mentioned (Country A). This applies if the end-user is in his home country, or even when he is in a different country. The latter is traditionally referred to as roaming, meaning the LS is roaming; in the embodiment of this invention the RS is almost always roaming, but does not have to be.

A practical example will illustrate this. Typically, the RHWN is associated with the RS and LS, each having their own unique IMSI; each embedded into the same single SIM. The IMSI of the LS is associated with the LHWN. The RHWN could be a small mobile network operator in a small country with limited growth potential, and therefore is more

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 98 of 469

willing to provide call tariffs with smaller margins for international calls. The LHWN however provides in-country and international tariffs in line with market average, higher margins. This means that, for example, when switching to the RS for outgoing international calls, the cost to the WD user can be more advantageous as margins are kept more competitive, and still provide additional revenue to the smaller RHWN which it otherwise could not obtain. This allows revenue growth to the RHWN and more competitive lower pricing to the WD users. And in the case that the SIM with a built-in PAM, RS and LS is provided by a Mobile Virtual Network Operator (MVNO) to its WD users, it would allow the MVNO to compete even in the country of its own LHWN for international call tariffs, and definitely abroad when its WD users are roaming. This is an advantage that few or no other MVNOs have in the country of their own LHWN, allowing subscribers to this innovative MVNO to make use of any of the Wireless Networks, using the PAM and RS in their own devices; this will always ensure the best available wireless coverage.

The architecture as described herein, in as far as related to virtual networks, allows scalability where the Roaming SIMs (RS) can be the same for any country with whom the associated roaming wireless network has roaming agreements with, and where the tariffs for outgoing traffic are more advantageous in comparison to the tariffs of outgoing call tariffs with Local SIMs in such countries. This invention applies partly of fully, by simply substituting in each different country the Local SIM, as described within this invention, by the actual Local SIM (LS) identity of each individual end-user of such different country.

Summary of various implementation features

The following are each optional features of the preferred implementation.

The wireless device includes a proprietary applications module (**PAM**) capable of communicating with a Wireless Device (**WD**) and Wireless Network(s) through a wireless interfaces (IF-B).

- WD and WDn are wireless devices and/or wireless handheld devices in any available current and future wireless technologies respectively, with a built-in PAM.
- IF-B and IF-Bn are wireless interfaces in any available current and future wireless technologies respectively.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 99 of 469

- WN and WNn are wireless networks in any available current and future wireless technologies respectively.

Any individual or multiple **PAM** may be built-in into any WD or any such other wireless device, such as but not limited to so called "handsets", "handy", "mobile phones", "cellular phones", "wireless phones", "smart phones", "wireless devices", "wireless PC cards", "wireless modules"

Any individual or multiple PAM may include all of the following proprietary sub-modules or any single or multiple combination of these sub-modules (or an equivalent of each such sub-module(s) performing a similar function):

- Sub-module; SIM Control Unit (**SCU**)
- Sub-module; Features Control Unit (**FCU**)
- Local SIM (**LS**)
- Roaming SIM (**RS**)
- External Switch (**ES**)

Any individual or multiple wireless device (WD) with a built-in PAM, may be capable of communicating with any Wireless Network (WN) through

- a wireless connection with a wireless or mobile network, or
- a first wireless connection with a wireless or mobile network and then through a second wireless and/or wired connection through a fixed network or switching network to an applications server, or
- a first wireless connection with a wireless or mobile network and then through a second wireless and/or wired connection through a voice over internet protocol network or server to an applications server.

The wireless device (WD), with a build-in PAM, is capable of communicating with the Local Home Wireless Network (LHWN) and/or any Local Wireless Network (LWN1, LWNn) through the SIM Control Unit (**SCU**) sub-module. This SIM Control Unit (SCU) is a sub-part of the PAM and allows the WD, through its built in PAM, to select either the Local SIM (LS) or Roaming SIM (RS) to, for example, provide the WD location update

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 100 of 469

with the Wireless Network WN (example: LHWN and/or LWN) for incoming and/or outgoing traffic respectively.

The wireless device (WD), with a built-in PAM, is optionally capable of automatically modifying certain settings of the WD, through the Features Control Unit (**FCU**). The Features Control Unit (FCU) sub-module is optionally a sub-part of the PAM and allows the WD, through its built in PAM, to automatically modify the settings of the WD outgoing caller identification (caller ID) for any specific outgoing traffic and/or select the Roaming SIM when any number key is hit and/or when a pre-defined hotkey is hit for such function, for example to disable the outgoing caller ID of the WD for all outgoing-traffic.

The wireless device (WD), with a built-in PAM, is optionally capable of communicating with the Local Home Wireless Network (LHWN) and/or any Local Wireless Network (LWN1, LWNn) through the External Switch (**ES**) and the SIM Control Unit (**SCU**). The External Switch (ES), optionally a sub-part of the PAM, allows the WD through its built in PAM to select either the Local SIM (LS) or Roaming SIM (RS), to, for example, provide the location update to the wireless network WN (for example: LHWN and/or LWN) for incoming- and/or outgoing- traffic respectively.

The PAM can be built into a single SIM, where such single SIM provides all of the functions of at least one of each of a LS, RS and SCU. The PAM monitors the power supply provided by the WD, and at power-on selects, as a default, the LS. Optionally, the SCU will store, in its internal temporary memory, the PIN corresponding to its internal LS and RS respectively, such that when the SCU switches between its internal LS and RS, the user does not have to enter each time the corresponding PIN (except once after power-on of the WD). In the event this optional function is available within the SCU, then the SCU will at each power-on also reset the value of its internal PIN memory. The WD device user has the option to manually switch from the LS to the RS, through an external switch (ES) if available or through an internal user menu embedded in each of the LS and/or the RS and/or the single SIM. For example, the user can switch to the LS when the WD is in idle mode, allowing the WD to locate update to the WN with the LS identity and monitor for any incoming traffic assigned to the LS identity. And it can then switch to the RS, allowing

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 101 of 469

the WD to locate update to the WN with the RS identity, prior to initiating some or all of the outgoing traffic assigned to the RS identity. Hence, when ending any outgoing traffic, the SCU will automatically, by means of an embedded user menu within each of the LS and RS and/or single SIM, or manually by the user activating the external switch (ES), revert back to the LS. This allows the WD to provide a location update to the WN with the LS identity and location and therefore receive incoming traffic and/or signalling assigned to the LS identity.

The SCU can monitor the power supply of the PAM, provided by the WD, and at power-on select as default the Local SIM (LS). Optionally, the SCU will store in its internal temporary memory the personal identification number (PIN) corresponding to the LS and RS respectively, such that when switching between the LS and RS, the user does not have to enter each time the corresponding PIN (except once after power-on of the WD and PAM). In the event this optional function is available within the SCU, then the SCU will at each power-on also reset the value of its internal PIN memory. The WD device user has the option to manually switch from the LS to the RS manually through an external switch (ES) or optimally through an internal user menu embedded in each of the LS and/or the RS. For example, the user can switch to the LS when the WD is in idle mode, allowing the WD to provide location updates to the WN with the LS identity and monitor for any incoming traffic assigned to the LS identity. But the user can then switch to the RS, allowing the WD to provide location updates to the WN with the RS identity, prior to initiating some or all of the outgoing traffic. But, when ending any outgoing traffic, the SCU can automatically (or manually by the WD user, by means of the external switch (ES)), switch back to the LS, thus allowing the WD to provide location updates to the WN with the LS identity and location; and hence receive incoming traffic and/or signalling assigned with the LS identity.

Any individual or multiple PAM may be stored in any storage device(s) and/or server(s) connected to any communications system(s), such as, but not limited to, so called "servers", "internet servers", "computers", "PCs", "media servers", "wireless switching exchanges", "fixed switching exchanges", "wireless network processors", "fixed network processor", "ATM network", "ADSL network", "DSL network", "internet servers",

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 102 of 469

"intranet servers". From these storage/server devices, any current and/or future wireless device (and in particular any WD capable of downloading applications, for example GPRS, WAP, JAVA), can download a PAM or any evolution-, update-, upgrade-, modification- of the PAM.

Any individual or multiple PAM may be a part of any wireless device (WD), be it as software, firmware, hardware or a combination thereof which perform the same or an equivalent function.

Any such individual or multiple PAM may be activated or de-activated by the user of each individual WD.

Many modifications and variations of this present invention are possible in view of the above disclosures, drawings and explanations. Thus, it is to be understood that, within the scope of the appended claims, the invention can be practiced other than as specifically described above. The invention which is intended to be protected should not, however, be construed as limited to the particular forms disclosed, or implementation examples outlined, as these are to be regarded as illustrative rather than restrictive. Variations in changes could be made by those skilled in the art without deviating from the spirit of the invention. Accordingly, the foregoing detailed descriptions and drawings should be considered exemplary in nature and not limited to the scope and spirit of the invention as set forth in the claims.

CLAIMS

1. A wireless device including a single SIM, the wireless device further including an application module adapted to enable the device to operate as though it included two or more different SIMs.

2. The wireless device of Claim 1, in which the application module is adapted to switch the single SIM between (a) operating as a local SIM and (b) operating as a roaming SIM.

3. The wireless device of Claim 1, in which the application module that controls the switching between operation as a local SIM and operation as a roaming SIM is a software module that is downloaded to the device.

4. The wireless device of Claim 2 or 3 in which the user can manually control the switching between the local SIM and roaming SIM operation.

5. The wireless device of Claim 4 in which switching is done by an end-user operating a switch.

6. The wireless device of Claim 4 in which switching is done by an end-user interacting with an on-screen menu displayed on the device.

7. The wireless device of any preceding Claim 2 – 6, in which, when the device is operating as a local SIM, it uses a local SIM sub-module that is associated with a network operator 1 based in country A.

8. The wireless device of Claim 7 in which, when the device is operating as a roaming SIM, it uses a roaming SIM sub-module that is associated with a network operator 2 based in country B.

9. The wireless device of Claim 8 in which the local SIM sub-module includes an IMSI number associated with a subscriber and operator 1.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 104 of 469

10. The wireless device of Claim 9 in which the roaming SIM sub-module includes an IMSI number associated with the subscriber and operator 2.

11. The wireless device of Claim 10 in which its standby mode is to use the local SIM sub-module so that incoming calls using the IMSI number associated with operator 1 are received.

12. The wireless device of Claim 11 in which the user can use the roaming SIM sub-module so that outgoing calls use the IMSI number associated with operator 2.

13. The wireless device of Claim 12 in which the tariff associated with operator 2 for outgoing calls is lower than the tariff associated with operator 1 for outgoing calls.

14. The wireless device of Claim 13 in which the tariff associated with operator 2 for outgoing calls made when the subscriber is outside country A is lower than the tariff associated with operator 1 for outgoing calls made when the subscriber is outside country A.

15. The wireless device of Claim 12 in which the tariff associated with operator 2 for outgoing calls made when the subscriber is inside country A is lower than the tariff associated with operator 1 for outgoing calls made when the subscriber is inside country A.

16. The wireless device of Claim 12 in which operator 2 places fewer restrictions than operator 1, including restrictions on destination servers accessed.

17. The wireless device of Claim 8 – 16, in which the local SIM sub-module and the roaming SIM sub-module are sub-modules within the single SIM.

18. The wireless device of Claim 8 – 16, in which the application module, the local SIM sub-module and the roaming SIM sub-module are each sub-modules within the single SIM.

19. The wireless device of Claim 7 in which, when a call terminates, then the device reverts to its standby mode of using the local SIM sub-module.

20. The wireless device of any preceding Claim, in which the application module controls communication to a wireless network.

21. The wireless device of any preceding Claim in which the application module includes one or more of the following sub-modules: SIM control unit; features control unit; local SIM sub-module, roaming SIM sub-module; external switch controlling the selection of either the local SIM or roaming SIM sub-modules.

22. The wireless device of Claim 21 in which the SIM control unit enables the local SIM sub-module or roaming SIM sub-module to be selected.

23. The wireless device of Claim 21 in which the features control unit enables the caller ID to be modified.

24. The wireless device of Claim 23 in which the features control unit enables the roaming SIM sub-module to be selected when a user presses a predefined key on the wireless device.

25. The wireless device of Claim 21 in which the external switch allows the application module to control the selection of the local SIM sub-module or the roaming SIM sub-module.

26. The wireless device of Claim 21 in which the application module selects the local SIM sub-module as a default when powered on.

27. The wireless device of Claim 21 in which the SIM control unit stores a PIN associated with each of the local and roaming sub-modules and uses that PIN automatically to eliminate the need for manual entry of that PIN.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 106 of 469

28. The wireless device of Claim 27 in which the SIM control unit selects the local SIM sub-module as a default when powered on.

29. The wireless device of any preceding Claim, when enabling communications with a mobile virtual network operator, virtual telecoms operator or a virtual telecoms provider.

30. The wireless device of any preceding Claim, being is a mobile telephone, wireless card, smart phone or wireless module.

31. A downloadable software based application module that, when running on a wireless device, results in that device being a device as defined in any preceding claim.

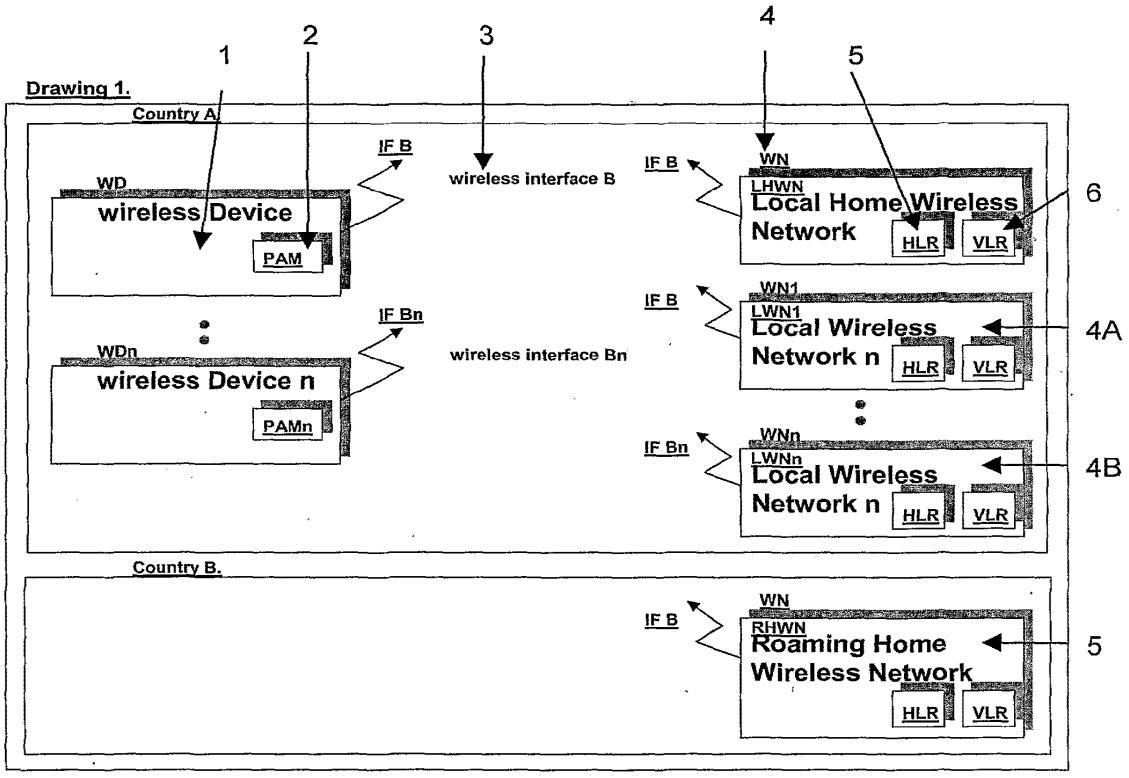
32. A method of communicating with a wireless network, comprising the step of using a wireless device as claimed in any preceding Claim 1- 31.

33. A SIM including a local SIM sub-module with a first IMSI and a second SIM sub-module with a different IMSI, the SIM being switchable between either of the sub-modules.

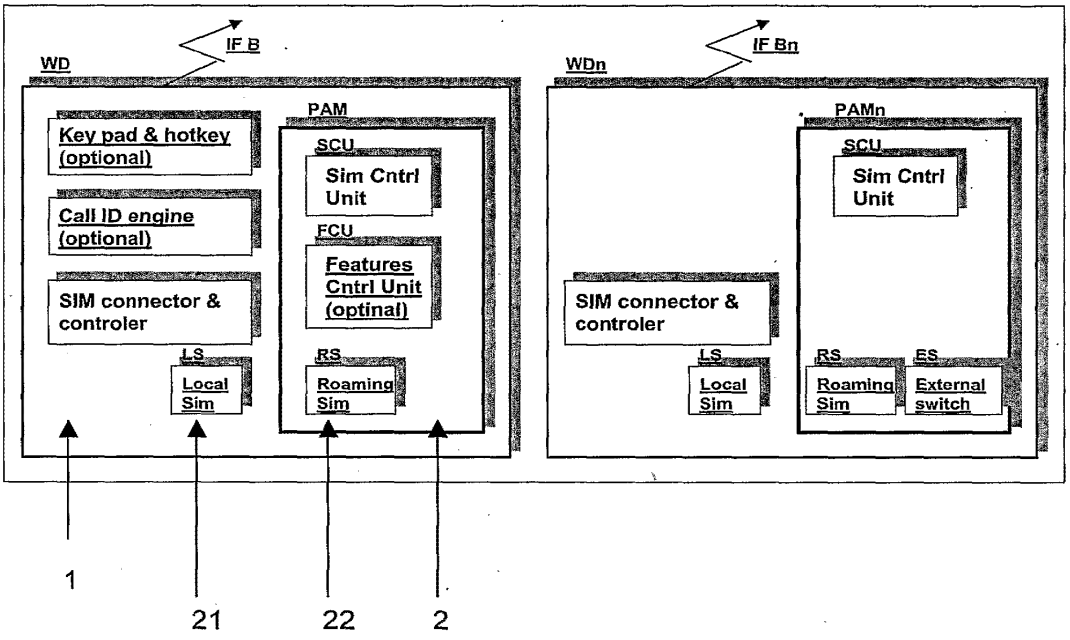
34. The SIM of claim 33, further including an application module to control the switching.

35. The SIM of Claim 33 or 34, which, when used in combination with a wireless device, renders that wireless device as a wireless device as defined in any preceding Claim 1 – 30.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 107 of 469

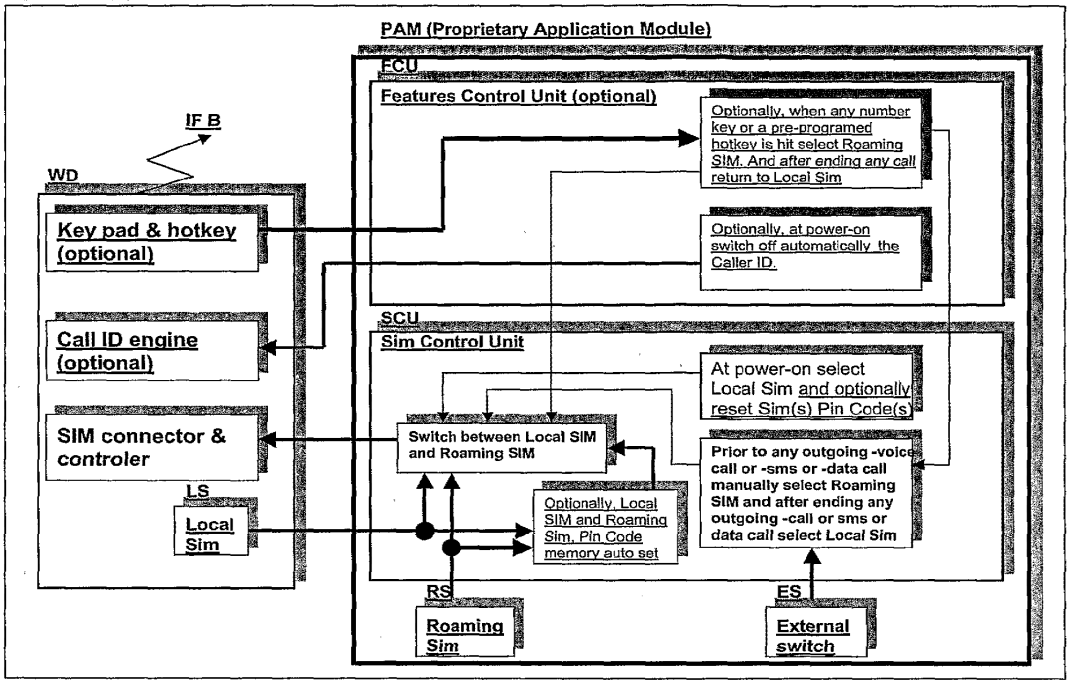

Drawing 1.
1
2
3
4
5
6
Country A
WD
wireless Device
PAM
IF B
wireless interface B
WDn
wireless Device n
PAMn
IF Bn
wireless interface Bn
WN
LHWN
Local Home Wireless Network
HLR
VLR
WN1
LWN1
Local Wireless Network n
4A
WNn
LWNn
4B
Country B.
RHWN
Roaming Home Wireless Network

Drawing 2.

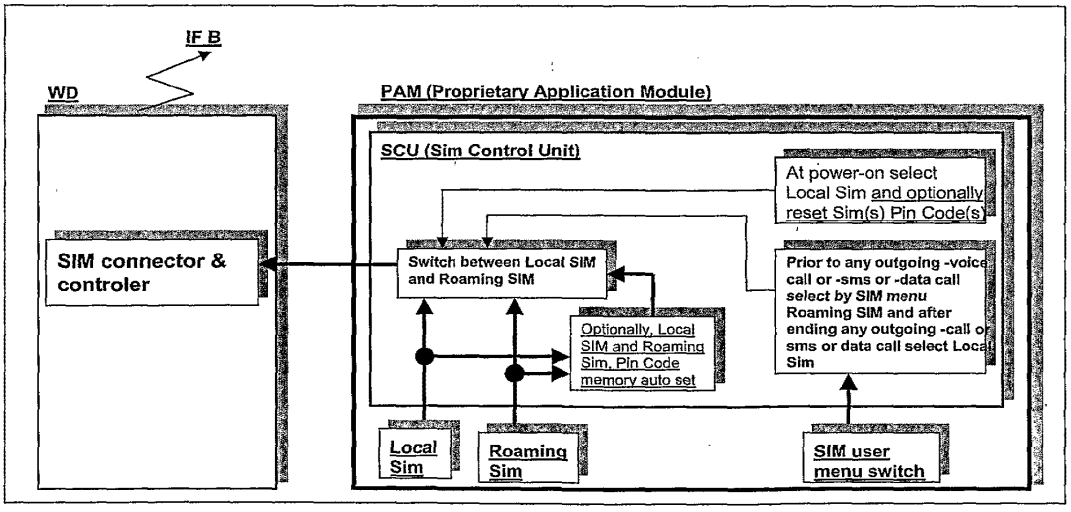


Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 109 of 469

Drawing 3.



Drawing 4.



Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 110 of 469

INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2007/000799

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04Q7/38
ADD. H04Q7/32

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H04Q

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

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/55107 A (SWISSCOM AG [CH]; STADELMANN ANTON NIKLAUS [CH]; HIRZEL WERNER [CH]; H) 28 October 1999 (1999-10-28) abstract page 2, line 23 - page 3, line 21 page 6, line 23 - page 7, line 8 page 8; table 1 page 11, line 14 - page 12, line 2 claims 1,2,7,8,12 ----- -/--	1-35

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

[X] See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier document but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
22 June 2007	02/07/2007

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

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

INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2007/000799

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 814 030 A1 (TRANSATEL [FR]) 15 March 2002 (2002-03-15) abstract figures 1,2 page 3, lines 6-18,25-29 page 4, lines 1-8 page 6, line 27 - page 7, line 21 page 9, line 22 - page 10, line 6 page 10, line 27 - page 12, line 25 page 14, line 26 - page 15, line 20 page 16, lines 5-9 -----	1-35
X	FR 2 790 161 A (SCHLUMBERGER SYSTEMS & SERVICE [FR]) 25 August 2000 (2000-08-25) abstract figures 1-3 page 5, line 23 - page 9, line 14 claim 6 -----	1,2, 31-35

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

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/GB2007/000799

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9955107 A	28-10-1999	AT 201948 T	15-06-2001
		AU 747302 B2	16-05-2002
		AU 2824399 A	08-11-1999
		BR 9906361 A	19-09-2000
		CA 2293384 A1	28-10-1999
		CN 1263682 A	16-08-2000
		CZ 9904271 A3	15-03-2000
		DE 59900110 D1	12-07-2001
		DK 990364 T3	17-09-2001
		EP 0990364 A1	05-04-2000
		ES 2159988 T3	16-10-2001
		GR 3036495 T3	30-11-2001
		HU 0003259 A2	28-02-2001
		ID 23524 A	27-04-2000
		JP 2002511223 T	09-04-2002
		NO 996146 A	17-02-2000
		NZ 501860 A	31-08-2001
		PL 337282 A1	14-08-2000
		PT 990364 T	30-11-2001
		RU 2216881 C2	20-11-2003
		TR 200000205 T1	21-09-2000
		US 6738622 B1	18-05-2004
		ZA 9907597 A	12-06-2000
FR 2814030 A1	15-03-2002	AU 8782301 A	22-03-2002
		EP 1316237 A1	04-06-2003
		WO 0221872 A1	14-03-2002
FR 2790161 A	25-08-2000	CN 1341332 A	20-03-2002
		EP 1153517 A1	14-11-2001
		WO 0049820 A1	24-08-2000
		JP 2002537738 A	05-11-2002

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 113 of 469

Electronic Acknowledgement Receipt	
EFS ID:	12566650
Application Number:	13235021
International Application Number:	
Confirmation Number:	2302
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Customer Number:	60533
Filer:	Jeffrey G. Toler/Katherine Meals
Filer Authorized By:	Jeffrey G. Toler
Attorney Docket Number:	1082-0008-C1
Receipt Date:	18-APR-2012
Filing Date:	16-SEP-2011
Time Stamp:	10:37:38
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	1082-0008-C1_IDS.pdf	1710900 db271bc325f6532e11a698fdc6726602e5a81539	no	12

Warnings:
Information:

This is not an USPTO supplied IDS fillable form					
2	Foreign Reference	WO2007102003A1.pdf	1376101 0a2ed0055a13f9e484db79710fee92a94820e659	no	28
Warnings:					
Information:					
3	Non Patent Literature	Reference_1.pdf	5391042 2815d60ec3385d36a633c5c78596f9ba1e246c2a	no	40
Warnings:					
Information:					
			Total Files Size (in bytes):	8478043	

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

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

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

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

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	Shaowei Pan
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					
If you wish to add additional U.S. Patent citation information please click the Add button.						

U.S.PATENT APPLICATION PUBLICATIONS						
Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					
If you wish to add additional U.S. Published Application citation information please click the Add button.						

FOREIGN PATENT DOCUMENTS								
Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							☐
If you wish to add additional Foreign Patent Document citation information please click the Add button								

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

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 116 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	Shaowei Pan
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	1	B.G. Evans and K. Baughan; "Visions of 4G"; Electronics & Communication Engineering Journal; December 2000; pgs 293-303	☐
	2	Shirshanka Das, Alok Nandan & Giovanni Pau (University of CA, Los Angeles, CA, USA); "SPAWN: A Swarming Protocol For Vehicular Ad-Hoc Wireless Networks"; VANET'04, October 1, 2004, Philadelphia, PA, USA; ACM 1-58113-922-5/04/0010; 2 pgs	☐
	3	Yu-Chee Tseng, Chia-Ching Shen (National Chiao Tung University) & Wen-Tsuen Chen (National Tsing Hua University); "Integrating Mobile IP with AD Hoc Networks"; IEEE Computer Society; 0018-9162/03; 2003 IEEE; May 2003; pgs. 48-55	☐
	4	Halim Yanikomeroglu, David D. Falconer & Van M. Sreng; "Coverage Enhancement Through Two-Hop Peer-to-Peer Relaying in Cellular Radio Networks"; Broadband Communications and Wireless Systems (BCWS) Centre Department of Systems & Computer Engineering, Carleton University, Ottawa, Canada; WWRF Meeting #7, Eindhoven, the Netherlands, 3-4 December 2002, WG4: Spectrum, New Air Interfaces and Ad-Hoc Networking Multi-Hop Wireless Systems; 10 pages	☐
	5	Bur Goode; "Voice Over Internet Protocol (VoIP)"; 0018-9219/02 2002 IEEE; Proceedings of the IEEE; Vol. 90, No. 9, September 2002; pgs. 1495-1517	☐
	6	Kyung-Hyu Lee, Kyu-Ok Lee & Kwon-Chul Park (Network Research Laboratory ETRI Korea) Jong-Ok Lee and Yoon-Hak Bang (Network Planning Team KT Korea); "Architecture To be Deployed on Strategies of Next-Generation Networks"; 0-7803-7802-4/03 2003 IEEE; pgs. 819-822	☐
	7	Wolfgang Kellerer, Christian Bettstetter, Christian Schwingenschlögl & Peter Sties (Technische Universität München) Karl-Ernst Steinberg (BMW) & Hans-Jörg Vögel (the Fantastic Corp); "(Auto) Mobile Communication in a Heterogeneous and Converged World"; IEEE Personal Communications; December 2001; 1070-9916/01; 2001 IEEE pgs. 41-47	☐
	8	Nilanjan Banerjee & Sajal K. Das (University of Texas, Arlington) & Arup Acharya (IBM T.J. Watson Research Center)' "Peer-to-peer SIP-based Services over Wireless Ad Hoc Networks"; BROADWIM: Broadband Wireless Multimedia Workshop; October 29, 2004 - broadnets.org; *This work was supported by NSF under the ORBIT testbed project, grant # NSF NRT Project #ANI-0335244 and by NSF ITR grant IIS-0326505; 8 pages	☐
	9	Hung-Yu Wei (Columbia University) & Richard D. Gitlin (NEC Laboratories America); "Two-Hop-Relay Architecture for Next-Generation WWAN/WLAN Integration"; 4G Mobile Communications: Toward Open Wireless Architecture; 1536-1284/04 2004 IEEE; IEEE Wireless Communications; April 2004; pgs 2-9	☐
	10	Wolfgang Kellerer (LKN, Munich University of Technology), Hans-Jörg Vögel (the Fantastic Corp.) & Karl-Ernst Steinberg (BMW); "A Communication Gateway for Infrastructure Independent Wireless Access"; IEEE Communications Magazine; March 2002; Vol. 9; No. 3; 6 pages	☐
	11	Willie W. Lu & Jenny Hu (U.S. Center for Wireless Communications, Stanford University, CA); "Open Wireless Architecture - The Core to 4G Mobile Communications"; China Communications; April 2006; pgs 32-39	☐

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 117 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	Shaowei Pan
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	12	Ralf Pabst, Bernard H. Walke & Daniel C. Schultz (RWTH Aachen University) Patrick Herhold & Gerhard P. Fettweis (Technical University of Dresden) Halim Yanikomeroglu & David D. Falconer (Carleton University) Sayandev Mukherjee & Harish Viswanathan (Lucent Technologies) Matthias Lott & Wolfgang Zirwas (Siemens ICM) Mischa Dohler & Hamid Aghvami (Kings College); "Relay-Based Deployment Concepts for Wireless and Mobile Broadband Radio"; 0163-6804/04; 2004 IEEE; IEEE Communications Magazine; September 2004; pgs 80-89	☐
	13	Simone Frattasi, Hanane Fathi, Frank H.P. Fitzek & Ramjee Prasad (Aalborg University) Marcos D. Katz (Samsung Electronics); "Defining 4G Technology from the User's Perspective"; IEEE Network; January/February 2006; 0890-8044/06; 2006 IEEE; pgs 35-41	☐
	14	Ian F. Akyildiz (Broadband and Wireless Networking BWN Lab, Georgia Institute of Technology) Xudong Wang & Weilin Wang (Kiyon, Inc. La Jolla, CA); "Wireless Mesh Networks: A Survey"; Computer Networks 47; January 1, 2005; pgs 445-487; 1389-1286 2004 Elsevier B.V.	☐
	15	Brian Woerner (Virginia Tech, Blacksburg, VA) & Mostofa Howlader (University of Tennessee, Knoxville, TN); "Research Directions for Fourth Generation Wireless"; Proceedings of the 10th IEEE International Workshops on Enabling Technologies: Infrastructure for Collaborative Enterprises (WETICE 2001); 20-22 June 2001; Cambridge, MA, USA; IEEE Computer Society 2001; ISBN 0-7695-1269-0; 2 pages	☐
	16	"Framework and Overall Objectives of the Future Development of IMT-2000 and Systems Beyond IMT-2000"; International Telecommunication Union; ITU-R Radiocommunication Sector of ITU; Recommendation ITU-R M.1645 (June 2003); M Series; Mobile, Radiodetermination, Amateur and Related Satellite Services; 26 pages	☐

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

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

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

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

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 118 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	Shaowei Pan
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

CERTIFICATION STATEMENT

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

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

OR

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

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

SIGNATURE

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

Signature	/Jason L. Moore/	Date (YYYY-MM-DD)	2012-10-02
Name/Print	Jason L. Moore	Registration Number	52046

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

Electronic Acknowledgement Receipt

EFS ID:	13976480
Application Number:	13235021
International Application Number:	
Confirmation Number:	2302
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Customer Number:	60533
Filer:	Jeffrey G. Toler/Katherine Meals
Filer Authorized By:	Jeffrey G. Toler
Attorney Docket Number:	1082-0008-C1
Receipt Date:	12-OCT-2012
Filing Date:	16-SEP-2011
Time Stamp:	17:06:01
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	1082-0008-C1_IDS.pdf	848328 e1c841c6ad1cb771a37f11e05089d2e4aa056641	no	4

Warnings:	
Information:	

This is not an USPTO supplied IDS fillable form					
2	Non Patent Literature	Reference_1.pdf	2977414 22a1dc3e0f63a33f7b68d1b59c6548235d9fea1d	no	11
Warnings:					
Information:					
3	Non Patent Literature	Reference_2.pdf	428307 3ffda93aa0135205c2858f49be00b62fbfa642f1	no	2
Warnings:					
Information:					
4	Non Patent Literature	Reference_3.pdf	2718486 9b1350b61ccd6404d3f385162105bbbdadd25eb4	no	8
Warnings:					
Information:					
5	Non Patent Literature	Reference_4.pdf	1594843 1d4817525fd0e5b3dd44833b15f4e712d3c4186d	no	10
Warnings:					
Information:					
6	Non Patent Literature	Reference_5.pdf	6579866 d57b68ea9ed3c461dba486c4eba234e9fc49bdd0	no	23
Warnings:					
Information:					
7	Non Patent Literature	Reference_6.pdf	937620 121c3dd7678455f8f190e1f084a151dd867ca5cc	no	4
Warnings:					
Information:					
8	Non Patent Literature	Reference_7.pdf	2293115 7b20775013b90062f236cf277b1ccac0bcaaff12	no	7
Warnings:					
Information:					
9	Non Patent Literature	Reference_8.pdf	1842419 05b974dce2a8fbf15d99290d72ea163f19bd9f6e	no	8
Warnings:					
Information:					
10	Non Patent Literature	Reference_9.pdf	2108037 4e9a5cc640ca2b13bcd351439fe804020dcd948b	no	8

Warnings:					
Information:					
11	Non Patent Literature	Reference_10.pdf	1292754 e48b74fa78278bb046e20d5733499446b0307bc9	no	6
Warnings:					
Information:					
12	Non Patent Literature	Reference_11.pdf	2210540 491b3225c41f1a8eeb16de495ae5484d9a8a7ea9	no	8
Warnings:					
Information:					
13	Non Patent Literature	Reference_12.pdf	2933807 5121552dbbf30596924922de0af3168d69ce8a6a	no	10
Warnings:					
Information:					
14	Non Patent Literature	Reference_13.pdf	2364561 2ddf5da0394b92c30216a2489e2a524a5d8c9b64	no	7
Warnings:					
Information:					
15	Non Patent Literature	Reference_14.pdf	10188733 24c05a07ebda69341f5ce286831999cd26779d95	no	43
Warnings:					
Information:					
16	Non Patent Literature	Reference_15.pdf	338078 60e667314a1b64ee8765e69a302604beb1dc2401	no	2
Warnings:					
Information:					
17	Non Patent Literature	Reference_16.pdf	4770684 863d6d56f09254b35f63387fdb55d1baabf7d552	no	26
Warnings:					
Information:					
			Total Files Size (in bytes):	46427592	

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

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

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

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/235,021	09/16/2011	Shaowei Pan	1082-0008-C1	2302

60533 7590 10/24/2013

TOLER LAW GROUP
TOLER LAW GROUP
8500 BLUFFSTONE COVE
SUITE A201
AUSTIN, TX 78759

EXAMINER	
NGUYEN, THU HA T	
ART UNIT	PAPER NUMBER
2453	
MAIL DATE	DELIVERY MODE
10/24/2013	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 13/235,021	Applicant(s) PAN, SHAOWEI	
	Examiner THU HA NGUYEN	Art Unit 2453	AIA (First Inventor to File) Status No

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 September 2011*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1-20* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-20* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some * c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Interim copies:

a)☐ All b)☐ Some c)☐ None of the: Interim copies of the priority documents have been received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/16/11, 04/18/12, 10/12/12*.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 125 of 469

DETAILED ACTION

1. Claims **1-20** are presented for examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 10, 13, 15-16, and 18-20 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by **Brown et al.,** U.S. Pub. No. **2004/0203677**.

4. As to claim 10, **Brown** teaches the invention as claimed, including a method, comprising:

receiving a call from a communication device at a distributed mobile architecture gateway (DMAG) via a network, wherein the call is associated with a destination device (par. 0007, 0104, 0105);

determining that a first distributed mobile architecture (DMA) server supports wireless communication with the destination device based on registration data stored at the DMAG (par. 0010, 0013, 0108);

converting information associated with the call to packet data; and routing the packet data to the destination device via the first DMA server (par. 0014, 0076-0080).

5. As to claim 11, **Brown** teaches the invention as claimed, including the method of claim 10, wherein the call is received at the DMAG according to a first protocol associated with a legacy network, and wherein converting the voice information to packet data comprises converting the voice information to internet protocol (IP) packet data (par. 0014, 0076-0080, 0108-0113).

6. As to claim 12, **Brown** teaches the invention as claimed, including the method of claim 11, wherein the packet data is routed to the first DMA server via an IP network (fig. 1, 0110-0112).

7. As to claim 13, **Brown** teaches the invention as claimed, including the method of claim 11, wherein the registration data stored at the DMAG indicates that the first DMA server is associated with a first coverage area, and wherein the registration data indicates that the destination device is within the first coverage area (par. 0097, 0167-0168).

8. As to claim 15, **Brown** teaches the invention as claimed, including a non-transitory computer-readable storage medium, comprising instructions, that when executed by a processor, cause the processor to:

receive a call from a communication device at a distributed mobile architecture gateway (DMAG), wherein the call is associated with a destination device (par. 0007, 0104, 0105);

determine that a first distributed mobile architecture (DMA) server supports communication with the destination device based on registration data stored at the DMAG (par. 0010, 0013, 0108);

convert information associated with the call to packet data to be routed to the destination device via the first DMA server (par. 0014, 0076-0080).

9. As to claim 16, **Brown** teaches the invention as claimed, including the non-transitory computer-readable storage medium of claim 15, wherein the packet data is routed to the first DMA server via an internet protocol (IP) network (fig. 1, 0110-0112).

10. As to claim 18, **Brown** teaches the invention as claimed, including the non-transitory computer-readable storage medium of claim 17, wherein the second packet data is associated with data traffic (par. 0006, 0011, 0090, 0107-0108).

11. As to claim 19, **Brown** teaches the invention as claimed, including the non-transitory computer-readable storage medium of claim 15, wherein the DMAG supports communication with the network via a first network interface (par. 0097, 0167-0168).

12. As to claim 20, **Brown** teaches the invention as claimed, including the non-transitory computer-readable storage medium of claim 15, wherein the DMAG supports communication with at least one additional network via at least one additional network interface (fig. 1).

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-9, 14 and 17 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over **Brown et al.,** U.S. Pub. No. **2004/0203677**, and in view of **Nix, Jr. et al.**, (hereinafter Nix) U.S. Pub. No. **2012/0020293**.

13. As to claim 1, **Brown** teaches the invention as claimed, including a method comprising:

receiving a call from a first mobile device at a base transceiver station (BTS) interface of a first distributed mobile architecture (DMA) server, wherein the call is associated with a destination device (par. 0007, 0104, 0105);

determining that a first distributed mobile architecture gateway (DMAG) supports communication with the destination device based on registration data stored at the first DMA server (par. 0010, 0013, 0108);

converting voice information associated with the call to packet data; and routing the packet data to the destination device via the first DMAG (par. 0014, 0076-0080).

However, **Brown** does not explicitly teach wherein the registration data indicates that the destination device is not within a coverage area associated with the first DMA server.

Nix teaches wherein the registration data indicates that the destination device is not within a coverage area associated with the first DMA server (par. 0005, 0013, 0168-0169, 0179).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of **Brown and Nix** in order to provide an efficient system to allow a standard mobile handset to communicate voice and data through voice over internet protocol (VoIP).

14. As to claim 2, **Brown** teaches the invention as claimed, including the method of claim 1, wherein the first DMAG is communicatively coupled to one or more legacy networks, and wherein the first destination device is associated with at least one of the one or more legacy networks (fig. 1).

15. As to claim 3, **Brown** teaches the invention as claimed, including the method of claim 1, wherein the call is received at the first DMA server via a first wireless communication protocol (par. 0007).

16. As to claim 4, **Brown** teaches the invention as claimed, including the method of claim t, wherein converting the voice information to the packet data comprises converting the voice information to internet protocol (IP) packet data (par. 0014, 0078-0080, 0104-0106, 0204).

17. As to claim 5, **Brown** teaches the invention as claimed, including the method of claim 4, wherein the packet data is routed to the first DMAG via a private IP network (par. 0078-0080, 0170, 0181, 0204).

18. As to claim 6, **Brown** teaches the invention as claimed, including the method of claim 1, wherein the first DMAG is in communication with a plurality of legacy communication networks (fig. 1).

19. As to claim 7, **Brown** teaches the invention as claimed, including the method of claim 1, wherein the first DMA server is configured to receive one or more calls while the first DMA server is moving (par. 0007, 0167-0168).

20. As to claim 8, **Brown** teaches the invention as claimed, including the method of claim 7, wherein the first DMA server is located within a first coverage area associated with the first DMAG when the call is received (par. 0097, 0167-0168).

21. As to claim 9, 14, 17, **Nix** teaches the invention as claimed, including the method of claim 8, further comprising: converting additional voice information associated with the call to additional packet data; in response to determining that the first DMA server has moved into a second coverage area associated with a second DMAG, determining that the second DMAG supports communication with the destination device; and routing the additional packet data to the destination device via the second DMAG (par. 0013, 0150, 0168-0169, 0179).

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Ha Nguyen, whose telephone number is (571) 272-3989. The examiner can normally be reached Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Krista Zele, can be reached at (571) 272-7288.

The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/THUHA T. NGUYEN/

Primary Examiner, Art Unit 2453

Notice of References Cited	Application/Control No. 13/235,021	Applicant(s)/Patent Under Reexamination PAN, SHAOWEI	
	Examiner THU HA NGUYEN	Art Unit 2453	Page 1 of 3

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2001/0013050 A1	08-2001	Shah, Niraj A.	709/202
*	B	US-2002/0051518 A1	05-2002	Bondy et al.	379/35
*	C	US-6,549,937 B1	04-2003	Auerbach et al.	709/206
*	D	US-2004/0203621 A1	10-2004	Brown et al.	455/412.1
*	E	US-2004/0203677 A1	10-2004	Brown et al.	455/416
*	F	US-2005/0044152 A1	02-2005	Hardy et al.	709/206
*	G	US-2005/0250491 A1	11-2005	Roy, Radhika R.	455/428
*	H	US-2006/0026252 A1	02-2006	Caspi et al.	709/207
*	I	US-7,003,286 B2	02-2006	Brown et al.	455/416
*	J	US-2006/0052113 A1	03-2006	Ophir et al.	455/456.1
*	K	US-2006/0046714 A1	03-2006	Kalavade, Asawaree	455/428
*	L	US-2007/0060124 A1	03-2007	Kalavade, Asawaree	455/433
*	M	US-2007/0076697 A1	04-2007	Huotari et al.	370/352

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Notice of References Cited	Application/Control No. 13/235,021	Applicant(s)/Patent Under Reexamination PAN, SHAOWEI	
	Examiner THU HA NGUYEN	Art Unit 2453	Page 2 of 3

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2007/0243891 A1	10-2007	Civanlar et al.	455/466
*	B	US-2007/0271606 A1	11-2007	Amann et al.	726/15
*	C	US-2007/0293216 A1	12-2007	Jiang, John Yue Jun	455/433
*	D	US-2007/0291910 A1	12-2007	Bucchieri et al.	379/88.06
*	E	US-2008/0101410 A1	05-2008	Barkley et al.	370/473
*	F	US-2008/0134295 A1	06-2008	Bailey et al.	726/4
*	G	US-2008/0168523 A1	07-2008	Ansari et al.	725/131
*	H	US-2008/0244014 A1	10-2008	Britton et al.	709/206
*	I	US-2009/0031244 A1	01-2009	Brezina et al.	715/781
*	J	US-7,490,132 B1	02-2009	Lyle et al.	709/207
*	K	US-2009/0067441 A1	03-2009	Ansari et al.	370/401
*	L	US-7,522,632 B2	04-2009	La Porta et al.	370/466
*	M	US-2009/0156213 A1	06-2009	SPINELLI et al.	455/436

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Notice of References Cited	Application/Control No. 13/235,021	Applicant(s)/Patent Under Reexamination PAN, SHAOWEI	
	Examiner THU HA NGUYEN	Art Unit 2453	Page 3 of 3

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2009/0228555 A1	09-2009	Joviak et al.	709/205
*	B	US-2009/0270097 A1	10-2009	Gallagher et al.	455/435.1
*	C	US-2009/0292785 A1	11-2009	Leedberg et al.	709/206
*	D	US-2010/0057732 A1	03-2010	O'Sullivan et al.	707/6
*	E	US-2010/0080214 A1	04-2010	Li et al.	370/352
*	F	US-2010/0094878 A1	04-2010	Soroca et al.	707/748
*	G	US-2010/0217809 A1	08-2010	Vymenets et al.	709/206
*	H	US-2010/0217837 A1	08-2010	Ansari et al.	709/218
*	I	US-2010/0199340 A1	08-2010	Jonas et al.	726/8
*	J	US-2012/0020293 A1	01-2012	Nix et al.	370/328
*	K	US-2012/0044908 A1	02-2012	SPINELLI et al.	370/331
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	13235021
Filing Date	2011-09-16
First Named Inventor	SHAOWEI PAN
Art Unit	2473
Examiner Name	YAO, Kwang Bin
Attorney Docket Number	1082-0008-C1

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5623495		1997-04-22	ENG ET AL.	
	2	7120436		2006-10-10	KIM	
	3	6751207	B1	2004-06-15	LEE ET AL.	
	4	6760325	B1	2004-07-06	HAMELEERS ET AL.	
	5	6678155	B1	2004-01-13	BRESNIKER	
	6	6704409	B1	2004-03-09	DILIP ET AL.	
	7	7171216		2007-01-30	CHOKSI	
	8	7856233	B2	2010-12-21	PAN	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	9	4284848		1981-08-18	FROST	
	10	5590175		1996-12-31	GALLANT ET AL.	
	11	6816706	B1	2004-11-09	HOHNSTEIN ET AL.	
	12	6871072	B1	2005-03-22	MECHE	
	13	7136651	B2	2006-11-14	KALAVADE	
	14	5734979		1998-03-31	LU ET AL.	
	15	7760695	B2	2010-07-20	GOPALAKRISHNAN ET AL.	
	16	6131038		2000-10-10	SEKINE ET AL.	
	17	6807432	B2	2004-10-19	HWANG	
	18	6418308	B1	2002-07-09	HEINONEN ET AL.	
	19	8089920		2012-01-03	PAN	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	20	7120435	B2	2006-10-10	USHER ET AL.	
	21	7313399	B2	2007-12-25	RHEE ET AL.	
	22	7324478	B2	2008-01-29	PARK ET AL.	
	23	7787879	B1	2010-08-31	PHILIPS ET AL.	
	24	7349412	B1	2008-03-25	JONES ET AL.	
	25	7328268	B1	2008-02-05	FOLTAK ET AL.	
	26	5933784		1999-08-03	GALLAGHER ET AL.	
	27	5991639		1999-11-23	RAUTIOLA ET AL.	
	28	6160804		2002-12-12	AHMED ET AL.	
	29	6542497	B1	2003-04-01	CURRY ET AL.	
	30	6697355	B1	2004-02-04	LIM	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 139 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	31	7385947	B2	2008-06-10	WU ET AL.	
	32	7406069	B2	2008-07-29	YASHAR ET AL.	
	33	7003286	B2	2006-02-21	BROWN ET AL.	
	34	7054322	B2	2006-05-30	D'ANNUNZIO ET AL.	
	35	6735184	B1	2004-05-11	DAVIDSON ET AL.	
	36	6985454	B1	2006-01-10	WIEDEMAN ET AL.	
	37	7133670		2006-11-07	MOLL ET AL.	
	38	7552670		2009-06-30	GOLDMAN ET AL.	
	39	7054307	B2	2006-05-30	PAPADIMITRIOU ET AL.	
	40	7738488	B2	2010-06-15	MARISCO ET AL.	
	41	6731932	B1	2004-05-04	RUNE ET AL.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 140 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	42	7840230		2010-11-23	PAN	
	43	7424313	B2	2008-09-09	HAM ET AL.	
	44	7359700	B2	2008-04-15	SWENSON ET AL.	
	45	7299039	B2	2007-11-20	LEE ET AL.	
	46	7158621	B2	2007-01-02	BAYNE	
	47	6937708	B2	2005-08-30	HIROSE	
	48	7979066		2011-07-12	PAN	
	49	7855988		2010-12-21	PAN	
	50	8107409		2012-01-31	PAN	
	51	8046420		2011-10-25	PAN	
If you wish to add additional U.S. Patent citation information please click the Add button.						
U.S.PATENT APPLICATION PUBLICATIONS						

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 141 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20080101314	A1	2008-05-01	BACHMUTSKY	
	2	20090022155	A1	2009-01-22	ROSENBERG ET AL.	
	3	20030096628	A1	2003-05-22	BAR-ON ET AL.	
	4	20060063544	A1	2006-03-23	ZHAO ET AL.	
	5	20060159039	A1	2006-07-20	JUNG ET AL.	
	6	20020061746	A1	2002-05-23	JO ET AL.	
	7	20020160772	A1	2002-10-31	GAILEY ET AL.	
	8	20030092441	A1	2003-05-15	TAHA ET AL.	
	9	20030100302	A1	2003-05-29	ARMBRUSTER ET AL.	
	10	20070010245	A1	2007-01-11	LEVITAN	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 142 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	11	20040253984	A1	2004-12-16	CSAPO ET AL.	
	12	20030088698	A1	2003-05-08	SINGH ET AL.	
	13	20060221912	A1	2006-10-05	OLIVIER ET AL.	
	14	20060217121		2006-09-28	SOLIMAN ET AL.	
	15	20050064922		2005-03-24	OWENS ET AL.	
	16	20070232304		2007-10-04	GOLDMAN ET AL.	
	17	20070021097		2007-01-25	GAETA ET AL.	
	18	20020016180		2002-02-07	DEROSIER ET AL.	
	19	20060148465		2006-07-06	PERDOMO ET AL.	
	20	20090327819	A1	2009-12-31	PAN	
	21	20070021118		2007-01-25	OPHIR	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	22	20090227230		2009-09-10	CAMILLERI ET AL.	
	23	20110060853	A1	2011-03-10	PAN	
	24	20110059740	A1	2011-03-10	PAN	
	25	20070087738	A1	2007-04-19	MELKESETIAN	
	26	20040204097	A1	2004-10-14	SCHEINERT ET AL.	
	27	20110223921	A1	2011-09-15	PAN ET AL.	
	28	20090325584	A1	2009-12-31	PAN	
	29	20100057485		2010-03-04	LUFT	
	30	20100048197		2010-02-25	JIANG	
	31	20090215449		2009-08-27	AVNER	
	32	20070008968	A1	2007-01-11	BAKER ET AL.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 144 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	33	20060114934	A1	2006-06-01	SHIN ET AL.	
	34	20030048766	A1	2003-03-13	D'ANNUNZIO ET AL.	
	35	20020009060	A1	2002-01-24	GROSS	
	36	20070230352	A1	2007-10-04	KOKKU ET AL.	
	37	20050091392	A1	2005-04-28	GESSWEIN ET AL.	
	38	20060258358	A1	2006-11-16	KALLIO	
	39	20070147598	A1	2007-06-28	SOMES ET AL.	
	40	20090003269	A1	2009-01-01	KUMAZAWA ET AL.	
	41	20050070278	A1	2005-03-31	JIANG	
	42	20060142011	A1	2006-06-29	KALLIO	
	43	20070213075		2007-09-13	JIANG	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 145 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	44	20100048197		2010-02-25	JIANG	
	45	20050075106		2005-04-07	JIANG	
	46	20100048208		2002-02-25	GUNARATNAM ET AL.	
	47	20060141984		2006-06-29	TAGLIENTI ET AL.	
	48	20020058502	A1	2002-05-16	STANFORTH	
	49	20060203746	A1	2006-09-14	MAGGENTI ET AL.	
	50	20010046859	A1	2001-11-29	KIL	
	51	20060046760	A1	2006-03-02	BERTINO ET AL.	
	52	20020045444	A1	2002-04-18	USHER ET AL.	
	53	20090186626	A1	2009-07-23	RAGHOTHAMAN	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 146 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2007102003	WO	A1	2007-09-13	GHOST TELECOM LIMITED		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	PAN, US PATENT APPLICATION NO. 13/309,003; "PROVIDING COMMUNICATIONS USING A DISTRIBUTED MOBILE ARCHITECTURE"; FILED 2011-12-20; ATTORNEY DOCKET NO. 1082-0001-C2	☐

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

EXAMINER SIGNATURE

Examiner Signature	/Thu Ha Nguyen/	Date Considered	10/22/2013

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

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

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

CERTIFICATION STATEMENT

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

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

OR

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

☐ See attached certification statement.

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

☒ A certification statement is not submitted herewith.

SIGNATURE

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

Signature	/Jeffrey G. Toler/	Date (YYYY-MM-DD)	2012-04-17
Name/Print	JEFFREY G. TOLER	Registration Number	38342

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

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	Shaowei Pan
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					
If you wish to add additional U.S. Patent citation information please click the Add button.						

U.S.PATENT APPLICATION PUBLICATIONS						
Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					
If you wish to add additional U.S. Published Application citation information please click the Add button.						

FOREIGN PATENT DOCUMENTS								
Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							☐
If you wish to add additional Foreign Patent Document citation information please click the Add button								

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

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

EFS Web 2.1.16

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	Shaowei Pan
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	1	B.G. Evans and K. Baughan; "Visions of 4G"; Electronics & Communication Engineering Journal; December 2000; pgs 293-303	☐
	2	Shirshanka Das, Alok Nandan & Giovanni Pau (University of CA, Los Angeles, CA, USA); "SPAWN: A Swarming Protocol For Vehicular Ad-Hoc Wireless Networks"; VANET'04, October 1, 2004, Philadelphia, PA, USA; ACM 1-58113-922-5/04/0010; 2 pgs	☐
	3	Yu-Chee Tseng, Chia-Ching Shen (National Chiao Tung University) & Wen-Tsuen Chen (National Tsing Hua University); "Integrating Mobile IP with AD Hoc Networks"; IEEE Computer Society; 0018-9162/03; 2003 IEEE; May 2003; pgs. 48-55	☐
	4	Halim Yanikomeroglu, David D. Falconer & Van M. Sreng; "Coverage Enhancement Through Two-Hop Peer-to-Peer Relaying in Cellular Radio Networks"; Broadband Communications and Wireless Systems (BCWS) Centre Department of Systems & Computer Engineering, Carleton University, Ottawa, Canada; WWRF Meeting #7, Eindhoven, the Netherlands, 3-4 December 2002, WG4: Spectrum, New Air Interfaces and Ad-Hoc Networking Multi-Hop Wireless Systems; 10 pages	☐
	5	Bur Goode; "Voice Over Internet Protocol (VoIP)"; 0018-9219/02 2002 IEEE; Proceedings of the IEEE; Vol. 90, No. 9, September 2002; pgs. 1495-1517	☐
	6	Kyung-Hyu Lee, Kyu-Ok Lee & Kwon-Chul Park (Network Research Laboratory ETRI Korea) Jong-Ok Lee and Yoon-Hak Bang (Network Planning Team KT Korea); "Architecture To be Deployed on Strategies of Next-Generation Networks"; 0-7803-7802-4/03 2003 IEEE; pgs. 819-822	☐
	7	Wolfgang Kellerer, Christian Bettstetter, Christian Schwingenschlögl & Peter Sties (Technische Universität München) Karl-Ernst Steinberg (BMW) & Hans-Jörg Vögel (the Fantastic Corp); "(Auto) Mobile Communication in a Heterogeneous and Converged World"; IEEE Personal Communications; December 2001; 1070-9916/01; 2001 IEEE pgs. 41-47	☐
	8	Nilanjan Banerjee & Sajal K. Das (University of Texas, Arlington) & Arup Acharya (IBM T.J. Watson Research Center)' "Peer-to-peer SIP-based Services over Wireless Ad Hoc Networks"; BROADWIM: Broadband Wireless Multimedia Workshop; October 29, 2004 - broadnets.org; *This work was supported by NSF under the ORBIT testbed project, grant # NSF NRT Project #ANI-0335244 and by NSF ITR grant IIS-0326505; 8 pages	☐
	9	Hung-Yu Wei (Columbia University) & Richard D. Gitlin (NEC Laboratories America); "Two-Hop-Relay Architecture for Next-Generation WWAN/WLAN Integration"; 4G Mobile Communications: Toward Open Wireless Architecture; 1536-1284/04 2004 IEEE; IEEE Wireless Communications; April 2004; pgs 2-9	☐
	10	Wolfgang Kellerer (LKN, Munich University of Technology), Hans-Jörg Vögel (the Fantastic Corp.) & Karl-Ernst Steinberg (BMW); "A Communication Gateway for Infrastructure Independent Wireless Access"; IEEE Communications Magazine; March 2002; Vol. 9; No. 3; 6 pages	☐
	11	Willie W. Lu & Jenny Hu (U.S. Center for Wireless Communications, Stanford University, CA); "Open Wireless Architecture - The Core to 4G Mobile Communications"; China Communications; April 2006; pgs 32-39	☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 150 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	Shaowei Pan
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	12	Ralf Pabst, Bernard H. Walke & Daniel C. Schultz (RWTH Aachen University) Patrick Herhold & Gerhard P. Fettweis (Technical University of Dresden) Halim Yanikomeroglu & David D. Falconer (Carleton University) Sayandev Mukherjee & Harish Viswanathan (Lucent Technologies) Matthias Lott & Wolfgang Zirwas (Siemens ICM) Mischa Dohler & Hamid Aghvami (Kings College); "Relay-Based Deployment Concepts for Wireless and Mobile Broadband Radio"; 0163-6804/04; 2004 IEEE; IEEE Communications Magazine; September 2004; pgs 80-89	☐
	13	Simone Frattasi, Hanane Fathi, Frank H.P. Fitzek & Ramjee Prasad (Aalborg University) Marcos D. Katz (Samsung Electronics); "Defining 4G Technology from the User's Perspective"; IEEE Network; January/February 2006; 0890-8044/06; 2006 IEEE; pgs 35-41	☐
	14	Ian F. Akyildiz (Broadband and Wireless Networking BWN Lab, Georgia Institute of Technology) Xudong Wang & Weilin Wang (Kiyon, Inc. La Jolla, CA); "Wireless Mesh Networks: A Survey"; Computer Networks 47; January 1, 2005; pgs 445-487; 1389-1286 2004 Elsevier B.V.	☐
	15	Brian Woerner (Virginia Tech, Blacksburg, VA) & Mostofa Howlader (University of Tennessee, Knoxville, TN); "Research Directions for Fourth Generation Wireless"; Proceedings of the 10th IEEE International Workshops on Enabling Technologies: Infrastructure for Collaborative Enterprises (WETICE 2001); 20-22 June 2001; Cambridge, MA, USA; IEEE Computer Society 2001; ISBN 0-7695-1269-0; 2 pages	☐
	16	"Framework and Overall Objectives of the Future Development of IMT-2000 and Systems Beyond IMT-2000"; International Telecommunication Union; ITU-R Radiocommunication Sector of ITU; Recommendation ITU-R M.1645 (June 2003); M Series; Mobile, Radiodetermination, Amateur and Related Satellite Services; 26 pages	☐

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

EXAMINER SIGNATURE

Examiner Signature	/Thu Ha Nguyen/	Date Considered	10/22/2013

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

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

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 151 of 469

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	Shaowei Pan
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

CERTIFICATION STATEMENT

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

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

OR

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

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

SIGNATURE

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

Signature	/Jason L. Moore/	Date (YYYY-MM-DD)	2012-10-02
Name/Print	Jason L. Moore	Registration Number	52046

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

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	"20040203677".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L2	2	"20070003062".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L3	2	"20080226071".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L4	2	"20060014530".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L5	2	"20070266076".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L6	184	aggregat$4 same contact$4 with list$4 same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L7	206	(aggregat$4 or collaborat$4)with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L8	90	(aggregat$4 or collaborat$4)with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4)) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L9	24	(aggregat$4 or collaborat$4)with single same (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L10	13	(aggregat$4 or collaborat$4)with (multiple$4 or plurality$4) with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 153 of 469

L11	2	(aggregat$4 or collaborat$4)with (multiple$4 or plurality$4) with (contact$4 with list$4) same single with (user$4 or client$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L12	2	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4 with list$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L13	5	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L14	10	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L15	184	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L16	74	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4)) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L17	2	"20070266076".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L18	30	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))same ("same" or common) same (ID or contact$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L19	111	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))and ("same" or common) same (ID or contact$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L20	2	"20090113007".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L21	0	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) same (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L22	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) same (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 154 of 469

L23	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L24	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4)and request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L25	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4)and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L26	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L27	2	"20070287452".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L28	2	"20060098661".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L29	2	"20060221912".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L30	671	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L31	2	"6122499".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L32	150	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L33	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L34	2	"6141586".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 155 of 469

L35	2	"6141584".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L36	2	"6141564".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L37	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L38	3	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L39	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L40	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L41	7	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L42	7	(gateway or router or intermediat$4) and server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L43	167	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L44	66	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L45	81	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and	US-PGPUB; USPAT; EPO; JPO;	ADJ	ON	2013/10/22 12:38

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 156 of 469

		(register$4 or registr$6) and "370"/$4.ccls.	DERWENT			
L46	19	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L47	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L48	6	(gateway or router or intermediat$4) same (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L49	6	(gateway or router or intermediat$4) and (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L50	1	(gateway or router or intermediat$4) and (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 709/217.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L51	1	(gateway or router or intermediat$4) and(convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 709/217.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L52	1	(gateway or router or intermediat$4) and(convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 455/416.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L53	10	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L54	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/419.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L55	4	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/412.1.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 157 of 469

L56	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L57	1	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.07.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L58	0	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.08.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L59	6	(gateway or router or intermediat$4) and(server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L60	0	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L61	3	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L62	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L63	396	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L64	26	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L65	92	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L66	7	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 158 of 469

L85	2	"20030120938".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2013/10/22 12:38
L86	2	"20040203677".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2013/10/22 12:39

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L67	166	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2013/10/22 12:38
L68	1	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.07.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2013/10/22 12:38
L69	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2013/10/22 12:38
L70	4	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/412.1.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2013/10/22 12:38
L71	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/419.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2013/10/22 12:38
L72	10	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2013/10/22 12:38
L73	14	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2013/10/22 12:38
L74	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; UPAD	ADJ	ON	2013/10/22 12:38
L75	396	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2013/10/22 12:38
L76	24	(gateway or router or intermediat$4) same	US-	ADJ	ON	2013/10/22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 159 of 469

		server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6)	PGPUB; USPAT; UPAD			12:38
L77	150	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and "455"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2013/10/22 12:38
L78	91	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2013/10/22 12:38
L79	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2013/10/22 12:38
L80	66	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2013/10/22 12:38
L81	81	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2013/10/22 12:38
L82	44	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2013/10/22 12:38
L83	63	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same (IP or (internet adj protocol))	US-PGPUB; USPAT; UPAD	ADJ	ON	2013/10/22 12:38
L84	7	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol))	US-PGPUB; USPAT; UPAD	ADJ	ON	2013/10/22 12:38

10/22/2013 1:16:37 PM
C:\Users\tnguyen39\Documents\EAST\Workspaces\13235021.wsp

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 160 of 469

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13235021	PAN, SHAOWEI
	Examiner	Art Unit
	THU HA NGUYEN	2453

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

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

CLAIM		DATE								
Final	Original	05/20/2013								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
	6	✓								
	7	✓								
	8	✓								
	9	✓								
	10	✓								
	11	✓								
	12	✓								
	13	✓								
	14	✓								
	15	✓								
	16	✓								
	17	✓								
	18	✓								
	19	✓								
	20	✓								

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 161 of 469

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13235021	PAN, SHAOWEI
	Examiner	Art Unit
	THU HA NGUYEN	2453

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
709	217, 218	05/20/13	THN
707	748	05/20/13	THN
370	352, 401	05/20/13	THN

SEARCH NOTES		
Search Notes	Date	Examiner
East, Derwent, JPO, EPO, USPG-Pub search	05/20/13	THN

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 162 of 469

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	6122499		2000-09-19	Magnusson	
	2	6141564		2000-10-31	Bruner et al.	
	3	6411825	B1	2002-06-25	Csapo et al.	
	4	6421325	B1	2002-07-16	Kikinis	
	5	6515985	B2	2003-02-04	Shmulevich et al.	
	6	6539237	B1	2003-05-25	Sayers et al.	
	7	6584098	B1	2003-06-24	Dutnall	
	8	6611533	B1	2003-08-26	Liao et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

	9	6614784	B1	2003-09-02	Glitho et al.	
	10	6647426	B2	2003-11-11	Mohammed	
	11	6694134	B1	2004-02-17	Lu et al.	
	12	6751207	B1	2004-06-15	Lee et al.	
	13	6760325	B1	2004-07-06	Hameleers et al.	
	14	6763226	B1	2004-07-13	McZeal, Jr.	
	15	6763233	B2	2004-07-13	Bharatia	
	16	6791988	B1	2004-09-14	Hameleers et al.	
	17	6795444	B1	2004-09-21	Vo et al.	
	18	6807431	B2	2004-10-19	Sayers et al.	
	19	6819652	B1	2004-11-16	Akhtar, et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

	20	6829473	B2	2004-12-07	Raman et al.	
	21	6831903	B2	2004-12-14	Kang	
	22	6839356	B2	2005-01-04	Barany et al.	
	23	6859652	B2	2005-02-22	Karabinis et al.	
	24	6879582	B1	2005-04-12	Dhara et al.	
	25	6879677	B2	2005-04-12	Trandal et al.	
	26	6917813	B2	2005-07-12	Elizondo	
	27	6958983	B2	2005-10-25	Musikka et al.	
	28	7050414	B2	2006-05-23	Lin	
	29	7072650	B2	2006-07-04	Stanforth	
	30	7117015	B2	2006-10-03	Scheinert et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

	31	7133923	B2	2006-11-07	MeLampy et al.	
	32	7154901	B2	2006-12-26	Chava et al.	
	33	7003286	B2	2006-02-21	Brown et al.	

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20010055298	A1	2001-12-27	Baker et al.	
	2	20030100342	A1	2003-05-29	Ham et al.	
	3	20030153343	A1	2003-08-14	Crockett et al.	
	4	20040014466	A1	2004-01-22	Jesse et al.	
	5	20040019539	A1	2004-01-29	Raman et al.	
	6	20040259556	A1	2004-12-23	Czys	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

	7	20060046760	A1	2006-03-02	Bertino et al.	
	8	20060098661	A1	2006-05-11	Pan	
	9	20060234774	A1	2006-10-19	Pan et al.	
	10	20080039144	A1	2008-02-14	Pan et al.	
	11	20060234747	A1	2006-10-19	Pan	
	12	20070232267	A1	2007-10-04	Pan	
	13	20070202847	A1	2007-08-30	Pan	
	14	20070287452	A1	2007-12-13	Pan	
	15	20080146158	A1	2008-06-19	Pan et al.	
	16	20020051518	A1	2002-05-02	Bondy et al.	
	17	20040203621	A1	2004-10-14	Brown et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

	18	20040203677	A1	2004-10-14	Brown et al.	
	19	20050250491	A1	2005-11-10	Roy	
	20	20060046714	A1	2006-03-02	Kalavade	
	21	20060052113	A1	2006-03-09	Ophir et al.	
	22	20070060124	A1	2007-03-15	Kalavade	
	23	20070076697	A1	2007-04-05	Huotari et al.	
	24	20070243891	A1	2007-10-18	Civanlar et al.	
	25	20070271606	A1	2007-11-22	Amann et al.	
	26	20070291910	A1	2007-12-20	Bucchieri et al.	
	27	20080101410	A1	2008-05-01	Barkley et al.	
	28	20080168523	A1	2008-07-10	Ansari et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

	29	20090067441	A1	2009-03-12	Ansari et al.	
	30	20100080214	A1	2010-04-01	Li et al.	
	31	20100094878	A1	2010-04-15	Soroca et al.	
	32	20100217837	A1	2010-08-26	Ansari et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	0365885	EP	A2	1990-05-02	Motorola, Inc.		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	HOFFPAUIR et al., United States Statutory Invention Registration No. H1,918 published November 7, 2000, 19 pages	☐
	2	Notice to File Corrected Application Papers for US Patent Application No. 12/108,209 (Attorney Docket No. 1082-0008) received from the United States Patent and Trademark Office (USPTO) dated May 9, 2008, 2 pages.	☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

	3	Non-Final Office Action for US Patent Application No. 12/108,209 (Attorney Docket No. 1082-0008) received from the United States Patent and Trademark Office (USPTO) dated December 23, 2010, 16 pages.	☐
	4	Notice of Allowance and Fee(s) Due for US Patent Application No. 12/108,209 (Attorney Docket No. 1082-0008) received from the United States Patent and Trademark Office (USPTO) dated June 23, 2011, 17 pages.	☐

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

EXAMINER SIGNATURE

Examiner Signature	/Thu Ha Nguyen/	Date Considered	10/22/2013

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

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

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

CERTIFICATION STATEMENT

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

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

OR

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

☐ See attached certification statement.

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

☒ A certification statement is not submitted herewith.

SIGNATURE

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

Signature	/Jeffrey G. Toler/	Date (YYYY-MM-DD)	2011-09-16
Name/Print	Jeffrey G. Toler	Registration Number	38,342

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

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:	Shaowei Pan		
Title:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS		
App. No.:	13/235,021	Filed:	September 16, 2011
Examiner:	NGUYEN, Thu Ha T	Group Art Unit:	2453
Customer No.:	60533	Confirmation No.:	2302
Atty. Dkt. No.:	1082-0008-C1		

M/S: Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

RESPONSE TO NON-FINAL OFFICE ACTION

In response to the Non-Final Office Action mailed October 24, 2013, please reconsider the above-identified application in light of the following amendments and remarks:

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method comprising:

receiving a call from a first mobile device at a base transceiver station (BTS) interface of a first distributed mobile architecture (DMA) server, wherein the call is associated with a destination device;

determining that a first distributed mobile architecture gateway (DMAG) supports communication with the destination device based on registration data stored at the first DMA server, wherein the registration data indicates that the destination device is not within a coverage area associated with the first DMA server, and wherein the first DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server;

converting voice information associated with the call to packet data; and

routing the packet data to the destination device via the first DMAG.

2. (Currently Amended) The method of claim 1, wherein the first DMAG is communicatively coupled to one or more legacy networks, and wherein the ~~first~~ destination device is associated with at least one of the one or more legacy networks.

3. (Currently Amended) The method of claim 1, ~~wherein the call is received at the first DMA server via a first wireless communication protocol~~ wherein the registration data indicates that a second DMA server, which is associated with the DMAG, is associated with the destination device, and wherein the first DMAG routes the packet data to the second DMA server.

4. (Original) The method of claim 1, wherein converting the voice information to the packet data comprises converting the voice information to internet protocol (IP) packet data.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 173 of 469

5. (Currently Amended) The method of claim [[4]]1, ~~wherein the packet data is routed to the first DMAG via a private IP network~~ wherein the first DMA server communicates with the first device via a first wireless communication protocol, and wherein the first DMA server is configured to communicate with a second mobile device via a second wireless communication protocol that is different from the first wireless communication protocol.

6. (Original) The method of claim 1, wherein the first DMAG is in communication with a plurality of legacy communication networks.

7. (Original) The method of claim 1, wherein the first DMA server is configured to receive one or more calls while the first DMA server is moving.

8. (Original) The method of claim 7, wherein the first DMA server is located within a first coverage area associated with the first DMAG when the call is received.

9. (Original) The method of claim 8, further comprising:

converting additional voice information associated with the call to additional packet data;

in response to determining that the first DMA server has moved into a second coverage area associated with a second DMAG, determining that the second DMAG supports communication with the destination device; and

routing the additional packet data to the destination device via the second DMAG.

10. (Currently Amended) A method, comprising:

receiving a call from a communication device at a distributed mobile architecture gateway (DMAG) via a network, wherein the call is associated with a destination device;

determining that a first distributed mobile architecture (DMA) server supports wireless communication with the destination device based on registration data stored at the DMAG, wherein the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server;

converting information associated with the call to packet data; and

routing the packet data to the destination device via the first DMA server.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 174 of 469

11. (Currently Amended) The method of claim 10, wherein the call is received at the DMAG according to a first protocol associated with a legacy network, and wherein converting the ~~voice~~ information associated with the call to packet data comprises converting the ~~voice~~ information to internet protocol (IP) packet data.

12. (Currently Amended) The method of claim ~~11, wherein the packet data is routed to the first DMA server via an IP network~~ 10, wherein the registration data indicates that the DMAG is a node that controls communications related to the first DMA server and that a second DMAG controls communications related to a second DMA server of the plurality of DMA servers.

13. (Currently Amended) The method of ~~claim 11,~~ claim 10, wherein the registration data stored at the DMAG indicates that the first DMA server is associated with a first coverage area, and wherein the registration data indicates that the destination device is within the first coverage area.

14. (Currently Amended) The method of claim 13, further comprising:

~~converting additional voice information associated with the call to additional packet data;~~

in response to determining that the destination device has moved from the first coverage area into a second coverage area associated with a second DMA server, determining that the second DMA server supports communication with the destination device based on the registration data stored at the DMAG; and

routing [[the]] additional packet data to the destination device via the second DMA server.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 175 of 469

15. (Currently Amended) A non-transitory computer-readable storage medium, comprising instructions, that when executed by a processor, cause the processor to:

receive a call from a communication device at a distributed mobile architecture gateway (DMAG) via a network, wherein the call is associated with a destination device;

determine that a first distributed mobile architecture (DMA) server supports communication with the destination device based on registration data stored at the DMAG, wherein the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server; and

convert information associated with the call to packet data to be routed to the destination device via the first DMA server.

16. (Currently Amended) The non-transitory computer-readable storage medium of claim 15, wherein ~~the packet data is routed to the first DMA server via~~ the network is an internet protocol (IP) network.

17. (Currently Amended) The non-transitory computer-readable storage medium of claim 15, further comprising instructions that, when executed by the processor, cause the processor to:

receive second packet data from a second DMA server at the distributed mobile architecture gateway (DMAG), wherein the second packet data is associated with a second destination device; and

determine that a network supports communication with the second destination device based on the registration data stored at the DMAG.

18. (Original) The non-transitory computer-readable storage medium of claim 17, wherein the second packet data is associated with data traffic.

19. (Original) The non-transitory computer-readable storage medium of claim 15, wherein the DMAG supports communication with the network via a first network interface.

20. (Currently Amended) The non-transitory computer-readable storage medium of ~~claim 15,~~ claim 19, wherein the DMAG supports communication with at least one additional network via at least one additional network interface.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 176 of 469

REMARKS

This amendment is in response to the Non-Final Office Action dated October 4, 2013 (the "Office Action"). Claims 1-20 are pending in the application. Claims 1-3, 5, 10-17, and 20 are amended. No new matter has been added.

Claims 10-13, 15, 16, and 18-20 are Allowable

The Office rejected claims 10, 13, 15, 16, and 18-20, under 35 U.S.C. § 102(b), as being anticipated by U.S. Published Application No. 2004/0203677 ("Brown"). Applicant respectfully traverses the rejections.

Claims 10-13

The cited portions of the above-cited reference do not disclose the specific combination of claim 10. For example, the cited portions of the above-cited reference fail to disclose determining that a first distributed mobile architecture (DMA) server supports wireless communication with a destination device based on registration data stored at a DMAG, where the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server, as in claim 10.

Brown describes identifying users for a conference call and rejoining one of the users to the conference call upon reconnection. *See* Brown, Abstract. A conference leader may reserve a conference bridge for the conference call. *See* Brown, ¶ 10. The conference leader may provide each participant an access number, an access code, or a password. *See* Brown, ¶ 10. The participants may connect to the conference call via different types of networks. *See* Brown, ¶ 13. A participant may connect to the conference call via the Signaling System 7 protocol which allows network nodes to exchange messages with any other Signaling System 7 node. *See* Brown, ¶ 13. Access to the conference bridge is based on the access number, access code, or password and not based on registration data stored in a DMAG. The cited portions of Brown are silent regarding determining that a first distributed mobile architecture (DMA) server supports wireless communication with a destination device based on registration data stored at a DMAG, where the DMAG is communicatively coupled to a plurality of DMA servers including the first

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 177 of 469

DMA server. Hence, claim 10 is allowable. Claims 12 and 13 are allowable at least by virtue of depending from an allowable claim.

Claims 15, 16, and 18-20

The cited portions of the above-cited reference do not disclose the specific combination of claim 15. For example, the cited portions of the above-cited reference fail to disclose a non-transitory computer-readable storage medium comprising instructions, that when executed by a processor, cause the processor to perform operations including determining that a first distributed mobile architecture (DMA) server supports communication with a destination device based on registration data stored at a DMAG, where the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server, as in claim 15.

As explained above, the cited portions of Brown fail to disclose determining that a first distributed mobile architecture (DMA) server supports wireless communication with a destination device based on registration data stored at a DMAG, where the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server. Therefore, the cited portions of Brown fail to disclose a non-transitory computer-readable storage medium, comprising instructions, that when executed by a processor, cause the processor to perform operations including determining that a first distributed mobile architecture (DMA) server supports communication with a destination device based on registration data stored at a DMAG, where the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server, as in claim 15. Hence, claim 15 is allowable. Claims 16 and 18-20 are allowable, at least by virtue of depending from an allowable claim.

Claims 1-9, 14, and 17 are Allowable

The Office rejected claims 1-9, 14 and 17, under 35 U.S.C. § 103(a), as being unpatentable over Brown in view of U.S. Published Application No. 2012/0020293 ("Nix"). Applicant respectfully traverses the rejections.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 178 of 469

Claims 1-9

The cited portions of the above-cited references do not disclose the specific combination of claim 1. For example, the cited portions of the above-cited references fail to disclose determining that a first distributed mobile architecture gateway (DMAG) supports communication with the destination device based on registration data stored at the first DMA server, where the first DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server, as in claim 1.

As explained above, the cited portions of Brown fail to disclose determining that a first distributed mobile architecture (DMA) server supports wireless communication with a destination device based on registration data stored at a DMAG, where the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server. Therefore, the cited portions of Brown fail to disclose determining that a first distributed mobile architecture gateway (DMAG) supports communication with the destination device based on registration data stored at the first DMA server, where the first DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server, as in claim 1.

Nix describes routing phone calls between a mobile station and a mobile network through the Internet using voice over IP by using a femtocell. *See* Nix, Abstract. The femtocell connects to a handset using a licensed spectrum. *See* Nix, ¶ 5. A Gateway Mobile Switching Center is updated to forward incoming calls to a voice over IP gateway instead of a home location register. *See* Nix, ¶ 178. Applicants respectfully submit that the Gateway Mobile Switching Center determines how to communicate with a cellphone connected to a femtocell using data stored at the Gateway Mobile Switching Center and not registration data stored at a first DMA server. Further, Applicant respectfully submits that the Global Mobile Switching Center is not a DMA server, as described in claim 1, because the Global Mobile Switching Center is not connected to a DMAG server coupled to a plurality of DMA servers including the first DMA server. The cited portions of Nix are silent regarding determining that a first distributed mobile architecture gateway (DMAG) supports communication with the destination device based on registration data stored at the first DMA server, where the first DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server, as in claim 1.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 179 of 469

Therefore, the cited portions of Brown and Nix, individually or in combination, fail to disclose at least one element of claim 1. Hence, claim 1 is allowable. Claims 2-9 are allowable, at least by virtue of depending from an allowable claim.

Claim 14

Claim 14 depends from claim 10. The cited portions of the above-cited references do not disclose the specific combination of claim 10. For example, the cited portions of the above-cited references fail to disclose determining that a first distributed mobile architecture (DMA) server supports wireless communication with a destination device based on registration data stored at a DMAG, where the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server, as in claim 10.

As explained above, the cited portions of Brown and Nix fail to disclose determining that a first distributed mobile architecture gateway (DMAG) supports communication with the destination device based on registration data stored at the first DMA server, where the first DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server. Therefore, the cited portions of Brown and Nix, individually or in combination, fail to disclose determining that a first distributed mobile architecture (DMA) server supports wireless communication with a destination device based on registration data stored at a DMAG, where the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server, as in claim 10. Hence, claim 14 is allowable, at least by virtue of depending from an allowable claim.

Claim 17

Claim 17 depends from claim 15. The cited portions of the above-cited references do not disclose the specific combination of claim 15. For example, the cited portions of the above-cited references fail to a non-transitory computer-readable storage medium, comprising instructions, that when executed by a processor, cause the processor to perform operations including determining that a first distributed mobile architecture (DMA) server supports communication with a destination device based on registration data stored at a DMAG, where the DMAG is

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 180 of 469

communicatively coupled to a plurality of DMA servers including the first DMA server, as in claim 15.

As explained above, the cited portions of Brown and Nix fail to disclose determining that a first distributed mobile architecture gateway (DMAG) supports communication with the destination device based on registration data stored at the first DMA server, where the first DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server. Therefore, the cited portions of Brown and Nix, individually or in combination, fail to disclose a non-transitory computer-readable storage medium, comprising instructions, that when executed by a processor, cause the processor to perform operations including determining that a first distributed mobile architecture (DMA) server supports communication with a destination device based on registration data stored at a DMAG, where the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server, as in claim 15. Hence, claim 17 is allowable, at least by virtue of depending from an allowable claim.

CONCLUSION

Applicant respectfully requests reconsideration and withdrawal of each of the objections and rejections, as well as an indication of the allowability of each of the pending claims.

Any changes to the claims in this response, which have not been specifically noted to overcome a rejection based upon the cited references, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

The Examiner is invited to contact the undersigned attorney at the telephone number listed below if such a call would in any way facilitate allowance of this application.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 181 of 469

The Commissioner is hereby authorized to charge any fees, which may be required, or credit any overpayment, to Deposit Account Number 50-2469.

Respectfully submitted,

1-24-2019
Date

Jeffrey G. Toler, Reg. No. 38,342
TOLER LAW GROUP
8500 Bluffstone Cove, Suite A201
Austin, TX 78759
Telephone: (512) 327-5515
Facsimile: (512) 327-5575

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 182 of 469

PTO/AIA/22 (03-13)
Approved for use through 3/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

Docket Number (Optional): 1082-0008-C1

Application Number: 13/235,021

Filed: 2011-09-16

For: System and Method to Control Wireless Communications

Art Unit: 2453

Examiner: NGUYEN, Thu Ha T

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

		Fee	Small Entity Fee	Micro Entity Fee	
☑	One month (37 CFR 1.17(a)(1))	$200	$100	$50	$ 200.00
☐	Two months (37 CFR 1.17(a)(2))	$600	$300	$150	$
☐	Three months (37 CFR 1.17(a)(3))	$1,400	$700	$350	$
☐	Four months (37 CFR 1.17(a)(4))	$2,200	$1,100	$550	$
☐	Five months (37 CFR 1.17(a)(5))	$3,000	$1,500	$750	$

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 502469.

☑ Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant.

☐ attorney or agent of record. Registration number _____.

☑ attorney or agent acting under 37 CFR 1.34. Registration number 38,342.

Signature	Date
	1-29-2014
Jeffrey G. Toler	(512) 327-5515
Typed or printed name	Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☑ * Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Electronic Patent Application Fee Transmittal

Application Number:	13235021
Filing Date:	16-Sep-2011
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Filer:	Jeffrey G. Toler/Katherine Meals
Attorney Docket Number:	1082-0008-C1

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 1 month with $0 paid	1251	1	200	200

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**200**

Electronic Acknowledgement Receipt	
EFS ID:	18061472
Application Number:	13235021
International Application Number:	
Confirmation Number:	2302
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Customer Number:	60533
Filer:	Jeffrey G. Toler/Katherine Meals
Filer Authorized By:	Jeffrey G. Toler
Attorney Docket Number:	1082-0008-C1
Receipt Date:	29-JAN-2014
Filing Date:	16-SEP-2011
Time Stamp:	16:56:37
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$200
RAM confirmation Number	3346
Deposit Account	502469
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)	
Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)	
Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		1082-0008-C1_Response_NFOA.pdf	1528204 9bf6125648192f8ac549d858bbed13ca1f1c4657	yes	11
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	11	
Warnings:					
Information:					
2	Extension of Time	1082-0008-C1_EOT.pdf	200210 03e384d4a9d4f13f14ef06faa148a4106c3d2702	no	1
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30403 faddebae133602f4787d5ecdb642a64533ff64d4	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1758817		

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

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

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

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

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/235,021	Filing Date 09/16/2011	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 01/29/2014

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $40 =	0
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $210 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/KAREN VESTAL/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	6731932	B1	2004- 05-04	Rune et al.	
	2	6735184	B1	2004- 05-11	Davidson et al.	
	3	6985454	B1	2006-01-10	Wiedeman et al.	
	4	7054307	B2	2006- 05-30	Papadimitriou et al.	
	5	7054322	B2	2006- 05-30	D'Annunzio et al.	
	6	7133670	B1	2006-11-07	Moll et al.	
	7	7346334	B2	2008-03-18	Gaeta et al.	
	8	7383042	B2	2008-06-03	Lamb et al.	
	9	7385947	B2	2008-06-10	Wu et al.	
	10	7406069	B2	2008-07-29	Yashar et al.	
	11	7486967	B2	2009-02-03	Pan et al.	

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

	12	7536170	B2	2009- 05-19	Goldman et al.	
	13	7539158	B2	2009- 05-26	Pan	
	14	7548763	B2	2009-06-16	Pan	
	15	7552670	B2	2009-06-30	Goldman et al.	
	16	7606594	B2	2009-10-20	Jesse et al.	
	17	7653414	B2	2010-01-26	Pan	
	18	7738488	B2	2010-06-15	Marsico et al.	
	19	8036158	B2	2011-10-11	Pan et al.	
	20	8224322	B2	2012-07-17	Pan	
	21	8310990	B2	2012-11-13	Pan	
	22	8359029	B2	2013-01-22	Pan	

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

	1	20010036173	A1	2001-11-01	Shmulevich et al.	
	2	20020015392	A1	2002-02-07	Musikka et al.	
	3	20020169887	A1	2002-11-14	MeLampy et al.	
	4	20030063721	A1	2003-04-03	Hirose	
	5	20030112748	A1	2003-06-19	Puppa et al.	
	6	20030186694	A1	2003-10-02	Sayers et al.	
	7	20030198325	A1	2003-10-23	Bayne	
	8	20040018829	A1	2004-01-29	Raman et al.	
	9	20040156495	A1	2004-08-12	Chava et al.	
	10	20040253949	A1	2004-12-16	Swensen et al.	
	11	20050176413	A1	2005-08-11	Lee et al.	
	12	20060047836	A1	2006-03-02	Rao et al.	
	13	20070234892	A1	2007-10-11	Goldman et al.	

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

	14	20080080438	A1	2008-04-03	Gopalakrishnan et al.	
	15	20090227235	A1	2009-09-10	Pan	
	16	20090271491	A1	2009-10-29	Pan	
	17	20100008306	A1	2010-01-14	Pan	
	18	20100008369	A1	2010-01-14	Pan	
	19	20100075668	A1	2010-03-25	Pan	
	20	20120002607	A1	2012-01-05	Pan	
	21	20120094659	A1	2012-04-19	PAN	
	22	20120106454	A1	2012- 05-03	Pan	
	23	20120252444	A1	2012-10-04	Pan	
	24	20130039279	A1	2013-02-14	Pan	
	25	20130130677	A1	2013- 05-23	Pan	
	26	20130148578	A1	2013-06-13	Pan	

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

FOREIGN PATENT DOCUMENTS

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

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	Extended European Search Report for European Application No. 05801092.7-1525/1810465, PCT/US05/035648 (Attorney Docket No. 1082-0001-EP) mailed January 31, 2011, 72 pages.	
	2	First Examination Report for Indian Application Number 469/MUMNP/2007, dated March 30, 2013, 4 pages.	
	3	International Report on Patentability and Written Opinion of the International Search Authority for International Application No. PCT/US05/35648 from the International Searching Authority, mailed on August 24, 2006, 8 pages.	
	4	International Search Report and Written Opinion of the International Search Authority for International Application No. PCT/US09/045951 from the International Searching Authority, mailed on December 30, 2009, 8 pages.	
	5	International Search Report and Written Opinion of the International Search Authority for International Application No. PCT/US09/045957 from the International Searching Authority, mailed on January 14, 2010, 8 pages.	

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

	6	International Search Report and Written Opinion of the International Search Authority for International Application No. PCT/US09/045968 from the International Searching Authority, mailed on January 21, 2010, 9 pages.	
	7	International Search Report and Written Opinion of the International Search Authority for International Application No. PCT/US09/045973 from the International Searching Authority, mailed on January 18, 2010, 10 pages.	
	8	YU, W. et al., Abstract of "Reverse Link Capacity Analysis on Distributed Wireless Communication System", Journal of Beijing University of Posts and Telecommunications, 2004, Issue 3, Retrieved from <http://en.cnki.com.cn/article_en/CJFDTOTAL-BJYD200403020.htm>, 3 pages.	

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

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

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

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

CERTIFICATION STATEMENT

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

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

OR

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

☐ See attached certification statement.

☒ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

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

Signature	/Aakash Parekh/	Date (YYYY-MM-DD)	2014-03-28
Name/Print	Aakash Parekh	Registration Number	63,536

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

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US05/35648

A. CLASSIFICATION OF SUBJECT MATTER
IPC: H04Q 7/00(2006.01)

USPC: 370/328
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 370/328, 338

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	H1,918 (HOFFPAUIR et al) 7 November 2000 (07.11.2000), column 4, lines 13-65; column 9, lines 15-50; column 10, lines 17-46; column 11, line 57 - column 12, line 54; Figures 1-3.	1-27
A	US 6,411,825 B1 (CSAPO et al) 25 June 2002 (25.06.2002), column 6, lines 29-59; column 7, lines 29-63; Figures 9, 10, 13.	1-27
A	US 6,807,431 B2 (SAYERS et al) 19 October 2004 (19.10.2004), column 8, lines 34-67; Figure 1.	1-27

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:

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

"E" earlier application or patent published on or after the international filing date

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

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

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

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

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

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

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
25 July 2006 (25.07.2006)	24 AUG 2006
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer Michael J. Moore, Jr. Telephone No. (571)272-3168

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

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 197 of 469

PATENT COOPERATION TREATY

REC'D 28 AUG 2006 WIPO PCT

From the INTERNATIONAL SEARCHING AUTHORITY

To:
JEFFREY G. TOLER
5000 PLAZA ON THE LAKE, SUITE 265
AUSTIN, TX 78746

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Applicant's or agent's file reference 0001-WO	Date of mailing (*day/month/year*) 24 AUG 2006 **FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date (*day/month/year*)	Priority date (*day/month/year*)
PCT/US05/35648	04 October 2005 (04.10.2005)	08 November 2004 (08.11.2004)

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

IPC: H04Q 7/00(2006.01)
USPC: 370/328

Applicant

LEMKO CORPORATION

1. This opinion contains indications relating to the following items:

☒	Box No. I	Basis of the opinion
☐	Box No. II	Priority
☐	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☐	Box No. IV	Lack of unity of invention
☒	Box No. V	Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
☐	Box No. VI	Certain documents cited
☐	Box No. VII	Certain defects in the international application
☐	Box No. VIII	Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(*b*) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US	Date of completion of this opinion	Authorized officer
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	25 July 2006 (25.07.2006)	Michael J. Moore, Jr. Telephone No. (571)272-3168

Form PCT/ISA/237 (cover sheet) (April 2005)

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 198 of 469

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US05/35648

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

☒ the international application in the language in which it was filed

☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ on paper

☐ in electronic form

c. time of filing/furnishing

☐ contained in the international application as filed.

☐ filed together with the international application in electronic form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 199 of 469

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US05/35648

Box No. V Reasoned statement under Rule 43 *bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims NONE	YES
	Claims 1-27	NO
Inventive step (IS)	Claims NONE	YES
	Claims 1-27	NO
Industrial applicability (IA)	Claims 1-27	YES
	Claims NONE	NO

2. Citations and explanations:

Please See Continuation Sheet

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 200 of 469

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US05/35648

Supplemental Box
In case the space in any of the preceding boxes is not sufficient.

V. 2. Citations and Explanations:

Claims **1-27** lack novelty under PCT Article 33(2) as being anticipated by Hoffpauir et al. (H1,918) (hereinafter "Hoffpauir").

Regarding claim **1**, "one or more distributed mobile architecture servers" is anticipated by the integrated system 14 (distributed mobile architecture server) of Figure 1.

"A computer readable medium" is anticipated by the call processor 40 (medium) shown in Figure 1.

"A mobile switching center module embedded in the computer readable medium" is anticipated by the mobile switching center object 48 shown in Figure 1.

"A base station controller module embedded in the computer readable medium" is anticipated by the base station controller object 50 shown in Figure 1.

"Wherein each of the one or more distributed mobile architecture servers is in direct physical connection with a wireless transceiver" is anticipated by call processor 40 that is connected to base transceiver stations 20 as shown in Figure 1.

Lastly, "wherein telephony traffic received from the wireless transceiver is switched by at least one of the distributed mobile architecture servers" is anticipated by resource assembly 60 of Figure 1 that provides connection between base transceiver stations 20 and PLMN 16 and PSTN 18 so that voice, data, and signaling can be exchanged as spoken of on column 9, lines 51-54.

Regarding claim **2**, "receiving a call from a first mobile communication device at a first wireless transceiver", "forwarding the call from the first wireless transceiver to a distributed management architecture server", and "routing the call via the distributed management architecture server to a second wireless transceiver, to communicate with respect to a second mobile communication device" is anticipated by resource assembly 60 of integrated system 14 (server) of Figure 1 that provides connection between base transceiver stations 20 and PLMN 16 and PSTN 18 so that voice, data, and signaling can be exchanged as spoken of on column 9, lines 51-54.

Lastly, "wherein the distributed management architecture server includes a mobile switch center module and a base station controller module disposed within a single unit" is anticipated by call processor 40 (single unit) containing MSC object 48 and BSC object 50.

Regarding claim **3**, "a plurality of cellular coverage sites" is anticipated by base transceiver stations 20 shown in Figure 1.

"A transceiver" is anticipated by base transceiver stations 20 shown in Figure 1.

"A distributed management architecture server in direct physical connection with the transceiver" is anticipated by integrated system 14 shown in Figure 1.

"A housing' is anticipated by call processor 40 of Figure 1.

"A mobile switch center module within the housing" is anticipated by the mobile switching center object 48 shown in Figure 1.

"A base station controller module within the housing" is anticipated by the base station controller object 50 shown in Figure 1.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 201 of 469

Supplemental Box
In case **the space in any of the preceding boxes is not sufficient.**

"Wherein each of the distributed management architecture servers within each of the plurality of cellular coverage sites are interconnected by an Internet protocol data network" is anticipated by PLMN 16 of Figure 1.

Lastly, "wherein telephony traffic received by the transceivers is switched and routed by one or more of the distributed management architecture servers" is anticipated by resource assembly 60 of Figure 1 that provides connection between base transceiver stations 20 and PLMN 16 and PSTN 18 so that voice, data, and signaling can be exchanged as spoken of on column 9, lines 51-54.

Regarding claim **4**, "a first wireless communication site including a first transmission antenna, a first base station coupled to the first transmission antenna, and a first computer system including a first mobile switching system module and a first base station controller module disposed within a single unit" is anticipated by integrated system 14 (site) containing base transceiver stations 20 in communication with call processor 40 (first computer system) containing MSC object 48 and BSC object 50 as shown in Figure 1.

"A second wireless communication site including a second transmission antenna, a second base station coupled to the second transmission antenna, and a second computer system including a second mobile switching system module and a second base station controller module disposed within a single unit" is anticipated by integrated system 14 (site) containing base transceiver stations 20 in communication with call processor 40 (second computer system) containing MSC object 48 and BSC object 50 as shown in Figure 1.

Lastly, "an Internet protocol network coupled to the first computer system and the second computer system" is anticipated by PLMN 16 of Figure 1.

Regarding claim **5**, "a distributed mobile architecture server including a mobile switching center module and a base station controller module disposed within the same housing" is anticipated by integrated system 14 (server) including MSC object 48 and BSC object 50 as shown in Figure 1.

Lastly, "wherein the distributed mobile architecture server is coupled to a cellular mobile switching center, a switching transfer point of a stand-alone carrier, and a public switched telephone network" is anticipated by integrated system 14 having resource assembly 60 (switching transfer point) connecting base transceiver stations 20 (switching center) to PSTN 18 as shown in Figure 1.

Regarding claim **6**, "a distributed mobile architecture server including a mobile switching center module and a base station controller module disposed within the same housing" is anticipated by integrated system 14 (server) including MSC object 48 and BSC object 50 as shown in Figure 1.

Lastly, "wherein the distributed mobile architecture server has a first interface coupled to a base transceiver station and a second interface coupled to a data network connection" is anticipated by integrated system 14 having resource assembly 60 (first interface) connecting base transceiver stations 20 to PSTN 18 (data network connection) as shown in Figure 1.

Regarding claim **7**, "a plurality of distributed mobile architecture servers" is anticipated by integrated system 14 of Figure 1.

"A housing" is anticipated by call processor 40 of Figure 1.

"A mobile switching center module disposed within the housing" is anticipated by MSC object 48 of Figure 1.

"A base station controller module disposed within the housing" is anticipated by BSC object 50 of Figure 1.

"Wherein the plurality of distributed mobile architecture servers are interconnected via an Internet protocol data network" is anticipated by PLMN 16 of Figure 1.

Lastly, "wherein at least one of the plurality of distributed mobile architecture servers is coupled to the public switched telephone network" is anticipated by PSTN 18 of Figure 1 connected to integrated system 14.

Regarding claim **8**, "a distributed mobile architecture server having a mobile switching center module and a base station controller module disposed within the same housing" is anticipated by integrated system 14 (server) including MSC object 48 and BSC object 50 as shown in Figure 1.

"Wherein the distributed mobile architecture server is coupled to an enterprise local area network located within a structure and a public switched telephone network outside of the structure" is anticipated by PLMN 16 and PSTN 18 connected to integrated system 14 of Figure 1.

Lastly, "wherein the enterprise local area network supports a plurality of phones within the structure and is coupled to an Internet protocol network external to the structure" is anticipated by PLMN 16 and PSTN 18 connected to integrated system 14 of Figure 1.

Regarding claim **9**, "a distributed mobile architecture server having a mobile switching center module and a base station controller module disposed within the same housing" is anticipated by integrated system 14 (server) including MSC object 48 and BSC object 50 as shown in Figure 1.

Lastly, "wherein the distributed mobile architecture server is coupled to a base transceiver station and a first satellite transceiver" is anticipated by integrated system 14 of Figure 1 coupled to base transceiver stations 20.

Regarding claim **10**, "a distributed mobile architecture server having a mobile switching center module and a base station controller module disposed within the same housing" is anticipated by integrated system 14 (server) including MSC object 48 and BSC object 50 as shown in Figure 1.

Lastly, "wherein the distributed mobile architecture is coupled to a first satellite transceiver and a data network connection" is anticipated by integrated system 14 coupled to base transceiver stations 20 as well as PLMN 16 of Figure 1.

Regarding claim **11**, "a distributed mobile architecture server having a mobile switching center module and a base station controller module disposed within the same housing" is anticipated by integrated system 14 (server) including MSC object 48 and BSC object 50 as shown in Figure 1.

Lastly, "wherein the distributed mobile architecture server includes a primary network connection and wherein the distributed mobile architecture is coupled to a plurality of interworking units via a plurality of secondary network connections" is anticipated by integrated system 14 coupled to PLMN 16, PSTN 18 and base transceiver stations 20 (first and secondary connections).

Regarding claim **12**, "monitoring the location of a mobile communication device at a distributed mobile architecture server, the distributed mobile architecture including a mobile switching center module and a base station controller module within the same housing" is anticipated by call processor 40 having a network management server 70 as well as MSC object 48 and BSC object 50 as

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 202 of 469

Supplemental Box
In case **the space in any of the preceding boxes is not sufficient.**

shown in Figure 1.

Lastly, "handing off a call made by the mobile communication device from a first base transceiver station coupled to the distributed mobile architecture server to a second base transceiver station coupled to the distributed mobile architecture server via a peer-to-peer connection" is anticipated by resource assembly 60 of Figure 1 that provides connection between base transceiver stations 20 and PLMN 16 and PSTN 18 so that voice, data, and signaling can be exchanged as spoken of on column 9, lines 51-54.

Regarding claim **13**, "generating a call detail record for one or more subscribers at a distributed mobile architecture server, the distributed mobile architecture server including a mobile switching center module and a base station controller module disposed within the same housing and billing the one or more subscribers directly from the distributed mobile architecture server" is anticipated by the accounting and billing processing by NMS-C 90 of Figure 1 spoken of on column 12, lines 50-54, as well as MSC object 48 and BSC object 50 of Figure 1.

Regarding claim **14**, "a device for providing a communication path between two or more wireless telephones via one or more wireless transceivers, the device having a volume less than 150,000 cubic centimeters" is anticipated by integrated system 14 (device) of Figure 1 providing communication between subscribers 22 via base transceiver stations 20.

Regarding claim **15**, "a device for providing a communication path between two or more wireless telephones via one or more wireless transceivers, the device weighing less than 50 kilograms" is anticipated by integrated system 14 (device) of Figure 1 providing communication between subscribers 22 via base transceiver stations 20.

Regarding claim **16**, "an interface configured for direct physical connection to a base transceiver station, wherein the portable computer device provides a call routing function between a first wireless communication and a second wireless communication subscriber" is anticipated by integrated system 14 (device) of Figure 1 providing communication between subscribers 22 via base transceiver stations 20.

Regarding claim **17**, "a portable computer device directly coupled to a base transceiver station, the portable computer device comprising a base station controller" is anticipated by controller 40 (device) of Figure 1 having BSC object 50 that is coupled to base transceiver stations 20.

Regarding claim **18**, "a device for providing a communication path between two or more wireless telephones via one or more wireless transceivers comprising a base, a lid coupled to the base, and a display incorporated into the lid" is anticipated by integrated system 14 (device) of Figure 1 providing communication between subscribers 22 via base transceiver stations 20 having display capabilities as spoken of on column 20, lines 16-24.

Regarding claim **19**, "a device for providing a communication path between two or more wireless telephones via one or more wireless transceivers comprising a housing, a mobile switching center module within the housing, and a base station controller module within the housing" is anticipated by integrated system 14 (device) having call processor 40 (housing) containing MSC object 48 as well as BSC object 50 as shown in Figure 1.

Regarding claim **20**, "establishing a direct physical connection between the distributed management architecture server and a base transceiver station, activating the distributed management architecture server, and establishing a network connection with respect to the distributed management architecture server" is anticipated by integrated system 14 of Figure 1 providing communication between subscribers 22 via base transceiver stations 20 having display capabilities as spoken of on column 20, lines 16-24.

Regarding claim **21**, "disconnecting a direct physical connection between a first distributed management architecture server and a base transceiver station, and establishing a direct physical connection between a second distributed management architecture server and the base transceiver station" is anticipated by integrated system 14 of Figure 1 providing communication between subscribers 22 via base transceiver stations 20 having display capabilities as spoken of on column 20, lines 16-24.

Regarding claim **22**, "at least one non-land based vehicle" is anticipated by integrated system 14 of Figure 1.

"At least one satellite transceiver deployed within the at least one non-land-based vehicle" is anticipated by base transceiver stations 20 of Figure 1.

"At least one base transceiver station deployed within the at least one non-land-based vehicle" is anticipated by base transceiver stations 20 of Figure 1.

Lastly, "at least one distributed mobile architecture server coupled to the base transceiver station and coupled to the satellite transceiver, wherein the distributed mobile architecture server includes a mobile switching center module and a base station controller module disposed within the same housing" is anticipated by call processor 40 (server) including MSC object 48 and BSC object 50 as shown in Figure 1.

Regarding claim **23**, "allowing a group call between four or more participants, each participant calling from a separate telephone device communicating with a base transceiver station that is coupled to a distributed mobile architecture server" is anticipated by integrated system 14 of Figure 1 providing communication between subscribers 22 (telephone devices) via base transceiver stations 20 having display capabilities as spoken of on column 20, lines 16-24.

Regarding claim **24**, "four or more mobile communication devices, and a distributed mobile architecture server comprising a program to allow a group call between the four or more mobile communication devices" is anticipated by integrated system 14 of Figure 1 providing communication between subscribers 22 (mobile communication devices) via base transceiver stations 20 having display capabilities as spoken of on column 20, lines 16-24.

Regarding claim **25**, "at least one distributed mobile architecture server" is anticipated by integrated system 14 of Figure 1.

"At least one rural base transceiver station coupled to the distributed mobile architecture server" is anticipated by base transceiver stations 20 of Figure 1.

"A mobile switching center and base station controller coupled to the distributed mobile architecture server" is anticipated by MSC 48 and BSC 50 of Figure 1 within call processor 40.

"At least one urban transceiver station coupled to the mobile switching center and base station controller" is anticipated by base transceiver stations 20 of Figure 1.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 203 of 469

Supplemental Box
In case **the space in any of the preceding boxes is not sufficient.**

Lastly, "wherein the distributed mobile architecture server comprises a program to allow a group call between four or more mobile communication devices" is anticipated by integrated system 14 of Figure 1 providing communication between subscribers 22 (mobile communication devices) via base transceiver stations 20 having display capabilities as spoken of on column 20, lines 16-24.

Regarding claim **26**, "at least one distributed mobile architecture server" is anticipated by integrated system 14 of Figure 1.

"At least one base transceiver station coupled to the distributed mobile architecture server" is anticipated by base transceiver stations 20 of Figure 1.

"A public switched telephone network coupled to the distributed mobile architecture server" is anticipated by PSTN 18 of Figure 1.

Lastly, "wherein the distributed mobile architecture server comprises a program to allow a group call between four or more communication devices" is anticipated by integrated system 14 of Figure 1 providing communication between subscribers 22 (mobile communication devices) via base transceiver stations 20 having display capabilities as spoken of on column 20, lines 16-24.

Regarding claim **27**, "at least one portable distributed architecture server mounted in a vehicle" is anticipated by integrated system 14 of Figure 1.

"At least one portable base transceiver station coupled to the distributed mobile architecture server and mounted in the vehicle" is anticipated by base transceiver stations 20 of Figure 1.

Lastly, "wherein the distributed mobile architecture server comprises a program to allow a group call between four or more communication devices" is anticipated by integrated system 14 of Figure 1 providing communication between subscribers 22 (mobile communication devices) via base transceiver stations 20 having display capabilities as spoken of on column 20, lines 16-24.

Claims **1-27** meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 204 of 469

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
1082-0007-WO		
International application No.	International filing date *(day/month/year)*	(Earliest) Priority Date *(day/month/year)*
PCT/US2009/045951	**02 JUNE 2009 (02.06.2009)**	26 JUNE 2008 (26.06.2008)

Applicant

LEMKO CORPORATION et al

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of **3** sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**
   a. With regard to the **language**, the international search was carried out on the basis of :
      ☒ the international application in the language in which it was filed
      ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))
   b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).
   c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.
2. ☐ **Certain claims were found unsearchable** (See Box No. II)
3. ☐ **Unity of invention is lacking** (See Box No. III)
4. With regard to the **title,**
   ☒ the text is approved as submitted by the applicant.
   ☐ the text has been established by this Authority to read as follows:
5. With regard to the **abstract,**
   ☒ the text is approved as submitted by the applicant.
   ☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.
6. With regard to the drawings,
   a. the figure of the **drawings** to be published with the abstract is Figure No. **1**
      ☒ as suggested by the applicant.
      ☐ as selected by this Authority, because the applicant failed to suggest a figure.
      ☐ as selected by this Authority, because this figure better characterizes the invention.
   b. ☐ none of the figure is to be published with the abstract.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 205 of 469

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/045951

A. CLASSIFICATION OF SUBJECT MATTER

H04L 12/66(2006.01)i

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H04L 12/66; H04J 3/22; H04L 12/56; H04Q 7/00; H04Q 7/20

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

Korean utility models and applications for utility models since 1975.
Japanese utility models and applications for utility models since 1975.

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: DMA, gateway, register

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2007-0287452 A1 (SHAOWEI PAN) 13 December 2007 See abstract, paragraph [0002]~ [0005], paragraph [0115] ~ [0121]	1-25
A	US 2006-0098661 A1 (SHAOWEI PAN) 11 May 2006 See abstract, paragraph [0002]~ [0005], paragraph [0037] ~ [0042]	1-25
A	US 2006-0221912 A1 (PIERRE OLIVIER) 05 October 2006 See abstract, paragraph [0018] ~ [0025], [0066] ~ [0068]	1-25

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents,such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
24 DECEMBER 2009 (24.12.2009)	**30 DECEMBER 2009 (30.12.2009)**
Name and mailing address of the ISA/KR Korean Intellectual Property Office Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer JEONG, Jae Heon Telephone No. 82-42-481-5672

Form PCT/ISA/210 (second sheet) (July 2008)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/US2009/045951

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007-0287452 A1	13.12.2007	None	
US 2006-0098661 A1	11.05.2006	CN 101044769 A	26.09.2007
US 2006-0221912 A1	05.10.2006	EP 1869915 A2	26.12.2007
		US 7460510 B2	02.12.2008
		WO 2006-107674 A2	12.10.2006
		WO 2006-107674 A3	23.11.2006

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 207 of 469

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
JEFFREY G. TOLER

8500 BLUFFSTONE COVE, SUITE A201 AUSTIN TX
78759 USA

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing *(day/month/year)* **30 DECEMBER 2009 (30.12.2009)**

Applicant's or agent's file reference
1082-0007-WO

FOR FURTHER ACTION
See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2009/045951	**02 JUNE 2009 (02.06.2009)**	26 JUNE 2008 (26.06.2008)

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

H04L 12/66(2006.01)i

Applicant

LEMKO CORPORATION et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR	Date of completion of this opinion	Authorized officer
Korean Intellectual Property Office Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302 -701, Republic of Korea Facsimile No. 82-42-472-7140	24 DECEMBER 2009 (24.12.2009)	JEONG, Jae Heon Telephone No.82-42-481-5672

Form PCT/ISA/237 (cover sheet) (April 2007)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2009/045951

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of :

   ☒ the international application in the language in which it was filed

   ☐ a translation of the international application into _____ , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of:

   a. type of material
      ☐ a sequence listing
      ☐ table(s) related to the sequence listing

   b. format of material
      ☐ on paper
      ☐ in electronic form

   c. time of filing/furnishing
      ☐ contained in the international application as filed.
      ☐ filed together with the international application in electronic form.
      ☐ furnished subsequently to this Authority for the purposes of search.

4. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additioanl copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 209 of 469

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2009/045951

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-25	YES
	Claims	NONE	NO
Inventive step (IS)	Claims	1-25	YES
	Claims	NONE	NO
Industrial applicability (IA)	Claims	1-25	YES
	Claims	NONE	NO

2. Citations and explanations :

Reference is made to the following documents:

D1: US 2007-0287452 A1 (SHAOWEI PAN) 13 December 2007
D2: US 2006-0098661 A1 (SHAOWEI PAN) 11 May 2006
D3: US 2006-0221912 A1 (PIERRE OLIVIER) 05 October 2006

☐ Novelty (PCT Article 33(2)) and Inventive Step (PCT Article 33(3))

The present invention is related to a problem that it is expensive to deploy and sustain a current telephone system such as a cellular system. The present invention suggests a DMAG (Distributed Mobile Architecture Gateway) located between a Legacy Network including wired/wireless communication systems and DMA (Distributed Mobile Architecture) Servers.

D1 and D2 recognize that there exists a need for an improved communication system that is relatively inexpensive to deploy and relatively inexpensive to operate. D1 discloses a communication system in Fig.25 that includes a network of DMAs. The DMAs are coupled to each other through an IP network and MSC element of a cellular communication system. Also, the 1st DMA is coupled to a VLR-GW (Visitor Locator Register Gateway). D2 discloses a communication system in Fig.1, wherein each DMA server is interconnected with the other DMA servers via an internet protocol network. The DMA server can switch and route calls received via each antenna and have a VLR (Visitor Locator Resource) and an HLR (Home Locator Resource).

D3 relates to a communication method for enabling a plurality of radio systems to communicate over a packet network, each radio system communicating one of at least 2 different radio protocols. D3 discloses gateways 230 each linked to a respective radio system. Each gateway takes audio and signaling from the radio system and converts them to a generic protocol for sending them to the packet network.

(1) Claim 1 directs to a network communication system, including: a DMAG which comprises a 1st interface to communicate with a legacy communication network, a 2nd interface to communicate with a private IP network, and logic to forward voice traffic to DMA via the private IP network; a Home DMA server register; and a Visitor DMA server register.

D1 and D2 are regarded as the closest prior arts to the subject matter of claim 1 in that they recognize the same problem as the present invention. D1 discloses a VLR-GW corresponding to the DMAG, which registers visitor's locations. But the VLR-GW does not forward voice traffic from a DMA to an IP network. The VLR-GW is thought to be a mere DB, not a gateway to relay and convert signals among communication systems.

Continued on Supplemental Box

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 210 of 469

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of :

Box V

D2 does not disclose anything corresponding to the DMA Gateway which is located between a Legacy Network and DMA Servers. D3 discloses a general gateway which takes signals from one side, converts the signals and sends them to the other side. The gateway of D3 does not have a Home DMA server register or a Visitor DMA server register.

Thus, the DMAG of claim 1 is new and not obvious from D1 - D3. Accordingly, claim 1 is new and non-obvious from D1 - D3. Also, claims 2 - 10, the dependent claims of claim 1, are regarded to be new and non-obvious from D1 - D3.

(2) Claim 11 directs to a method of routing calls via a communications system, comprising: receiving a call at 1st DMAG; identifying that the 1st wireless communication device is adapted to communicate via a 1st DMA server based on wireless communication device registration data stored the 1st DMAG; and routing the voice traffic from the 1st DMAG to the 1st DMA server.

Claim 11 differs from D1 in that it has a DMAG which transmits and routes a call, whereas the VLR-GW of D1 does not transmit or rout a call. The VLR-GW is thought to be a mere DB, not a gateway to relay and convert signals among communication systems. D2 does not have any element corresponding to the DMAG. D3 discloses a general gateway which takes signals from one side, converts the signals and sends them to the other side.

Thus, the DMAG of claim 11 is new and not obvious from D1 - D3. Accordingly, claim 11 is new and non-obvious from D1 - D3. Also, claims 12 - 16, the dependent claims of claim 11, are regarded to be new and non-obvious from D1 - D3.

(3) Claim 17 directs to a method of routing calls via a communications network, the method comprising: receiving 1st voice traffic at a 1st DMA server from a 1st wireless communication device; and forwarding 1st packet data over an IP network to a DMAG, wherein the 1st voice traffic is directed to a destination device that is accessible via a legacy communication network.

Claim 17 differs from D1 that it has a DMAG which can transmit voice traffic to a destination device that is accessible via a legacy communication network, whereas the VLR-GW of D1 is not connected to a legacy communication network. The VLR-GW is thought to be a mere DB, not a gateway to relay and convert signals among communication systems. D2 does not have any element corresponding to the DMAG. D3 discloses a general gateway which takes signals from one side, converts the signals and sends them to the other side.

Thus, the DMAG of claim 17 is new and not obvious from D1 - D3. Accordingly, claim 17 is new and non-obvious from D1 - D3. Also, claims 18 and 19, the dependent claims of claim 17, are regarded to be new and non-obvious from D1 - D3.

(4) Claim 20 directs to a network communication system, comprising: a DMA server coupled to a base transceiver station, the DMA server including: a routing module adapted to receive 1st voice traffic via a legacy communication network; receive 1st signaling information related to the 1st voice traffic from a DMAG via a private IP network; and route the 1st voice traffic to the wireless communication device via the base transceiver station.

Continued on Supplemental Box

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 211 of 469

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of :

Box V

Claim 20 differs from D1 that it has a DMAG which can transmit signals via a legacy communication network, whereas the VLR-GW of D1 is not connected to a legacy communication network. The VLR-GW is thought to be a mere DB, not a gateway to relay and convert signals among communication systems. D2 does not have any element corresponding to the DMAG. D3 discloses a general gateway which takes signals from one side, converts the signals and sends them to the other side.

Thus, the DMAG of claim 20 is new and not obvious from D1 - D3. Accordingly, claim 20 is new and non-obvious from D1 - D3. Also, claims 21 - 24, the dependent claims of claim 20, are regarded to be new and non-obvious from D1 - D3.

(5) Claim 25 directs to a network communication system, comprising: a plurality of distributed mobile architecture gateways connected to one or more legacy communication networks and a private IP network which connects to DMA servers coupled to a respective base transceiver station.

Claim 25 differs from D1 that it has a DMAG which can transmit signals via a legacy communication network, whereas the VLR-GW of D1 is not connected to a legacy communication network. The VLR-GW is thought to be a mere DB, not a gateway to relay and convert signals among communication systems. D2 does not have any element corresponding to the DMAG. D3 discloses a general gateway which takes signals from one side, converts the signals and sends them to the other side.

Thus, the DMAG of claim 25 is new and not obvious from D1 - D3. Accordingly, claim 25 is new and non-obvious from D1 - D3.

☐ Industrial Applicability (PCT Article 33(4))

The subject-matter of all the claims meets the criteria of PCT Article 33(4) because it is industrially applicable.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 212 of 469

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
1082-0010-WO		
International application No.	International filing date *(day/month/year)*	(Earliest) Priority Date *(day/month/year)*
PCT/US2009/045957	**02 JUNE 2009 (02.06.2009)**	27 JUNE 2008 (27.06.2008)

Applicant

LEMKO CORPORATION et al

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of **3** sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**
   a. With regard to the **language**, the international search was carried out on the basis of :
      ☒ the international application in the language in which it was filed
      ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))
   b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).
   c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.
2. ☐ **Certain claims were found unsearchable** (See Box No. II)
3. ☐ **Unity of invention is lacking** (See Box No. III)
4. With regard to the **title,**
   ☒ the text is approved as submitted by the applicant.
   ☐ the text has been established by this Authority to read as follows:
5. With regard to the **abstract,**
   ☒ the text is approved as submitted by the applicant.
   ☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.
6. With regard to the drawings,
   a. the figure of the **drawings** to be published with the abstract is Figure No. **1**
      ☒ as suggested by the applicant.
      ☐ as selected by this Authority, because the applicant failed to suggest a figure.
      ☐ as selected by this Authority, because this figure better characterizes the invention.
   b. ☐ none of the figure is to be published with the abstract.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 213 of 469

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/045957

A. CLASSIFICATION OF SUBJECT MATTER

H04L 12/66(2006.01)i, H04L 12/28(2006.01)i

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H04L 12/66; G06F 15/173; H04L 12/56

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility models since 1975.
Japanese utility models and applications for utility models since 1975.

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & Keywords: fault, tolerant, gateway

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2007-0008968 A1 (MICHAEL L. BAKER) 11 January 2007 See abstract, paragraph [0026] - [0028], [0048] - [0049] and Fig.1	1-34
Y	US 2003-0088698 A1 (INDERPREET SINGH et al.) 08 May 2003 See abstract, paragraph [0058] - [0059], [0065] - [0077] and Fig.2	1-34

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents,such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
12 JANUARY 2010 (12.01.2010)	**14 JANUARY 2010 (14.01.2010)**

Name and mailing address of the ISA/KR
Korean Intellectual Property Office
Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea
Facsimile No. 82-42-472-7140

Authorized officer
JEONG, Jae Heon
Telephone No. 82-42-481-5672

Form PCT/ISA/210 (second sheet) (July 2008)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/US2009/045957

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007-0008968 A1	11.01.2007	CN 101253728 A	27.08.2008
		CN 101253728 A	27.08.2008
		EP 1897273 A1	12.03.2008
		EP 1897273 A1	12.03.2008
		JP 2009-500915 A	08.01.2009
		JP 2009-500915 T	08.01.2009
		WO 2007-005347 A1	11.01.2007
US 2003-0088698 A1	08.05.2003	None	

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 215 of 469

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
JEFFREY G. TOLER

8500 BLUFFSTONE COVE, SUITE A201 AUSTIN TX
78759 USA

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing *(day/month/year)*	**14 JANUARY 2010 (14.01.2010)**
Applicant's or agent's file reference 1082-0010-WO	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2009/045957	**02 JUNE 2009 (02.06.2009)**	27 JUNE 2008 (27.06.2008)

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

H04L 12/66(2006.01)i, H04L 12/28(2006.01)i

Applicant

LEMKO CORPORATION et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR	Date of completion of this opinion	Authorized officer
Korean Intellectual Property Office Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	12 JANUARY 2010 (12.01.2010)	JEONG, Jae Heon Telephone No.82-42-481-5672

Form PCT/ISA/237 (cover sheet) (April 2007)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2009/045957

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of :

   ☒ the international application in the language in which it was filed

   ☐ a translation of the international application into _____ , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of:

   a. type of material
   - ☐ a sequence listing
   - ☐ table(s) related to the sequence listing

   b. format of material
   - ☐ on paper
   - ☐ in electronic form

   c. time of filing/furnishing
   - ☐ contained in the international application as filed.
   - ☐ filed together with the international application in electronic form.
   - ☐ furnished subsequently to this Authority for the purposes of search.

4. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additioanl copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 217 of 469

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2009/045957

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-34	YES
	Claims	NONE	NO
Inventive step (IS)	Claims	NONE	YES
	Claims	1-34	NO
Industrial applicability (IA)	Claims	1-34	YES
	Claims	NONE	NO

2. Citations and explanations :

Reference is made to the following documents:

D1: US 2007-0008968 A1 (MICHAEL L. BAKER) 11 January 2007
D2: US 2003-0088698 A1 (INDERPREET SINGH et al.) 08 May 2003

☐ Novelty (PCT Article 33(2)) and Inventive Step (PCT Article 33(3))

(1) The present invention is related to a problem that a failure in the operation of a dMAG (distributed Mobile Architecture Gateway) disrupts continuity of service between mobile stations. As a solution, claim 1 suggests a method for providing fault tolerance in a dMA system, the method comprising: failing to receive a message within a predetermined time relating to a 1st dMAG at a 2nd dMAG; determining that the 1st dMAG is not operational or is otherwise offline; notifying dMA nodes associated with the 1st dMAG to request connections to an external system via the 2nd dMAG; and notifying the external system to request connections to dMA nodes associated with the 1st dMAG via the 2nd dMAG.

D1 recognizes Fault Tolerant Ethernet networks as a problem and suggests a communication network 100 that includes end points 104a - 104e communicating with one another through switches 102a - 102d. In the event that one switch or gateway in a pair is lost in the network 100, the other switch or gateway in the pair is used to route traffic.

D2 recognizes a failure between clients and servers in Fig. 2 as a problem. In D2, when a gateway 140 detects a heartbeat failure from the server, it no longer provides a route to the corresponding access devices and begins rerouting traffic to a backup gateway.

The subject matter of claim 1 differs from that of D1 in that it notifies dMA nodes and an external system to request connections to each other associated with the 1st dMAG which is not operational or is otherwise offline. However, D2 discloses sending updated routing information in response to a request from an access device in a backup gateway when a heartbeat failure is detected. Thus, claim 1 is new but obvious to a person skilled in the art over D1 in view of D2.

(2) Claims 2 - 7, which refer to claim 1, are characterized by receiving a message which means an offline message, receiving a request to take over operation from the 1st dMAG to the 2nd dMAG, receiving a registration message or failing to receive a periodic heartbeat message.

D1 and D2 disclose taking over a gateway in use to another gateway if the gateway in use is not operational. When the state of the gateway in use is detected, a diagnosis signal is checked in D1 and a heartbeat signal is checked in D2.

Continued on Supplemental Box

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 218 of 469

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of :

Box V

The features of the prior art D1 and D2 are the same as those of claims 2 - 7. Thus, claims 2 - 7 are new but obvious to a person skilled in the art.

(3) Claim 8 is directed to a method for providing fault tolerance in a dMA system, the method characterized by: determining a failure to connect the outgoing call via the 1st dMAG; determining a 2nd operational dMAG to connect the outgoing call; and transmitting a 2nd connection request message from the dMA node to the 2nd dMAG to connect the outgoing call to an external system based on the received connection request.

The subject matter of claim 8 differs from that of D1 in that it transmits the 2nd connection request from dMA nodes to the 2nd dMAG to connect the outgoing call to an external system. However, D2 discloses sending updated routing information in response to a request from an access device in a backup gateway when a heartbeat failure is detected. Thus, claim 8 is new but obvious to a person skilled in the art over D1 in view of D2.

(4) Claim 9 is directed to a method for providing fault tolerance in a dMA system, the method characterized by: determining a failure to connect the outgoing call via the 1st dMAG; determining a 2nd operational dMAG to connect the outgoing call; and transmitting a 2nd connection request message from the dMAG interface to the 2nd dMAG to connect the outgoing call via the 2nd dMAG to the dMA node associated with the mobile station to which the outgoing call is directed based on the received connection request.

The subject matter of claim 9 differs from that of D1 in that it transmits a 2nd connection request message from the dMAG interface to the 2nd dMAG to connect the outgoing call via the 2nd dMAG to the dMA node associated with the mobile station to which the outgoing call is directed based on the received connection request. D2 discloses sending updated routing information in response to a request from an access device in a backup gateway when it detects a heartbeat failure. Although claim 9 transmits the connection request message from the dMAG interface and D2 transmits it from the access device, they are thought to be mere structural modifications because both of them change the gateway in use. Thus, claim 9 is new but obvious to a person skilled in the art over D1 in view of D2.

(5) The subject matter of claim 10 differs from that of claim 1 only in that it uses a dMAG management system which receives a failure message and determines that the 1st dMAG is not operational. Neither of the prior art D1 and D2 discloses such a gateway management system. However, they all perform the same function at the gateway, and the dMAG management system is not thought to be a difficult structural element. Thus, claim 10 is new but obvious to a person skilled in the art over D1 in view of D2.

(6) Claims 11 - 17, which refer to claim 10, are characterized by receiving a message which means an offline message, receiving a request to take over operation from the 1st dMAG to the 2nd dMAG, receiving a notifying message or failing to receive a periodic heartbeat message.

D1 and D2 disclose taking over a gateway in use to another gateway if the gateway in use is not operational. When the state of the gateway in use is detected, a signal diagnosis signal is checked in D1 and a heartbeat signal is checked in D2.

The features of the prior art D1 and D2 are the same as those of claims 11 - 17. Thus, claims 11 - 17 are new but obvious to a person skilled in the art.

Continued on Supplemental Box

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 219 of 469

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of :

Box V

(7) Claim 18 is directed to a fault tolerant dMA system, which comprises a 2nd dMA gateway including: a message receipt module to determine the failure to receive the message within a predetermined time relating to a 1st dMAG; an operation determination module to determine that the 1st dMAG is not operational; a notification module to notify dMA nodes to request connections to an external system via the 2nd dMAG.

D1 discloses selecting another gateway for sending signals when a failure of gateway is detected.

The subject matter of claim 18 differs from that of D1 in that it notifies dMA nodes and an external system to request connections to each other associated with the 1st dMAG which is not operational. However, D2 discloses sending updated routing information in response to a request from an access device in a backup gateway when a heartbeat failure is detected. Thus, claim 18 is new but obvious to a person skilled in the art over D1 in view of D2.

(8) Claims 19 - 24, which refer to claim 18, are characterized by receiving a message which means an offline message, receiving a request to take over operation from the 1st dMAG to the 2nd dMAG, receiving a registration message or failing to receive a periodic heartbeat message.

D1 and D2 disclose taking over a gateway in use to another gateway if the gateway in use is not operational. When the state of the gateway in use is detected, a diagnosis signal is checked in D1 and a heartbeat signal is checked in D2.

The features of the prior art D1 and D2 are the same as those of claims 19 - 24. Thus, claims 19 - 24 are new but obvious to a person skilled in the art over D1 in view of D2.

(9) Claims 25 - 27 are directed to a fault tolerant dMA system. The features of the claims are thought to be substantially the same as those of claim 18. Thus, claims 25 - 27 are new but obvious to a person skilled in the art over D1 in view of D2.

(10) Claims 28 - 30, which refer to claim 27, are characterized by receiving a message which means an offline message and receiving a request to take over operation from the 1st dMAG to the 2nd dMAG.

D1 and D2 disclose taking over a gateway in use to another gateway if the gateway in use is not operational. The features of the prior art D1 and D2 are the same as those of claims 28 - 30. Thus, claims 28 - 30 are new but obvious to a person skilled in the art over D1 in view of D2.

(11) The features of claims 31, 32, 33 and 34 are thought to be substantially the same as those of claims 1, 8, 9 and 10 except for the category. Thus, claims 31 - 34 are new but obvious to a person skilled in the art over D1 in view of D2.

Therefore, claims 1 - 34 are considered to be new under PCT Article 33(2) but to lack an inventive step under PCT Article 33(3).

☐ Industrial Applicability (PCT Article 33(4))

The subject-matter of all the claims meets the criteria of PCT Article 33(4) because it is industrially applicable.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 220 of 469

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
1082-0011-WO		
International application No.	International filing date *(day/month/year)*	(Earliest) Priority Date *(day/month/year)*
PCT/US2009/045968	**02 JUNE 2009 (02.06.2009)**	11 JULY 2008 (11.07.2008)

Applicant

LEMKO CORPORATION et al

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of **3** sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**
   a. With regard to the **language**, the international search was carried out on the basis of :
      ☒ the international application in the language in which it was filed
      ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))
   b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).
   c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.
2. ☐ **Certain claims were found unsearchable** (See Box No. II)
3. ☐ **Unity of invention is lacking** (See Box No. III)
4. With regard to the **title,**
   ☒ the text is approved as submitted by the applicant.
   ☐ the text has been established by this Authority to read as follows:
5. With regard to the **abstract,**
   ☒ the text is approved as submitted by the applicant.
   ☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.
6. With regard to the drawings,
   a. the figure of the **drawings** to be published with the abstract is Figure No. **1**
      ☒ as suggested by the applicant.
      ☐ as selected by this Authority, because the applicant failed to suggest a figure.
      ☐ as selected by this Authority, because this figure better characterizes the invention.
   b. ☐ none of the figure is to be published with the abstract.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 221 of 469

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/045968

A. CLASSIFICATION OF SUBJECT MATTER

H04L 12/66(2006.01)i, H04L 12/28(2006.01)i

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H04L 12/66; H04B 7/185; H04L 12/56; H04Q 7/20

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility models since 1975.
Japanese utility models and applications for utility models since 1975.

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & Keywords: dMA, gateway, routing

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2006-0159039 A1 (TAE-SUNG JUNG et al.) 20 July 2006 See abstract, paragraph [0032] ~ [0047]	1-48
A	US 2007-0287452 A1 (SHAOWEI PAN) 13 December 2007 See abstract, paragraph [0004] ~ [0005], [0064] ~ [0068] [0115] ~ [0125]	1-48
A	US 2006-0098661 A1 (SHAOWEI PAN) 11 May 2006 See abstract, paragraph [0004] ~ [0005], [0037] ~ [0047]	1-48

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents,such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
20 JANUARY 2010 (20.01.2010)	**21 JANUARY 2010 (21.01.2010)**
Name and mailing address of the ISA/KR Korean Intellectual Property Office Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer JEONG, Jae Heon Telephone No. 82-42-481-5672

Form PCT/ISA/210 (second sheet) (July 2008)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2009/045968

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006-0159039 A1	20.07.2006	CN 101084659 A	05.12.2007
		DE 112005002821 B4	21.08.2008
		DE 112005002821 T5	06.09.2007
		JP 2008-524953 T	10.07.2008
		WO 2006-068417 A1	29.06.2006
US 2007-0287452 A1	13.12.2007	None	
US 2006-0098661 A1	11.05.2006	CN 101044769 A	26.09.2007
		EP 1810465 A2	25.07.2007
		GB 2435751 A	05.09.2007
		US 2006-234747 A1	19.10.2006
		US 2006-234774 A1	19.10.2006
		US 2008-039144 A1	14.02.2008
		US 7486967 B2	03.02.2009
		US 7539158 B2	26.05.2009
		WO 2006-052342 A2	18.05.2006
		WO 2006-052342 A3	18.05.2006

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 223 of 469

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
JEFFREY G. TOLER

8500 BLUFFSTONE COVE, SUITE A201 AUSTIN TX
78759 USA

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing *(day/month/year)*	**21 JANUARY 2010 (21.01.2010)**
Applicant's or agent's file reference 1082-0011-WO	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2009/045968	**02 JUNE 2009 (02.06.2009)**	11 JULY 2008 (11.07.2008)

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

H04L 12/66(2006.01)i, H04L 12/28(2006.01)i

Applicant

LEMKO CORPORATION et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR	Date of completion of this opinion	Authorized officer
Korean Intellectual Property Office Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302 -701, Republic of Korea Facsimile No. 82-42-472-7140	20 JANUARY 2010 (20.01.2010)	JEONG, Jae Heon Telephone No.82-42-481-5672

Form PCT/ISA/237 (cover sheet) (April 2007)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2009/045968

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of :

   ☒ the international application in the language in which it was filed

   ☐ a translation of the international application into _____ , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of:

   a. type of material
   - ☐ a sequence listing
   - ☐ table(s) related to the sequence listing

   b. format of material
   - ☐ on paper
   - ☐ in electronic form

   c. time of filing/furnishing
   - ☐ contained in the international application as filed.
   - ☐ filed together with the international application in electronic form.
   - ☐ furnished subsequently to this Authority for the purposes of search.

4. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additioanl copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 225 of 469

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2009/045968

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-48	YES
	Claims	NONE	NO
Inventive step (IS)	Claims	1-48	YES
	Claims	NONE	NO
Industrial applicability (IA)	Claims	1-48	YES
	Claims	NONE	NO

2. Citations and explanations :

Reference is made to the following documents:

D1: US 2006-0159039 A1 (TAE-SUNG JUNG et al.) 20 July 2006
D2: US 2007-0287452 A1 (SHAOWEI PAN) 13 December 2007
D3: US 2006-0098661 A1 (SHAOWEI PAN) 11 May 2006

☐ Novelty (PCT Article 33(2)) and Inventive Step (PCT Article 33(3))

(1) The present invention recognizes it as a problem that dMA (distributed Mobile Architecture) nodes roam between different dMAGs. As a solution, claim 1 suggests a method of routing calls at a 1st dMAG, the method characterized by sending one or more command messages to reserve the components of the 1st dMAG, a 1st dMA node and a private IP network along a routing path; receiving one or more confirmation messages indicating that the components along the routing path are reserved to route a 1st call; and connecting the 1st call to a mobile station via the reserved components.

D1 discloses a VPN server (220) which establishes a communication path for edge routers (212 - 214) connected to calling and called gateways according to network address information. The VPN server receives a Privacy Circuit Service Request message including the IP address and User Datagram Protocol port information of the caller and the callee and sets routing paths for the edge routers for transmission of voice packets.

D2 recognizes that there exists a need for an improved communication system that is relatively inexpensive to deploy and relatively inexpensive to operate. D2 discloses a communication system in Fig. 25 that includes a network of DMAs. The DMAs are coupled to each other through an IP network and the MSC element of a cellular communication system. The communication system sends a routing message from a 1st node of the dMA to the other dMA associated with a mobile subscriber.

D3 also recognizes that there exists a need for an improved communication system that is relatively inexpensive to deploy and relatively inexpensive to operate. As a solution, D3 discloses a communication system in Fig.1, wherein each DMA server is interconnected with the other via an internet protocol network, and the DMA server can switch and route calls received via each antenna and has a VLR (Visitor Locator Resource) and an HLR (Home Locator Resource).

Continued on Supplemental Box

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 226 of 469

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US2009/045968

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claims 20 and 21 referring to claim 19 and claim 25 referring to claims 12 and 22 are unclear in that they have the term "the MIB" because there is no antecedent for the term. Therefore, claims 20, 21 and 25 do not meet the requirements of PCT Article 6.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 227 of 469

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of :

Box V

D1 is regarded as the closest prior art because it handles a method of routing paths. However, D1 does not disclose command messages and confirmation messages to reserve some components of the 1st dMAG, the 1st dMA node and a private IP network along a routing path. Also, D1 does not disclose a dMA, let alone a dMAG.

D2 discloses a VLR-GW corresponding to the DMAG of the present invention, which registers visitor's locations. However, the VLR-GW does not join the process of routing paths, which reserves and confirms the components of the 1st dMAG, the 1st dMA node and a private IP network along the routing path. It is thought to be merely a Database, not a gateway.

D3 discloses the details of a dMA, but does not disclose a dMAG. Also D3 does not show any messages for reserving or confirming paths for routing.

Thus, claim 1 is new and not obvious from D1 - D3. Also, claims 2 - 11 dependent on claim 1 are regarded to be new and not obvious from D1 - D3.

(2) Claim 12 is directed to a dMAG (distributed Mobile Architecture Gateway) comprising: a data storage device; a legacy network interface; a Home dMA register; a Visitor dMA register; a master agent; and an operations module, wherein the Home dMA register is designated to route calls directed to one or more mobile stations served by the 1st group of dMA nodes and the Visitor dMA register includes a list of a 2nd group of dMA nodes which is roaming with respect to the dMAG.

None of the referred documents disclose a gateway which routes paths for roaming from 1st dMA to 2nd dMA. The present invention is thought to introduce a new gateway for the dMA (distributed Mobile Architecture) which has a Home dMA register and a Visitor dMA and roams from the 1st dMA to the 2nd dMA.

Thus, claim 12 is new and not obvious to a skilled person in the art. Also, claims 13 - 36 dependent on claim 12 are regarded to be new and not obvious from D1 - D3.

(3) Claim 37 is directed to a method of routing calls via a communications network, the method comprising: receiving a resource allocation query command message at a 1st dMA node from a 1st dMAG, the 1st dMA node roaming with respect to the 1st dMAG and the resource allocation query being related to a call directed to a mobile station adapted to communicate via the 1st dMA node; sending a response message to the 1st dMAG from the 1st dMA node, response message indicating that one or more components for the 1st dMA node are reserved for the call; receiving one or more packets related to the call at the 1st dMA node from the 1st dMAG via a private IP network; and sending one or more signals associated with the one or more packets related to the call to the mobile stations via a wireless transceiver integrated with the 1st dMA node.

As explained in section (1), none of the referred documents disclose a resource allocation for routing paths, which means to receive a resource allocation query command message from a dMAG at the 1st dMA and to send a response message from the 1st dMA node to the 1st dMAG.

Continued on Supplemental Box

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 228 of 469

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of :

Box V

Thus, claim 37 is new and not obvious from D1 - D3. Also, claims 38 - 43 dependent on claim 37 are regarded to be new and not obvious from D1 - D3.

(4) Claim 44 is directed to a dMA node, comprising: a data network connection; and a performance module adapted to: send 1st performance data to a 1st dMAG via the private IP network when the dMA node is in a 1st communication range of the 1st dMAG; and send 2nd performance data to a 2nd dMAG via the private IP network when the dMA node is in a 2nd communication range of the 2nd dMAG, the 2nd performance data related to components of the dMA node and related to 2nd calls routed via the dMA node when the dMA node is in the 2nd communication range; wherein the dMA node is included in a home dMA register of the 1st dMAG when the dMA node is in the 1st communication range and the dMA node is in a visitor dMA register of the 2nd dMAG when the dMA node is in the 2nd communication range.

None of the referred documents disclose a gateway which roams from the 1st dMA to the 2nd dMA through the 1st and 2nd dMAGs. The present invention is thought to introduce a new gateway for the dMA (distributed Mobile Architecture) which has a Home dMA register and a Visitor dMA and roams from the 1st dMA to the 2nd dMA.

Thus, claim 44 is new and not obvious to a skilled person in the art. Also, claims 45 - 48 dependent on claim 44 are regarded to be new and not obvious from D1 - D3.

Thus, claims 1 - 48 meet the requirements of PCT Article 33(2)-(3) with respect to novelty and inventive step.

☐ Industrial Applicability (PCT Article 33(4))

The subject-matter of all the claims meets the criteria of PCT Article 33(4) because it is industrially applicable.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 229 of 469

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
1082-0013-WO		
International application No.	International filing date *(day/month/year)*	(Earliest) Priority Date *(day/month/year)*
PCT/US2009/045973	**02 JUNE 2009 (02.06.2009)**	14 JULY 2008 (14.07.2008)

Applicant

LEMKO CORPORATION et al

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of **3** sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**
   a. With regard to the **language**, the international search was carried out on the basis of :
      ☒ the international application in the language in which it was filed
      ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))
   b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).
   c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.
2. ☐ **Certain claims were found unsearchable** (See Box No. II)
3. ☐ **Unity of invention is lacking** (See Box No. III)
4. With regard to the **title,**
   ☒ the text is approved as submitted by the applicant.
   ☐ the text has been established by this Authority to read as follows:
5. With regard to the **abstract,**
   ☒ the text is approved as submitted by the applicant.
   ☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.
6. With regard to the drawings,
   a. the figure of the **drawings** to be published with the abstract is Figure No. **1**
      ☒ as suggested by the applicant.
      ☐ as selected by this Authority, because the applicant failed to suggest a figure.
      ☐ as selected by this Authority, because this figure better characterizes the invention.
   b. ☐ none of the figure is to be published with the abstract.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 230 of 469

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/045973

A. CLASSIFICATION OF SUBJECT MATTER

H04L 12/56(2006.01)i

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC : H04L, H04Q, H04J, H04M, G06F

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

Korean Utility models and applications for Utility models since 1975
Japanese Utility models and applications for Utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) "Distributed Mobile Architecture (DMA), gateway, server, rout*, HLR, VLR"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2006-0258358 A1 (Juha Kallio) 16 November 2006 See the abstract; figures 2 and 4B; paragraph [0012]-[0014], [0018], [0053]-[0055] and [0062]	1-46
A	US 2006-0098661 A1 (Shaowei Pan) 11 May 2006 See figures 14-15; paragraph [0033], [0063] and [0069]-[0070]; claims 52-60	1-46
A	US 2007-0147598 A1 (Brian E. Somes et al.) 28 June 2007 See figure 1; paragraph [0006], [0013]-[0015] and [0018]-[0020]	1-46
A	US 2007-0230352 A1 (Ravindranath Kokku et al.) 04 October 2007 See the abstract; figure 1; paragraph [0011] and [0022]	1-46
A	US 2005-0091392 A1 (Lothar Gesswein et al.) 28 April 2005 See the abstract; figure 1; paragraph [0029]-[0030]	1-46

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents,such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
15 JANUARY 2010 (15.01.2010)	**18 JANUARY 2010 (18.01.2010)**
Name and mailing address of the ISA/KR Korean Intellectual Property Office Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer KIM, Sae Young Telephone No. 82-42-481-5685

Form PCT/ISA/210 (second sheet) (July 2008)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/US2009/045973

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006-0258358 A1	16.11.2006	FI 20050500 D0	11.05.2005
		WO 2006-120289 A2	16.11.2006
		WO 2006-120289 A3	04.01.2007
US 2006-0098661 A1	11.05.2006	CN 101044769 A0	26.09.2007
		CN 101044769 A	26.09.2007
		EP 1810465 A2	25.07.2007
		GB 2435751 A	05.09.2007
		US 2008-0039144 A1	14.02.2008
		US 07486967 B2	03.02.2009
		US 07539158 B2	26.05.2009
		US 07548763 B2	16.06.2009
		US 2006-0234747 A1	19.10.2006
		US 2006-0234774 A1	19.10.2006
		WO 2006-052342 A2	18.05.2006
		WO 2006-052342 A3	18.05.2006
US 2007-147598 A1	28.06.2007	US 07424106 B2	09.09.2008
US 2007-230352 A1	04.10.2007	NONE	
US 2005-0091392 A1	28.04.2005	DE 10163478 A1	17.07.2003
		DE 10163478 C2	18.12.2003
		EP 1457021 A1	15.09.2004
		WO 2003-056776 A8	08.05.2008
		WO 2003-056776 A1	10.07.2003

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 232 of 469

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
JEFFREY G. TOLER

8500 BLUFFSTONE COVE, SUITE A201 AUSTIN TX
78759 USA

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing *(day/month/year)*	**18 JANUARY 2010 (18.01.2010)**
Applicant's or agent's file reference 1082-0013-WO	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2009/045973	**02 JUNE 2009 (02.06.2009)**	14 JULY 2008 (14.07.2008)

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

H04L 12/56(2006.01)i

Applicant

LEMKO CORPORATION et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR	Date of completion of this opinion	Authorized officer
Korean Intellectual Property Office Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302 -701, Republic of Korea Facsimile No. 82-42-472-7140	15 JANUARY 2010 (15.01.2010)	KIM, Sae Young Telephone No.82-42-481-5685

Form PCT/ISA/237 (cover sheet) (April 2007)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2009/045973

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of :

   ☒ the international application in the language in which it was filed

   ☐ a translation of the international application into _____ , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of:

   a. type of material
   - ☐ a sequence listing
   - ☐ table(s) related to the sequence listing

   b. format of material
   - ☐ on paper
   - ☐ in electronic form

   c. time of filing/furnishing
   - ☐ contained in the international application as filed.
   - ☐ filed together with the international application in electronic form.
   - ☐ furnished subsequently to this Authority for the purposes of search.

4. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additioanl copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 234 of 469

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2009/045973

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-46	YES
	Claims	NONE	NO
Inventive step (IS)	Claims	1-46	YES
	Claims	NONE	NO
Industrial applicability (IA)	Claims	1-46	YES
	Claims	NONE	NO

2. Citations and explanations :

Reference is made to the following documents:

D1: US 2006-0258358 A1
D2: US 2006-0098661 A1
D3: US 2007-0147598 A1
D4: US 2007-0230352 A1
D5: US 2005-0091392 A1

D1 relates to a method for performing inter-system handovers in a communication system comprising at least a mobile station, a call state control function, a first and a second call control node, a first and a second media gateway and a radio network node.

D2 relates generally to the distributed mobile communication systems.

D3 relates generally to telecommunications and, more particularly, to providing connections between carriers.

D4 relates to communication networks, and more particularly, to a multipath routing architecture and congestion control protocol for harnessing network capacity across multiple Internet paths for point-to-point large data transfers.

D5 relates to a method for codec negotiation for a data transmission between two media gateways and to a device related hereto.

1. Novelty and Inventive Step

1.1 Claims [1-21]

Claim 1 discloses a method, comprising: receiving at a first distributed mobile architecture (DMA) gateway communications information for a communications network accessible by a second DMA gateway,

(Continued on the Supplemental Box)

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 235 of 469

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US2009/045973

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

- The expression "the call" in claim 22, line 35 is more or less vague and unclear.
- The number "20" in claim 31 appears to be a mistake of a number "22" in writing.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 236 of 469

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of :

(Box No. V)

the communications information indicating one or more devices accessible by one of a DMA server and a legacy communications network, wherein the first DMA gateway and the second DMA gateway participate in a DMA gateway communications network; storing the communications information in a home DMA register of the first DMA gateway; receving a communication at the first DMA gateway for a target device indicated by the communications information to be served by the second DMA gateway; and routing the communication from the first DMA gateway to the target device by relaying the communication from the first DMA gateway to the second DMA gateway via the DMA gateway communications network.

However, none of the documents D1-D5 disclose the technical features of claim 1. Moreover, it is not obvious for a person skilled in the art to arrive at claim 1 by applying the features in D1-D5.

Therefore, claim 1 is considered to be novel under PCT Article 33(2) and an inventive step is also present in the subject matter of the claim under PCT Article 33(3). Accordingly, the subject matter of claims 2-21, which are directly or indirectly dependent on claim 1, is considered to be novel under PCT Article 33(2) and to involve an inventive step under PCT Article 33(3).

1.2 Claims [22-32]

Claim 22 discloses a network communications system, comprising: a first interface adapted to communicate with a legacy communications network; a second interface adapted to communicate with a private Internet Protocol (IP) network; a third interface adapted to communicate with a DMA gateway communications network; and a server having logic adapted to: receive legacy network information from a second DMA gateway, the legacy network information indicating that the legacy communications network is in a communications range of the second DMA gateway; and forward information associated with a communication received from a DMA server via the second interface to the second DMA gateway via the third interface; wherein the call is placed to a destination device accessible via the legacy communications network.

(Continued on the next page)

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 237 of 469

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of :

(the previous page)

However, none of the documents D1-D5 disclose the technical features of claim 22. Moreover, it is not obvious for a person skilled in the art to arrive at claim 22 by applying the features in D1-D5. Therefore, claim 22 is considered to be novel under PCT Article 33(2) and an inventive step is also present in the subject matter of the claim under PCT Article 33(3). Accordingly, the subject matter of claims 23-32, which are directly or indirectly dependent on claim 22, is considered to be novel under PCT Article 33(2) and to involve an inventive step under PCT Article 33(3).

1.3 Claims [33-41]

Claim 33 discloses a method of routing calls via a communications network, the method comprising: receving first routing instructions at a first distributed mobile architecture (DMA) server from a first DMA gateway when the first DMA server is in a first service area of the first DMA gateway, the first DMA gateway comprising a first orbiting satellite; and sending a first call received at the first DMA server from a first bobile communications device via a wireless transceiver integrated with the first DMA server to the first DMA gateway via a private INternet Protocol (IP) network according to the first routing instructions; wherein the first call placed to a destination device accessible via a legacy communications network, the legacy communication network accessible via the first DMA gateway.

However, none of the documents D1-D5 disclose the technical features of claim 33. Moreover, it is not obvious for a person skilled in the art to arrive at claim 33 by applying the features in D1-D5. Therefore, claim 33 is considered to be novel under PCT Article 33(2) and an inventive step is also present in the subject matter of the claim under PCT Article 33(3). Accordingly, the subject matter of claims 34-41, which are directly or indirectly dependent on claim 33, is considered to be novel under PCT Article 33(2) and to involve an inventive step under PCT Article 33(3).

1.4 Claims [42-45]

Claim 42 discloses a network communications system, comprising: a distributed mobile architecture (DMA) server coupled to a wireless transceiver, the DMA server including: a first interface adapted to communicate with a private Internet Protocol (IP) network; a second interface adapted to communicate with a gateway communications network; and a derver having logic adapted to: receive a call from a mobile communications device via the wireless tranceiver; and send call information related to the call to a DMA gateway, the DMA

(Continued on the next page)

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 238 of 469

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of :

(the previous page)

gateway; wherein the call is placed to a destination device accessible via a legacy communications network, the legacy communications network accessible via the DMA gateway.

However, none of the documents D1-D5 disclose the technical features of claim 42. Moreover, it is not obvious for a person skilled in the art to arrive at claim 42 by applying the features in D1-D5. Therefore, claim 42 is considered to be novel under PCT Article 33(2) and an inventive step is also present in the subject matter of the claim under PCT Article 33(3). Accordingly, the subject matter of claims 43-45 dependent on claim 42, is considered to be novel under PCT Article 33(2) and to involve an inventive step under PCT Article 33(3).

1.5 Claim 46

Claim 46 discloses an orbiting satellite, comprising: a first interface adapted to communicate with a legacy communications network; second interface adapted to communicate with a private Internet Protocol (IP) network; and a server having logic adapted to: receive a call via the first interface, the call placed to a first mobile communications device accessible to a first distributed mobile architecture (DMA) server; and route the call to the first DMA server via the second interface, wherein the first DMA server includes a wireless transceiver to communicate with the first mobile communications device.

However, none of the documents D1-D5 disclose the technical features of claim 46. Moreover, it is not obvious for a person skilled in the art to arrive at claim 46 by applying the features in D1-D5. Therefore, claim 46 is considered to be novel under PCT Article 33(2) and an inventive step is also present in the subject matter of the claim under PCT Article 33(3).

2. Industrial Applicability

The industrial applicability of claims 1-46 is self-evident in the sense of PCT Article 33(4) because the subject matter claimed can be made or used in industry.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 239 of 469

Electronic Patent Application Fee Transmittal	
Application Number:	13235021
Filing Date:	16-Sep-2011
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Filer:	Jeffrey G. Toler/Katherine Meals
Attorney Docket Number:	1082-0008-C1
Filed as Large Entity	

Utility under 35 USC 111(a) Filing Fees

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

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
		Total in USD ($)		**180**

Electronic Acknowledgement Receipt	
EFS ID:	18637095
Application Number:	13235021
International Application Number:	
Confirmation Number:	2302
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Customer Number:	60533
Filer:	Jeffrey G. Toler/Katherine Meals
Filer Authorized By:	Jeffrey G. Toler
Attorney Docket Number:	1082-0008-C1
Receipt Date:	01-APR-2014
Filing Date:	16-SEP-2011
Time Stamp:	11:21:43
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$180
RAM confirmation Number	9238
Deposit Account	502469
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	1082-0008-C1_IDS.pdf	1000201 b10cc3edb46206b043a3ffa6ce17be73fd262d68	no	7
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
2	Non Patent Literature	1082-0001-EP.pdf	6191635 b2711f00a3864c0152ac44d48f2d7071c8fa01c5	no	72
Warnings:					
Information:					
3	Non Patent Literature	1082-0001-IN-FER.pdf	65548 82065ef9666dd24fd852cbb1c13704fb71591bc9	no	4
Warnings:					
Information:					
4	Non Patent Literature	1082-0001-WO.pdf	503824 12d7b4085cabbf36b3da1641bf66ca0d262d3913	no	8
Warnings:					
Information:					
5	Non Patent Literature	1082-0007-WO.pdf	388639 4ff28bf7e79603a88ff9aeec2bd5ffbeba9c37f7	no	8
Warnings:					
Information:					
6	Non Patent Literature	1082-0010-WO.pdf	414809 ef8ea7e82da8b6bcea7a0947ead57f4839dc05f2	no	8
Warnings:					
Information:					
7	Non Patent Literature	1082-0011-WO.pdf	398964 9a48025517e3fd0ec6f7b346676aa2523d269e01	no	9
Warnings:					
Information:					

8	Non Patent Literature	1082-0013-WO.pdf	444076 d92d6435b7a216a2baa1fa4a4cedd1e052f6b200	no	10
Warnings:					
Information:					
9	Non Patent Literature	Yu.pdf	695469 2052cfb6d05dd0b48f184b933c89282b67d623c1	no	3
Warnings:					
Information:					
10	Fee Worksheet (SB06)	fee-info.pdf	30520 596df933e3b3c793aa30ad6e2298b4a932af297a	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	10133685	

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

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

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

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/235,021	09/16/2011	Shaowei Pan	1082-0008-C1	2302

60533 7590 07/10/2014

TOLER LAW GROUP
TOLER LAW GROUP
8500 BLUFFSTONE COVE
SUITE A201
AUSTIN, TX 78759

EXAMINER	
NGUYEN, THU HA T	
ART UNIT	PAPER NUMBER
2453	

MAIL DATE	DELIVERY MODE
07/10/2014	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 245 of 469

Office Action Summary	Application No. 13/235,021	Applicant(s) PAN, SHAOWEI	
	Examiner THU HA NGUYEN	Art Unit 2453	AIA (First Inventor to File) Status No

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *1/29/14*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1-20* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-20* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date *04/01/14*.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

1. Claims **1-20** are presented for examination.

2. Claims 1-3, 5, 10-17 and 20 are currently amended.

Response to Arguments

3. Applicant's arguments with respect to claims 1-20 have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

4. Applicant argues that Brown fails to disclose determining that a first distributed mobile architecture (DMA) server supports wireless communication with a destination device based on registration data stored at a DMAG, where the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server.

5. In response to applicant argument, the examiner submits that Brown does teach determining that a first distributed mobile architecture gateway (DMAG) supports communication with the destination device based on registration data stored at the first DMA server as shown in par. 0010, 0013, 0108. However, Brown does not explicitly teach the newly amended feature " where the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server". Nix, teaches this feature as discussed below.

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 4, 6-20 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over **Brown et al.,** U.S. Pub. No. **2004/0203677**, and in view of **Nix, Jr. et al.**, (hereinafter Nix) U.S. Pub. No. **2012/0020293**.

6. As to claim 1, **Brown** teaches the invention as claimed, including a method comprising:

receiving a call from a first mobile device at a base transceiver station (BTS) interface of a first distributed mobile architecture (DMA) server, wherein the call is associated with a destination device (par. 0007, 0104, 0105);

determining that a first distributed mobile architecture gateway (DMAG) supports communication with the destination device based on registration data stored at the first DMA server (par. 0010, 0013, 0108);

converting voice information associated with the call to packet data; and routing the packet data to the destination device via the first DMAG (par. 0014, 0076-0080).

However, **Brown** does not explicitly teach wherein the registration data indicates that the destination device is not within a coverage area associated with the first DMA

server, and wherein the first DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server.

Nix teaches wherein the registration data indicates that the destination device is not within a coverage area associated with the first DMA server (par. 0005, 0013, 0168-0169, 0179), and wherein the first DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server (figs. 6, 10, par. 0028, 0059, 0098, 0102-0103).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of **Brown and Nix** in order to provide an efficient system to allow a standard mobile handset to communicate voice and data through voice over internet protocol (VoIP).

7. As to claim 2, **Brown** teaches the invention as claimed, including the method of claim 1, wherein the first DMAG is communicatively coupled to one or more legacy networks, and wherein the destination device is associated with at least one of the one or more legacy networks (fig. 1).

8. As to claim 4, **Brown** teaches the invention as claimed, including the method of claim t, wherein converting the voice information to the packet data comprises converting the voice information to internet protocol (IP) packet data (par. 0014, 0078-0080, 0104-0106, 0204).

9. As to claim 6, **Brown** teaches the invention as claimed, including the method of claim 1, wherein the first DMAG is in communication with a plurality of legacy communication networks (fig. 1).

10. As to claim 7, **Brown** teaches the invention as claimed, including the method of claim 1, wherein the first DMA server is configured to receive one or more calls while the first DMA server is moving (par. 0007, 0167-0168).

11. As to claim 8, **Brown** teaches the invention as claimed, including the method of claim 7, wherein the first DMA server is located within a first coverage area associated with the first DMAG when the call is received (par. 0097, 0167-0168).

12. As to claim 9, 14, 17, **Nix** teaches the invention as claimed, including the method of claim 8, further comprising: converting additional voice information associated with the call to additional packet data; in response to determining that the first DMA server has moved into a second coverage area associated with a second DMAG, determining that the second DMAG supports communication with the destination device; and routing the additional packet data to the destination device via the second DMAG (par. 0013, 0150, 0168-0169, 0179).

13. As to claim 10, **Brown** teaches the invention as claimed, including a method, comprising:

receiving a call from a communication device at a distributed mobile architecture gateway (DMAG) via a network, wherein the call is associated with a destination device (par. 0007, 0104, 0105);

determining that a first distributed mobile architecture (DMA) server supports wireless communication with the destination device based on registration data stored at the DMAG (par. 0010, 0013, 0108);

converting information associated with the call to packet data; and routing the packet data to the destination device via the first DMA server (par. 0014, 0076-0080).

However, **Brown** does not explicitly teach wherein the first DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server.

Nix teaches wherein the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server (figs. 6, 10, par. 0028, 0059, 0098, 0102-0103).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of **Brown and Nix** in order to provide femtocells or user base stations, in combination with a service provider network to allow a standard mobile handset to communicate voice and data through voice over internet protocol (VoIP) (see Nix par. 0001).

14. As to claim 11, **Brown** teaches the invention as claimed, including the method of claim 10, wherein the call is received at the DMAG according to a first protocol associated with a legacy network, and wherein converting the information

associated with the call to packet data comprises converting the information to internet protocol (IP) packet data (par. 0014, 0076-0080, 0108-0113).

15. As to claim 12, **Brown** teaches the invention as claimed, including the method of claim 10, wherein the registration data indicates that the DMAG is a node that controls communications related to the first DMA server and that a second DMAG controls communications related to a second DMA server of the plurality of DMA servers (fig. 1, 0110-0112).

16. As to claim 13, **Brown** teaches the invention as claimed, including the method of claim 10, wherein the registration data stored at the DMAG indicates that the first DMA server is associated with a first coverage area, and wherein the registration data indicates that the destination device is within the first coverage area (par. 0097, 0167-0168).

17. As to claim 15, **Brown** teaches the invention as claimed, including a non-transitory computer-readable storage medium, comprising instructions, that when executed by a processor, cause the processor to:

receive a call from a communication device at a distributed mobile architecture gateway (DMAG) via the network, wherein the call is associated with a destination device (par. 0007, 0104, 0105);

determine that a first distributed mobile architecture (DMA) server supports communication with the destination device based on registration data stored at the DMAG (par. 0010, 0013, 0108), wherein the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server; and

convert information associated with the call to packet data to be routed to the destination device via the first DMA server (par. 0014, 0076-0080).

18. As to claim 16, **Brown** teaches the invention as claimed, including the non-transitory computer-readable storage medium of claim 15, the network is an internet protocol (IP) network (fig. 1, 0110-0112).

19. As to claim 18, **Brown** teaches the invention as claimed, including the non-transitory computer-readable storage medium of claim 17, wherein the second packet data is associated with data traffic (par. 0006, 0011, 0090, 0107-0108).

20. As to claim 19, **Brown** teaches the invention as claimed, including the non-transitory computer-readable storage medium of claim 15, wherein the DMAG supports communication with the network via a first network interface (par. 0097, 0167-0168).

21. As to claim 20, **Brown** teaches the invention as claimed, including the non-transitory computer-readable storage medium of claim 19, wherein the DMAG

supports communication with at least one additional network via at least one additional network interface (fig. 1).

22. Claims 3 and 5 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over **Brown et al.,** U.S. Pub. No. **2004/0203677**, and in view of **Nix, Jr. et al.**, (hereinafter Nix) U.S. Pub. No. **2012/0020293**, further in view of **Chava et al.,** (hereinafter Chava) U.S. Pub. No. **2004/0156495**.

23. As to claim 3, **Brown-Nix** does not explicitly teach wherein the registration data indicates that a second DMA server, which is associated with the DMAG, is associated with the destination device, and wherein the first DMAG routes the packet data to the second DMA server. However, **Chava** teaches the registration data indicates that a second DMA server, which is associated with the DMAG, is associated with the destination device, and wherein the first DMAG routes the packet data to the second DMA server (abstract, figs. 1, 4 and 9). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of **Brown-Nix and Chava** in order to provide an efficient intermediary system that enables senders and recipients of message to send and receive message between wireless networks having incompatible network protocols (see Chava par. 0002).

24. As to claim 5, **Chava** teaches the invention as claimed, wherein the first DMA server communicates with the first device via a first wireless communication

protocol, and wherein the first DMA server is configured to communicate with a second mobile device via a second wireless communication protocol that is different from the first wireless communication protocol (abstract, par. 0002).

Conclusion

25. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Ha Nguyen, whose telephone number is (571) 272-3989. The examiner can normally be reached Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Krista Zele, can be reached at (571) 272-7288.

The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/THUHA T. NGUYEN/

Primary Examiner, Art Unit 2453

Notice of References Cited	Application/Control No. 13/235,021	Applicant(s)/Patent Under Reexamination PAN, SHAOWEI	
	Examiner THU HA NGUYEN	Art Unit 2453	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2004/0156495 A1	08-2004	Chava et al.	379/392
*	B	US-2009/0156213 A1	06-2009	SPINELLI et al.	455/436
*	C	US-8,086,536 B2	12-2011	Dublish et al.	705/57
*	D	US-8,717,009 B2	05-2014	Tu, Xiaoyuan	324/202
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13235021	PAN, SHAOWEI
	Examiner	Art Unit
	THU HA NGUYEN	2453

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

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

CLAIM		DATE								
Final	Original	05/20/2013	05/15/2014							
	1	✓	✓							
	2	✓	✓							
	3	✓	✓							
	4	✓	✓							
	5	✓	✓							
	6	✓	✓							
	7	✓	✓							
	8	✓	✓							
	9	✓	✓							
	10	✓	✓							
	11	✓	✓							
	12	✓	✓							
	13	✓	✓							
	14	✓	✓							
	15	✓	✓							
	16	✓	✓							
	17	✓	✓							
	18	✓	✓							
	19	✓	✓							
	20	✓	✓							

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 258 of 469

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	6731932	B1	2004- 05-04	Rune et al.	
	2	6735184	B1	2004- 05-11	Davidson et al.	
	3	6985454	B1	2006-01-10	Wiedeman et al.	
	4	7054307	B2	2006- 05-30	Papadimitriou et al.	
	5	7054322	B2	2006- 05-30	D'Annunzio et al.	
	6	7133670	B1	2006-11-07	Moll et al.	
	7	7346334	B2	2008-03-18	Gaeta et al.	
	8	7383042	B2	2008-06-03	Lamb et al.	
	9	7385947	B2	2008-06-10	Wu et al.	
	10	7406069	B2	2008-07-29	Yashar et al.	
	11	7486967	B2	2009-02-03	Pan et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

	12	7536170	B2	2009- 05-19	Goldman et al.	
	13	7539158	B2	2009- 05-26	Pan	
	14	7548763	B2	2009-06-16	Pan	
	15	7552670	B2	2009-06-30	Goldman et al.	
	16	7606594	B2	2009-10-20	Jesse et al.	
	17	7653414	B2	2010-01-26	Pan	
	18	7738488	B2	2010-06-15	Marsico et al.	
	19	8036158	B2	2011-10-11	Pan et al.	
	20	8224322	B2	2012-07-17	Pan	
	21	8310990	B2	2012-11-13	Pan	
	22	8359029	B2	2013-01-22	Pan	

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

	1	20010036173	A1	2001-11-01	Shmulevich et al.	
	2	20020015392	A1	2002-02-07	Musikka et al.	
	3	20020169887	A1	2002-11-14	MeLampy et al.	
	4	20030063721	A1	2003-04-03	Hirose	
	5	20030112748	A1	2003-06-19	Puppa et al.	
	6	20030186694	A1	2003-10-02	Sayers et al.	
	7	20030198325	A1	2003-10-23	Bayne	
	8	20040018829	A1	2004-01-29	Raman et al.	
	9	20040156495	A1	2004-08-12	Chava et al.	
	10	20040253949	A1	2004-12-16	Swensen et al.	
	11	20050176413	A1	2005-08-11	Lee et al.	
	12	20060047836	A1	2006-03-02	Rao et al.	
	13	20070234892	A1	2007-10-11	Goldman et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

	14	20080080438	A1	2008-04-03	Gopalakrishnan et al.	
	15	20090227235	A1	2009-09-10	Pan	
	16	20090271491	A1	2009-10-29	Pan	
	17	20100008306	A1	2010-01-14	Pan	
	18	20100008369	A1	2010-01-14	Pan	
	19	20100075668	A1	2010-03-25	Pan	
	20	20120002607	A1	2012-01-05	Pan	
	21	20120094659	A1	2012-04-19	PAN	
	22	20120106454	A1	2012- 05-03	Pan	
	23	20120252444	A1	2012-10-04	Pan	
	24	20130039279	A1	2013-02-14	Pan	
	25	20130130677	A1	2013- 05-23	Pan	
	26	20130148578	A1	2013-06-13	Pan	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

FOREIGN PATENT DOCUMENTS

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

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	Extended European Search Report for European Application No. 05801092.7-1525/1810465, PCT/US05/035648 (Attorney Docket No. 1082-0001-EP) mailed January 31, 2011, 72 pages.	
	2	First Examination Report for Indian Application Number 469/MUMNP/2007, dated March 30, 2013, 4 pages.	
	3	International Report on Patentability and Written Opinion of the International Search Authority for International Application No. PCT/US05/35648 from the International Searching Authority, mailed on August 24, 2006, 8 pages.	
	4	International Search Report and Written Opinion of the International Search Authority for International Application No. PCT/US09/045951 from the International Searching Authority, mailed on December 30, 2009, 8 pages.	
	5	International Search Report and Written Opinion of the International Search Authority for International Application No. PCT/US09/045957 from the International Searching Authority, mailed on January 14, 2010, 8 pages.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

	6	International Search Report and Written Opinion of the International Search Authority for International Application No. PCT/US09/045968 from the International Searching Authority, mailed on January 21, 2010, 9 pages.	
	7	International Search Report and Written Opinion of the International Search Authority for International Application No. PCT/US09/045973 from the International Searching Authority, mailed on January 18, 2010, 10 pages.	
	8	YU, W. et al., Abstract of "Reverse Link Capacity Analysis on Distributed Wireless Communication System", Journal of Beijing University of Posts and Telecommunications, 2004, Issue 3, Retrieved from <http://en.cnki.com.cn/article_en/CJFDTOTAL-BJYD200403020.htm>, 3 pages.	

EXAMINER SIGNATURE

Examiner Signature	/Thu Ha Nguyen/	Date Considered	06/11/2014

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

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

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

CERTIFICATION STATEMENT

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

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

OR

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

☐ See attached certification statement.

☒ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

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

Signature	/AakashP/	Date (YYYY-MM-DD)	2014-03-28
Name/Print	Aakash Parekh	Registration Number	63,536

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

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13235021	PAN, SHAOWEI
	Examiner	Art Unit
	THU HA NGUYEN	2453

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
709	217, 218	05/20/13	THN
707	748	05/20/13	THN
370	352, 401	05/20/13	THN
Update search		05/15/14	THN

SEARCH NOTES		
Search Notes	Date	Examiner
East, Derwent, JPO, EPO, USPG-Pub search	05/20/13	THN
Update search	05/15/14	THN

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 266 of 469

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

PTO/SB/30EFS (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	13235021	Filing Date	2011-09-16	Docket Number (if applicable)	1082-0008-C1	Art Unit	2453
First Named Inventor	Shaowei Pan			Examiner Name	NGUYEN, Thu Ha T		

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

SUBMISSION REQUIRED UNDER 37 CFR 1.114

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

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

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

☐ Other _____

☒ Enclosed

☒ Amendment/Reply

☒ Information Disclosure Statement (IDS)

☐ Affidavit(s)/ Declaration(s)

☐ Other _____

MISCELLANEOUS

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

☐ Other _____

FEES

☒ **The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**
The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 502469

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

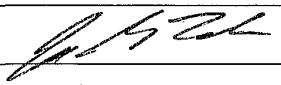
☒ Patent Practitioner Signature

☐ Applicant Signature

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 267 of 469

PTO/SB/30EFS (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature		Date (YYYY-MM-DD)	2014-10-10
Name	Jeffrey G. Toler	Registration Number	38342

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

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

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:	Shaowei Pan		
Title:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS		
App. No.:	13/235,021	Filed:	September 16, 2011
Examiner:	NGUYEN, Thu Ha T	Group Art Unit:	2453
Customer No.:	60533	Confirmation No.:	2302
Atty. Dkt. No.:	1082-0008-C1		

MS: RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUBMISSION ACCOMPANYING REQUEST FOR CONTINUED EXAMINATION PURSUANT TO 37 C.F.R. § 1.114

Dear Sir:

In response to the Final Office Action mailed July 10, 2014 (the "Office Action"), please reconsider the above-identified application in light of the following amendments and remarks. Assignee is filing a Request for Continued Examination (RCE) to have the present response considered.

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method comprising:

receiving a first call from a first mobile device at a first base transceiver station (BTS) interface of a first distributed mobile architecture (DMA) server, wherein the first call is associated with a destination device;

determining that a first distributed mobile architecture gateway (DMAG) supports communication with the destination device based on registration data stored at the first DMA server, wherein the registration data indicates that the destination device is not within a wireless coverage area associated with the first DMA server, and wherein the first DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server;

converting first voice information associated with the first call to first packet data; and

routing the first packet data to the destination device via the first DMAG.

2. (Currently Amended) The method of claim 1, ~~wherein the first DMAG is communicatively coupled to one or more legacy networks, and wherein the destination device is associated with at least one of the one or more legacy networks~~ further comprising:

receiving a second call from a second mobile device at a second BTS interface of the first DMA server, wherein the second call is associated with a third mobile device;

determining that the first DMA server supports communication with the third mobile device based on the registration data, wherein the registration data indicates that the third mobile device is within the wireless coverage area;

converting second voice information associated with the second call to second packet data; and

routing the second packet data to the third mobile device via a third BTS interface.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 270 of 469

3. (Currently Amended) The method of claim 1, ~~wherein the registration data indicates that a second DMA server, which is associated with the DMAG, is associated with the destination device, and wherein the first DMAG routes the packet data to the second DMA server~~ further comprising:

in response to a second DMA failing, receiving a second call from a second mobile device that is associated with the second DMA, wherein the second call is associated with a second destination device;

determining that the first DMAG supports communication with the second destination device based on the registration data, wherein the registration data indicates that the second destination device is not within the wireless coverage area;

converting second voice information associated with the second call to second packet data; and

routing the second packet data to the second destination device via the first DMAG.

4. (Currently Amended) The method of claim 1, ~~wherein converting the voice information to the packet data comprises converting the voice information to internet protocol (IP) packet data~~ wherein the first call uses a first wireless communication protocol and further comprising:

receiving a second call from a second mobile device at a second BTS interface of the first DMA server, wherein the second call uses a second wireless communication protocol that is different from the first wireless communication protocol, and wherein the second call is associated with the destination device;

converting second voice information associated with the second call to second packet data; and

routing the second packet data to the destination device via the first DMAG.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 271 of 469

5. (Currently Amended) The method of claim [[1]]4, wherein ~~the first DMA server communicates with the first device via a first wireless communication protocol, and wherein the first DMA server is configured to communicate with a second mobile device via a second wireless communication protocol that is different from the first wireless communication protocol~~ the first wireless communication protocol is a Universal Mobile Telecommunications System protocol, and wherein the second wireless communication protocol is a Worldwide Interoperability for Microwave Access protocol.

6. (Original) The method of claim 1, wherein the first DMAG is in communication with a plurality of legacy communication networks.

7. (Original) The method of claim 1, wherein the first DMA server is configured to receive one or more calls while the first DMA server is moving.

8. (Currently Amended) The method of claim 7, wherein the first DMA server is located within a first coverage area associated with the first DMAG when the first call is received.

9. (Original) The method of claim 8, further comprising:

converting additional voice information associated with the call to additional packet data;

in response to determining that the first DMA server has moved into a second coverage area associated with a second DMAG, determining that the second DMAG supports communication with the destination device; and

routing the additional packet data to the destination device via the second DMAG.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 272 of 469

10. (Currently Amended) A method, comprising:

receiving a call from a communication device at a distributed mobile architecture gateway (DMAG) via a network, wherein the call is associated with a destination device, wherein the call is routed to the DMAG from a first distributed mobile architecture (DMA) server in response to the first DMA server determining that the DMAG supports communication with the destination device based on first registration data stored at the first DMA server, wherein the first registration data indicates that the destination device is not within a first wireless coverage area associated with the first DMA server;

determining that a ~~first distributed mobile architecture (DMA)~~ second DMA server supports wireless communication with the destination device based on second registration data stored at the DMAG, wherein the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server and the second DMA server;

converting information associated with the call to packet data; and

routing the packet data to the destination device via the ~~first~~ second DMA server.

11. (Currently Amended) The method of claim 10, ~~wherein the call is received at the DMAG according to a first protocol associated with a legacy network, and wherein converting the information associated with the call to packet data comprises converting the information to internet protocol (IP) packet data~~ further comprising:

in response to a second DMAG failing, receiving a second call from a second communication device, wherein the second call is associated with a second destination device, and wherein the second communication device is associated with the second DMAG;

determining that a third DMA supports wireless communication with the second destination device based on the second registration data;

converting second voice information associated with the second call to second packet data; and

routing the second packet data to the second destination device via the first DMAG.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 273 of 469

12. (Currently Amended) The method of claim 10, wherein the second registration data indicates that the DMAG is a node that controls communications related to the first DMA server and that a second DMAG controls communications related to a ~~second~~ third DMA server ~~of the plurality of DMA servers~~.

13. (Currently Amended) The method of claim 10, wherein the second registration data stored at the DMAG indicates that the ~~first~~ second DMA server is associated with a ~~first~~ second wireless coverage area, and wherein the second registration data indicates that the destination device is within the ~~first~~ second wireless coverage area.

14. (Currently Amended) The method of claim 13, further comprising:

in response to determining that the destination device has moved from the ~~first~~ second wireless coverage area into a ~~second~~ third wireless coverage area associated with a ~~second~~ third DMA server, determining that the ~~second~~ third DMA server supports communication with the destination device based on the second registration data stored at the DMAG; and

routing additional packet data to the destination device via the ~~second~~ third DMA server.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 274 of 469

15. (Currently Amended) A non-transitory computer-readable storage medium, comprising instructions, that when executed by a processor, cause the processor to:

receive a call from a communication device at a distributed mobile architecture gateway (DMAG) via a network, wherein the call is associated with a destination device, wherein the call is routed to the DMAG from a first distributed mobile architecture (DMA) server in response to the first DMA server determining that the DMAG supports communication with the destination device based on first registration data stored at the first DMA server, wherein the first registration data indicates that the destination device is not within a first wireless coverage area associated with the first DMA server;

determine that a ~~first distributed mobile architecture (DMA)~~ second DMA server supports communication with the destination device based on second registration data stored at the DMAG, wherein the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server and the second DMA server; and

convert information associated with the call to packet data to be routed to the destination device via the ~~first~~ second DMA server.

16. (Currently Amended) The non-transitory computer-readable storage medium of claim 15, ~~wherein the network is an internet protocol (IP) network~~ wherein the instructions further cause the processor to receive a second call at the DMAG from a third DMA server, wherein the call uses a first wireless communication protocol, and wherein the second call uses a second wireless communication protocol that is different from the first wireless communication protocol.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 275 of 469

17. (Currently Amended) The non-transitory computer-readable storage medium of claim ~~15, further comprising instructions that, when executed by the processor, cause the processor to: receive second packet data from a second DMA server at the distributed mobile architecture gateway (DMAG), wherein the second packet data is associated with a second destination device; and determine that a network supports communication with the second destination device based on the registration data stored at the DMAG~~ 16, wherein the instructions further cause the processor to determine that a legacy network supports communication with a second destination device associated with the second call based on the second registration data.

18. (Currently Amended) The non-transitory computer-readable storage medium of claim 17, wherein ~~the second packet data is associated with data traffic~~ the instructions further cause the processor to convert second information associated with the second call to second packet data to be routed to the second destination device via the legacy network.

19. (Original) The non-transitory computer-readable storage medium of claim 15, wherein the DMAG supports communication with the network via a first network interface.

20. (Previously Presented) The non-transitory computer-readable storage medium of claim 19, wherein the DMAG supports communication with at least one additional network via at least one additional network interface.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 276 of 469

REMARKS

Claims 1-20 are pending in the application. Claims 1-5, 8, and 10-18 are amended. The amendments to claims 1-5, 8, and 10-18 are supported at least by paragraphs [0016], [0020], [0035], [0037], [0038]. No new matter has been added.

Examiner Interview

Applicant thanks Examiner Nguyen for the courtesy extended during the interview conducted on October 7, 2014 (the "Interview"). During the interview, proposed claim amendments were discussed and agreement was reached that the proposed amendments appeared to overcome the rejection based on the cited portions of the cited references in the Office Action pending further search and consideration. During the interview, no exhibits were shown and no demonstration was conducted.

Claims 1-20 are Allowable

The Office rejected claims 1, 2, 4 and 6-20, under 35 U.S.C. § 103(a), as being unpatentable over U.S. Published Patent Application No. 2004/0203677 ("Brown") in view of U.S. Published Patent Application No. 2012/0020293 ("Nix"). The Office rejected claims 3 and 5, under 35 U.S.C. § 103(a), as being unpatentable over Brown, in view of Nix, and further in view of U.S. Published Patent Application No. 2004/0156495 ("Chava"). Applicant respectfully traverses the rejections.

Claims 1-9

Applicant thanks the Examiner for indicating during the Interview that the cited portions of the above-cited references fail to disclose the elements of claim 1 as amended. Hence, claim 1 is allowable. Claims 2-9 are allowable at least by virtue of depending from an allowable claim.

Claims 10-14

Applicant thanks the Examiner for indicating during the Interview that the cited portions of the above-cited references fail to disclose the elements of claim 10 as amended. Hence, claim

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 277 of 469

10 is allowable. Claims 11-14 are allowable at least by virtue of depending from an allowable claim.

Claims 15-20

Applicant thanks the Examiner for indicating during the Interview that the cited portions of the above-cited references fail to disclose the elements of claim 15 as amended. Hence, claim 15 is allowable. Claims 16-20 are allowable at least by virtue of depending from an allowable claim.

CONCLUSION

Applicant respectfully requests reconsideration and withdrawal of each of the objections and rejections, as well as an indication of the allowability of each of the pending claims.

Any changes to the claims in this response that have not been specifically noted to overcome a rejection cited in the Office Action should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

The Examiner is invited to contact the undersigned attorney at the telephone number listed below if such a call would in any way facilitate allowance of this application.

The Commissioner is hereby authorized to charge any fees, which may be required, or credit any overpayment, to Deposit Account Number 50-2469.

Respectfully submitted,

10-10-2014
Date

Jeffrey G. Toler, Reg. No. 38,342
TOLER LAW GROUP
8500 Bluffstone Cove, Suite A201
Austin, Texas 78759
Telephone: (512) 327-5515
Facsimile: (512) 327-5575

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 278 of 469

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	5890064	A	1999-03-30	Widergen et al.	
	2	6631260	B1	2003-10-07	Carey et al.	
	3	7345997	B2	2008-03-18	Kim	
	4	8018907	B2	2011-09-13	Kubler et al.	
	5	8213909	B2	2012-07-03	Lee et al.	
	6	8224322	B2	2012-07-17	Pan	
	7	8310990	B2	2012-11-13	Pan	
	8	8359029	B2	2013-01-22	Pan	

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	20050249176	A1	2005-11-10	O'Neil et al.	

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

	2	20080160997	A1	2008-07-03	Kim	
	3	20120224586	A1	2012-09-06	NAG et al.	

FOREIGN PATENT DOCUMENTS

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

NON-PATENT LITERATURE DOCUMENTS

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

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

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

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

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

CERTIFICATION STATEMENT

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

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

OR

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

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

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

Signature		Date (YYYY-MM-DD)	2014-1210
Name/Print	Jeffrey G. Toler	Registration Number	38,342

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

Electronic Patent Application Fee Transmittal	
Application Number:	13235021
Filing Date:	16-Sep-2011
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Filer:	Jeffrey G. Toler/jeaneaux jordan
Attorney Docket Number:	1082-0008-C1
Filed as Large Entity	

Utility under 35 USC 111(a) Filing Fees

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

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Request for Continued Examination	1801	1	1200	1200
		Total in USD ($)		**1200**

Electronic Acknowledgement Receipt	
EFS ID:	20391130
Application Number:	13235021
International Application Number:	
Confirmation Number:	2302
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Customer Number:	60533
Filer:	Jeffrey G. Toler/jeaneaux jordan
Filer Authorized By:	Jeffrey G. Toler
Attorney Docket Number:	1082-0008-C1
Receipt Date:	10-OCT-2014
Filing Date:	16-SEP-2011
Time Stamp:	17:46:27
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$1200
RAM confirmation Number	4131
Deposit Account	502469
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)	
Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)	
Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		1082-0008-C1_RCE.pdf	630373 2f4f3a8bc04698fa4472d3c3d06f6942590ec22b	yes	15

Multipart Description/PDF files in .zip description

Document Description	Start	End
Request for Continued Examination (RCE)	1	2
Amendment Submitted/Entered with Filing of CPA/RCE	3	3
Claims	4	10
Applicant Arguments/Remarks Made in an Amendment	11	12
Information Disclosure Statement (IDS) Form (SB08)	13	14
Transmittal Letter	15	15

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30478 d35a854ac6b5ac70d3220a39205cc4e7bbb84cce	no	2

Warnings:

Information:

Total Files Size (in bytes):	660851

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

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

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

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

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/235,021	Filing Date 09/16/2011	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **10/10/2014**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $40 =	0
Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	X $210 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/SUSAN HAY/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	5623532	A	1997-04-22	Houde et al.	
	2	5713073	A	1998-01-27	Warsta	
	3	8340667	B2	2012-12-25	Pan	
U.S.PATENT APPLICATION PUBLICATIONS						
Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	20030154306	A1	2003-08-14	Perry	
	2	20050220054	A1	2005-10-06	Meier et al.	
	3	20070082684	A1	2007-04-12	Rozenstrauch et al.	
	4	20070127423	A1	2007-06-07	Ho	
	5	20070197215	A1	2007-08-23	Ben-Yehuda et al.	
	6	20080013531	A1	2008-01-17	Elliott et al.	
	7	20080261580	A1	2008-10-26	Wallentin et al.	

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

FOREIGN PATENT DOCUMENTS

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

NON-PATENT LITERATURE DOCUMENTS

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

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

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

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

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

CERTIFICATION STATEMENT

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

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

OR

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

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

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

Signature	/Aakash Parekh/	Date (YYYY-MM-DD)	2015-01-18
Name/Print	Aakash Parekh	Registration Number	63,536

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

Electronic Acknowledgement Receipt

EFS ID:	21313368
Application Number:	13235021
International Application Number:	
Confirmation Number:	2302
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Customer Number:	60533
Filer:	Jeffrey G. Toler/Laura Russo
Filer Authorized By:	Jeffrey G. Toler
Attorney Docket Number:	1082-0008-C1
Receipt Date:	26-JAN-2015
Filing Date:	16-SEP-2011
Time Stamp:	18:07:40
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	1082-0008-C1_IDS.pdf	108798 c1c799bd36c02b801c3afae9b6a6b7d441931184	no	3

Warnings:	
Information:	

This is not an USPTO supplied IDS fillable form	
Total Files Size (in bytes):	108798

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

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

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

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/235,021	09/16/2011	Shaowei Pan	1082-0008-C1	2302

60533 7590 03/24/2015

TOLER LAW GROUP
TOLER LAW GROUP
8500 BLUFFSTONE COVE
SUITE A201
AUSTIN, TX 78759

EXAMINER
NGUYEN, THU HA T

ART UNIT	PAPER NUMBER
2453	

MAIL DATE	DELIVERY MODE
03/24/2015	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 13/235,021	Applicant(s) PAN, SHAOWEI	
	Examiner THU HA NGUYEN	Art Unit 2453	AIA (First Inventor to File) Status No

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/10/14*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1-20* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-20* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date *10/10/14, 01/26/15*.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 294 of 469

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Claims 1-20 are presented for examination.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/10/14 has been entered.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the claims at issue are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*,

686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the reference application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO internet Web site contains terminal disclaimer forms which may be used. Please visit http://www.uspto.gov/forms/. The filing date of the application will determine what form should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to http://www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

Claims 1-20 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-25 of U.S. Patent No. 8,046,420. Although the claims at issue are not identical, they are not patentably distinct from each other because the claims of the current application encompass the same subject matter as the patented claims, but with obvious wording variations such as the both sets of claims are drawn to a DMA server receives call from mobile devices, determines the DMAG supports

communication with destination devices, converts and routes the packet data the the destination devices.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Ha Nguyen, whose telephone number is (571) 272-3989. The examiner can normally be reached Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Krista Zele can be reached on 571-272-7288. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/THU HA NGUYEN/

Primary Examiner, Art Unit 2453

Notice of References Cited	Application/Control No. 13/235,021	Applicant(s)/Patent Under Reexamination PAN, SHAOWEI	
	Examiner THU HA NGUYEN	Art Unit 2453	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2011/0320576 A1	12-2011	Lauer et al.	709/220
*	B	US-2012/0324041 A1	12-2012	Gerber et al.	709/217
*	C	US-8,351,420 B2	01-2013	Linkola et al.	370/352
*	D	US-8,676,155 B2	03-2014	Fan et al.	455/406
*	E	US-2015/0081812 A1	03-2015	Davies et al.	709/206
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	"20040203677".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L2	2	"20070003062".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L3	2	"20080226071".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L4	2	"20060014530".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L5	2	"20070266076".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L6	202	aggregat$4 same contact$4 with list$4 same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L7	241	(aggregat$4 or collaborat$4)with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L8	110	(aggregat$4 or collaborat$4)with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4)) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L9	25	(aggregat$4 or collaborat$4)with single same (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L10	13	(aggregat$4 or collaborat$4)with (multiple$4 or plurality$4) with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L11	2	(aggregat$4 or collaborat$4)with (multiple$4 or plurality$4) with (contact$4 with list$4) same single with (user$4 or client$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L12	2	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4 with list$4) same (single with (user$4 or client$4)) same (IM or chat$4	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 300 of 469

		or (instant with messag$4))				
L13	9	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L14	16	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L15	257	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L16	115	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4)) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L17	2	"20070266076".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L18	34	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))same ("same" or common) same (ID or contact$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L19	152	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))and ("same" or common) same (ID or contact$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L20	2	"20090113007".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L21	0	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) same (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L22	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) same (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L23	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L24	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4)and request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 301 of 469

L25	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4)and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L26	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L27	2	"20070287452".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L28	2	"20060098661".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L29	2	"20060221912".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L30	771	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L31	2	"6122499".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L32	178	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L33	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L34	2	"6141586".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L35	2	"6141584".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L36	2	"6141564".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L37	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L38	3	(gateway or router or intermediat$4)	US-PGPUB;	ADJ	ON	2015/03/20

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 302 of 469

		same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	USPAT; EPO; JPO; DERWENT			21:22
L39	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L40	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L41	7	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L42	7	(gateway or router or intermediat$4) and server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L43	192	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L44	75	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L45	94	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L46	21	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L47	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 303 of 469

		architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)				
L48	6	(gateway or router or intermediat$4) same (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L49	6	(gateway or router or intermediat$4) and (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L50	1	(gateway or router or intermediat$4) and (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 709/217.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L51	1	(gateway or router or intermediat$4) and(convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 709/217.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L52	1	(gateway or router or intermediat$4) and(convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 455/416.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L53	10	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L54	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/419.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L55	5	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/412.1.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L56	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 304 of 469

L57	1	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.07.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L58	0	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.08.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L59	6	(gateway or router or intermediat$4) and(server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L60	0	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L61	3	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L62	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L63	476	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L64	29	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L65	99	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L66	7	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L85	2	"20030120938".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 305 of 469

L86	2	"20040203677".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L87	2	"20070003062".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L88	2	"20080226071".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L89	2	"20060014530".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L90	2	"20070266076".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L91	202	aggregat$4 same contact$4 with list$4 same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L92	241	(aggregat$4 or collaborat$4)with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L93	110	(aggregat$4 or collaborat$4)with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4)) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L94	25	(aggregat$4 or collaborat$4)with single same (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L95	13	(aggregat$4 or collaborat$4)with (multiple$4 or plurality$4) with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L96	2	(aggregat$4 or collaborat$4)with (multiple$4 or plurality$4) with (contact$4 with list$4) same single with (user$4 or client$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L97	2	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4 with list$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L98	9	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L99	16	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 306 of 469

		chat$4 or (instant with messag$4))				
L100	257	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L101	115	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4)) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L102	2	"20070266076".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L103	34	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))same ("same" or common) same (ID or contact$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L104	152	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))and ("same" or common) same (ID or contact$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L105	2	"20090113007".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L106	0	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) same (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L107	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) same (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L108	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L109	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4)and request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L110	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4)and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L111	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 307 of 469

L112	2	"20070287452".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L113	2	"20060098661".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L114	2	"20060221912".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L115	771	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L116	2	"6122499".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L117	178	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L118	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L119	2	"6141586".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L120	2	"6141584".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L121	2	"6141564".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L122	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L123	3	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L124	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 308 of 469

		architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)				
L125	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L126	7	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L127	7	(gateway or router or intermediat$4) and server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L128	192	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L129	75	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L130	94	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L131	21	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L132	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L133	6	(gateway or router or intermediat$4) same (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 309 of 469

L134	6	(gateway or router or intermediat$4) and (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L135	1	(gateway or router or intermediat$4) and (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 709/217.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L136	1	(gateway or router or intermediat$4) and(convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 709/217.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L137	1	(gateway or router or intermediat$4) and(convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 455/416.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L138	10	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L139	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/419.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L140	5	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/412.1.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L141	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L142	1	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.07.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L143	0	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 310 of 469

		"379"/201.08.ccls.				
L144	6	(gateway or router or intermediat$4) and(server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L145	0	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L146	3	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L147	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L148	476	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L149	29	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L150	99	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L151	7	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L152	2	"20030120938".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L153	2	"20040203677".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2015/03/20 21:22
L154	27	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6) and (outside$4 or (out adj4 band) or range$4 or area$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 311 of 469

L155	13	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6) and (outside$4 or (out adj4 band) or range$4 or area$4) same (mov$6 or roam46)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L174	3	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L175	27	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L176	2	"20040156495".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L177	0	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and exchang$4 same message$4 same wireless	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L178	0	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and exchang$4 same message$4 and wireless	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L179	29	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and message$4 and wireless	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L180	2	"20040133642".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L181	29	synchron$9 same request$4 same parameter$4 same index$4 same value$4 same (ID or identifier)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L182	55	synchron$9 same request$4 same parameter$4 same index$4 same (ID or identifier)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L183	22	synchron$9 with request$4 same parameter$4 same index$4 same (ID or identifier)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L184	15	client same server same synchron$9 same parameter$4 same index$4 same (ID or identifier)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L185	47	wireless same synchron$9 same parameter$4 same index$4 same (ID or identifier)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L186	2	"7620001".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 312 of 469

L187	2	"20040133642".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L188	2	"20040203890".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L189	2	"5710884".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L190	4	"6701362".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L191	2	"20040122730".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L192	2	"20020073058".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L193	2	"20120020293".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L194	2	"20100095297".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L195	2	"20040203677".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L196	2	"20070003062".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L197	2	"20080226071".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L198	2	"20060014530".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L199	2	"20070266076".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L200	202	aggregat$4 same contact$4 with list$4 same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L201	241	(aggregat$4 or collaborat$4)with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO;	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 313 of 469

			DERWENT			
L202	110	(aggregat$4 or collaborat$4)with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4)) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L203	25	(aggregat$4 or collaborat$4)with single same (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L204	13	(aggregat$4 or collaborat$4)with (multiple$4 or plurality$4) with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L205	2	(aggregat$4 or collaborat$4)with (multiple$4 or plurality$4) with (contact$4 with list$4) same single with (user$4 or client$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L206	2	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4 with list$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L207	9	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L208	16	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L209	257	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L210	115	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4)) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L211	2	"20070266076".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L212	34	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))same ("same" or common) same (ID or contact$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L213	152	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))and ("same" or common) same (ID or contact$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L214	2	"20090113007".did.	US-PGPUB;	ADJ	ON	2015/03/20

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 314 of 469

			USPAT; EPO; JPO; DERWENT			21:22
L215	0	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) same (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L216	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) same (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L217	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L218	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4)and request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L219	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4)and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L220	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L221	2	"20070287452".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L222	2	"20060098661".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L223	2	"20060221912".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L224	771	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L225	2	"6122499".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L226	178	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L227	3	wireless same (gateway or router or intermediat$4) same server$4 same	US-PGPUB; USPAT; EPO;	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 315 of 469

		(convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and "455"/$4.ccls.	JPO; DERWENT			
L228	2	"6141586".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L229	2	"6141584".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L230	2	"6141564".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L231	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L232	3	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L233	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L234	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L235	7	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L236	7	(gateway or router or intermediat$4) and server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L237	192	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4	US-PGPUB; USPAT; EPO; JPO;	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 316 of 469

		and (basestation or (base adj station)) and (register$4 or registr$6)	DERWENT			
L238	75	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L239	94	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L240	21	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L241	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L242	6	(gateway or router or intermediat$4) same (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L243	6	(gateway or router or intermediat$4) and (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L244	1	(gateway or router or intermediat$4) and (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 709/217.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L245	1	(gateway or router or intermediat$4) and(convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 709/217.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L246	1	(gateway or router or intermediat$4) and(convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 455/416.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 317 of 469

L247	10	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L248	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/419.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L249	5	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/412.1.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L250	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L251	1	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.07.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L252	0	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.08.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L253	6	(gateway or router or intermediat$4) and(server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L254	0	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L255	3	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L256	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L257	476	(gateway or router or intermediat$4) same server$4 same (convert$4 or	US-PGPUB; USPAT; EPO;	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 318 of 469

		translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	JPO; DERWENT			
L258	29	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L259	99	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L260	7	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L261	2	"20030120938".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L262	2	"20040203677".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L263	2	"20070003062".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L264	2	"20080226071".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L265	2	"20060014530".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L266	2	"20070266076".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L267	202	aggregat$4 same contact$4 with list$4 same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L268	241	(aggregat$4 or collaborat$4)with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L269	110	(aggregat$4 or collaborat$4)with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4)) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L270	25	(aggregat$4 or collaborat$4)with single same (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO;	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 319 of 469

			DERWENT			
L271	13	(aggregat$4 or collaborat$4)with (multiple$4 or plurality$4) with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L272	2	(aggregat$4 or collaborat$4)with (multiple$4 or plurality$4) with (contact$4 with list$4) same single with (user$4 or client$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L273	2	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4 with list$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L274	9	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L275	16	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L276	257	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L277	115	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4)) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L278	2	"20070266076".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L279	34	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))same ("same" or common) same (ID or contact$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L280	152	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))and ("same" or common) same (ID or contact$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L281	2	"20090113007".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L282	0	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) same (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 320 of 469

L283	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) same (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L284	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L285	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4)and request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L286	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4)and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L287	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L288	2	"20070287452".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L289	2	"20060098661".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L290	2	"20060221912".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L291	771	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L292	2	"6122499".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L293	178	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L294	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L295	2	"6141586".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L296	2	"6141584".pn.	US-PGPUB;	ADJ	ON	2015/03/20

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 321 of 469

			USPAT; EPO; JPO; DERWENT			21:22
L297	2	"6141564".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L298	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L299	3	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L300	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L301	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L302	7	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L303	7	(gateway or router or intermediat$4) and server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L304	192	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L305	75	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 322 of 469

L306	94	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L307	21	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L308	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L309	6	(gateway or router or intermediat$4) same (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L310	6	(gateway or router or intermediat$4) and (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L311	1	(gateway or router or intermediat$4) and (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 709/217.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L312	1	(gateway or router or intermediat$4) and(convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 709/217.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L313	1	(gateway or router or intermediat$4) and(convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 455/416.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L314	10	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L315	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4	US-PGPUB; USPAT; EPO; JPO;	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 323 of 469

		and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/419.ccls.	DERWENT			
L316	5	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/412.1.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L317	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L318	1	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.07.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L319	0	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.08.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L320	6	(gateway or router or intermediat$4) and(server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L321	0	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L322	3	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L323	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L324	476	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L325	29	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L326	99	wireless same (gateway or router or	US-PGPUB;	ADJ	ON	2015/03/20

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 324 of 469

		intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) same (register$4 or registr$6)	USPAT; EPO; JPO; DERWENT			21:22
L327	7	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L328	2	"20030120938".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L329	2	"20040203677".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2015/03/20 21:22
L330	27	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6) and (outside$4 or (out adj4 band) or range$4 or area$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L331	13	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6) and (outside$4 or (out adj4 band) or range$4 or area$4) same (mov$6 or roam46)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L332	3	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L333	27	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L334	2	"20040156495".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L335	0	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and exchang$4 same message$4 same wireless	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L336	0	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and exchang$4 same message$4 and wireless	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L337	29	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and message$4 and wireless	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L338	2	"20040133642".did.	US-PGPUB; USPAT; EPO; JPO;	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 325 of 469

			DERWENT			
L339	29	synchron$9 same request$4 same parameter$4 same index$4 same value$4 same (ID or identifier)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:22
L340	22	synchron$9 with request$4 same parameter$4 same index$4 same (ID or identifier)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:23
L341	15	client same server same synchron$9 same parameter$4 same index$4 same (ID or identifier)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:23
L342	47	wireless same synchron$9 same parameter$4 same index$4 same (ID or identifier)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:23
L343	2	"7620001".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:23
L344	2	"20040133642".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:23
L345	2	"20040203890".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:23
L346	2	"5710884".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:23
L347	4	"6701362".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:23
L348	2	"20040122730".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:23
L349	2	"20020073058".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:23
L350	2	"20120020293".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:23
L351	2	"20100095297".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:23
L352	0	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	ADJ	ON	2015/03/20 21:23

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 326 of 469

		registr$6) and H04L65/102.cpc.	IBM_TDB			
L353	0	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and H04L65/1013.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2015/03/20 21:23
L354	0	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice and H04L65/1036.cpc.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 21:23
L355	3	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice and H04L12/66.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2015/03/20 21:23
L356	2	"8046420".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2015/03/20 21:23
L400	2	"8046420".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/03/20 21:49
L404	0	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol)) and 709/212.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2015/03/20 21:58
L410	0	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and H04L12/1036.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2015/03/20 22:08
L411	0	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and H04L12/1036.cpc.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/03/20 22:09
L412	0	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice and H04L65/1036.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	ADJ	ON	2015/03/20 22:09

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 327 of 469

			IBM_TDB			
L413	3	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and (convert$4 or translat$4) same voice and H04L65/1036.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2015/03/20 22:11
L414	3	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and (convert$4 or translat$4) same voice and H04W88/10.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2015/03/20 22:12
L415	3	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and (convert$4 or translat$4) same voice and H04W88/16.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2015/03/20 22:12

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L67	191	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L68	1	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.07.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L69	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L70	5	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/412.1.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L71	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/419.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L72	10	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L73	15	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same	US-PGPUB;	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 328 of 469

		voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	USPAT; UPAD			
L74	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L75	475	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L76	27	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L77	177	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and "455"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L78	98	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L79	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L80	75	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L81	94	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L82	48	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L83	71	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same (IP or (internet adj protocol))	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L84	7	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol))	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L156	191	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and	US-PGPUB; USPAT;	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 329 of 469

		(basestation or (base adj station)) and (register$4 or registr$6)	UPAD			
L157	1	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.07.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L158	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L159	5	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/412.1.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L160	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/419.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L161	10	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L162	15	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L163	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L164	475	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L165	27	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L166	177	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and "455"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L167	98	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L168	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 330 of 469

L169	75	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L170	94	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L171	48	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L172	71	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same (IP or (internet adj protocol))	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L173	7	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol))	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:22
L357	191	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L358	1	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.07.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L359	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L360	5	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/412.1.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L361	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/419.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L362	10	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L363	15	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same	US-PGPUB;	ADJ	ON	2015/03/20 21:23

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 331 of 469

		voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	USPAT; UPAD			
L364	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L365	475	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L366	27	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L367	177	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and "455"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L368	98	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L369	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L370	75	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L371	94	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L372	48	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L373	71	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same (IP or (internet adj protocol))	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L374	7	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol))	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L375	191	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and	US-PGPUB; USPAT;	ADJ	ON	2015/03/20 21:23

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 332 of 469

		(basestation or (base adj station)) and (register$4 or registr$6)	UPAD			
L376	1	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.07.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L377	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L378	5	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/412.1.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L379	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/419.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L380	10	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L381	15	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L382	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L383	475	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L384	27	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L385	177	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and "455"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L386	98	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L387	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 333 of 469

L388	75	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L389	94	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L390	48	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L391	71	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same (IP or (internet adj protocol))	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L392	7	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol))	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L393	7	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L394	3	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and H04L12/66.cpc.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L395	0	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and H04L65/102.cpc.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L396	0	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice and H04L65/1036.cpc.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L397	0	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice and H04W88/10.cpc.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L398	0	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice and H04L65/1036.cpc.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23
L399	3	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice and H04L12/66.cpc.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:23

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 334 of 469

L401	15	client same server same synchron$9 same parameter$4 same index$4 same (ID or identifier)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:55
L402	13	(aggregat$4 or collaborat$4)with (multiple$4 or plurality$4) with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:57
L403	177	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and "455"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:57
L405	0	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol)) and 709/212.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:58
L406	0	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol)) and 709/217.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:59
L407	0	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol)) and 709/218.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 21:59
L408	0	(aggregat$4 or collaborat$4)with (multiple$4 or plurality$4) with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4)) and H04L12/1036.cpc.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 22:08
L409	0	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and H04L12/1036.cpc.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/03/20 22:08

3/20/2015 10:21:48 PM
C:\Users\tnguyen39\Documents\EAST\Workspaces\13235021.wsp

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 335 of 469

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13235021	PAN, SHAOWEI
	Examiner	Art Unit
	THU HA NGUYEN	2453

CPC- SEARCHED		
Symbol	Date	Examiner
H04L12/66	03/15/15	THN
H04L65/1036	03/15/15	THN
H04W88/10, 16	03/15/15	THN

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
709	217, 218	05/20/13	THN
707	748	05/20/13	THN
370	352, 401	05/20/13	THN
Update search		05/15/14	THN
709	212, 217, 218	03/15/15	THN
455	433	05/15/15	THN

SEARCH NOTES		
Search Notes	Date	Examiner
East, Derwent, JPO, EPO, USPG-Pub search	05/20/13	THN
Update search	05/15/14	THN
East, Derwent, JPO, EPO, USPG-Pub search	03/15/15	THN
Inventor name search	03/15/15	THN

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
709	217	03/15/15	THN

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 336 of 469

INTERFERENCE SEARCH			
US Class/ CPC Symbol	**US Subclass / CPC Group**	**Date**	**Examiner**
455	433	03/15/15	THN

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 337 of 469

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	5890064	A	1999-03-30	Widergen et al.	
	2	6631260	B1	2003-10-07	Carey et al.	
	3	7345997	B2	2008-03-18	Kim	
	4	8018907	B2	2011-09-13	Kubler et al.	
	5	8213909	B2	2012-07-03	Lee et al.	
	6	8224322	B2	2012-07-17	Pan	
	7	8310990	B2	2012-11-13	Pan	
	8	8359029	B2	2013-01-22	Pan	

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	20050249176	A1	2005-11-10	O'Neil et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

	2	20080160997	A1	2008-07-03	Kim	
	3	20120224586	A1	2012-09-06	NAG et al.	

FOREIGN PATENT DOCUMENTS

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

NON-PATENT LITERATURE DOCUMENTS

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

EXAMINER SIGNATURE

Examiner Signature	/Thu Ha Nguyen/	Date Considered	01/26/2015

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

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

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

UNITED STATES PATENT AND TRADEMARK OFFICE

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

BIB DATA SHEET

CONFIRMATION NO. 2302

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
13/235,021	09/16/2011 RULE	370	2453	1082-0008-C1

APPLICANTS

INVENTORS

Shaowei Pan, Kildeer, IL;

**** CONTINUING DATA ***************************

This application is a CON of 12/108,209 04/23/2008 PAT 8046420

**** FOREIGN APPLICATIONS ***************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **** ** SMALL ENTITY **

09/27/2011

Foreign Priority claimed ☐ Yes ☑ No 35 USC 119(a-d) conditions met ☐ Yes ☑ No Verified and Acknowledged /THU HA T NGUYEN/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		IL	7	20	3

ADDRESS

TOLER LAW GROUP
TOLER LAW GROUP
8500 BLUFFSTONE COVE
SUITE A201
AUSTIN, TX 78759
UNITED STATES

TITLE

SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS

FILING FEE RECEIVED		
462	FEES: Authority has been given in Paper No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

BIB (Rev. 05/07).

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13235021	PAN, SHAOWEI
	Examiner	Art Unit
	THU HA NGUYEN	2453

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

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

CLAIM		DATE								
Final	Original	05/20/2013	05/15/2014	03/05/2015	03/20/2015					
	1	✓	✓	✓	✓					
	2	✓	✓	✓	✓					
	3	✓	✓	✓	✓					
	4	✓	✓	✓	✓					
	5	✓	✓	✓	✓					
	6	✓	✓	✓	✓					
	7	✓	✓	✓	✓					
	8	✓	✓	✓	✓					
	9	✓	✓	✓	✓					
	10	✓	✓	✓	✓					
	11	✓	✓	✓	✓					
	12	✓	✓	✓	✓					
	13	✓	✓	✓	✓					
	14	✓	✓	✓	✓					
	15	✓	✓	✓	✓					
	16	✓	✓	✓	✓					
	17	✓	✓	✓	✓					
	18	✓	✓	✓	✓					
	19	✓	✓	✓	✓					
	20	✓	✓	✓	✓					

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 341 of 469

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	5623532	A	1997-04-22	Houde et al.	
	2	5713073	A	1998-01-27	Warsta	
	3	8340667	B2	2012-12-25	Pan	

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	20030154306	A1	2003-08-14	Perry	
	2	20050220054	A1	2005-10-06	Meier et al.	
	3	20070082684	A1	2007-04-12	Rozenstrauch et al.	
	4	20070127423	A1	2007-06-07	Ho	
	5	20070197215	A1	2007-08-23	Ben-Yehuda et al.	
	6	20080013531	A1	2008-01-17	Elliott et al.	
	7	20080261580	A1	2008-10-26	Wallentin et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

FOREIGN PATENT DOCUMENTS

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

NON-PATENT LITERATURE DOCUMENTS

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

EXAMINER SIGNATURE

Examiner Signature	/Thu Ha Nguyen/	Date Considered	03/20/2015

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

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

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

CERTIFICATION STATEMENT

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

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

OR

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

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

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

Signature	/Aakash Parekh/	Date (YYYY-MM-DD)	2015-01-18
Name/Print	Aakash Parekh	Registration Number	63,536

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

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:	Shaowei Pan		
Title:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS		
App. No.:	13/235,021	Filed:	September 16, 2011
Examiner:	NGUYEN, Thu Ha T	Group Art Unit:	2453
Customer No.:	60533	Confirmation No.:	2302
Atty. Dkt. No.:	1082-0008-C1		

M/S: Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

RESPONSE TO NON-FINAL OFFICE ACTION

In response to the Non-Final Office Action mailed March 24, 2015, please reconsider the above-identified application in light of the following submission:

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A method comprising:

receiving a first call from a first mobile device at a first base transceiver station (BTS) interface of a first distributed mobile architecture (DMA) server, wherein the first call is associated with a destination device;

determining that a first distributed mobile architecture gateway (DMAG) supports communication with the destination device based on registration data stored at the first DMA server, wherein the registration data indicates that the destination device is not within a wireless coverage area associated with the first DMA server, and wherein the first DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server;

converting first voice information associated with the first call to first packet data; and

routing the first packet data to the destination device via the first DMAG.

2. (Previously Presented) The method of claim 1,-further comprising:

receiving a second call from a second mobile device at a second BTS interface of the first DMA server, wherein the second call is associated with a third mobile device;

determining that the first DMA server supports communication with the third mobile device based on the registration data, wherein the registration data indicates that the third mobile device is within the wireless coverage area;

converting second voice information associated with the second call to second packet data; and

routing the second packet data to the third mobile device via a third BTS interface.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 346 of 469

3. (Previously Presented) The method of claim 1,-further comprising:

in response to a second DMA failing, receiving a second call from a second mobile device that is associated with the second DMA, wherein the second call is associated with a second destination device;

determining that the first DMAG supports communication with the second destination device based on the registration data, wherein the registration data indicates that the second destination device is not within the wireless coverage area;

converting second voice information associated with the second call to second packet data; and

routing the second packet data to the second destination device via the first DMAG.

4. (Previously Presented) The method of claim 1,-wherein the first call uses a first wireless communication protocol and further comprising:

receiving a second call from a second mobile device at a second BTS interface of the first DMA server, wherein the second call uses a second wireless communication protocol that is different from the first wireless communication protocol, and wherein the second call is associated with the destination device;

converting second voice information associated with the second call to second packet data; and

routing the second packet data to the destination device via the first DMAG.

5. (Previously Presented) The method of claim 4, wherein the first wireless communication protocol is a Universal Mobile Telecommunications System protocol, and wherein the second wireless communication protocol is a Worldwide Interoperability for Microwave Access protocol.

6. (Original) The method of claim 1, wherein the first DMAG is in communication with a plurality of legacy communication networks.

7. (Original) The method of claim 1, wherein the first DMA server is configured to receive one or more calls while the first DMA server is moving.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 347 of 469

8. (Previously Presented) The method of claim 7, wherein the first DMA server is located within a first coverage area associated with the first DMAG when the first call is received.

9. (Original) The method of claim 8, further comprising:

converting additional voice information associated with the call to additional packet data;

in response to determining that the first DMA server has moved into a second coverage area associated with a second DMAG, determining that the second DMAG supports communication with the destination device; and

routing the additional packet data to the destination device via the second DMAG.

10. (Previously Presented) A method, comprising:

receiving a call from a communication device at a distributed mobile architecture gateway (DMAG) via a network, wherein the call is associated with a destination device, wherein the call is routed to the DMAG from a first distributed mobile architecture (DMA) server in response to the first DMA server determining that the DMAG supports communication with the destination device based on first registration data stored at the first DMA server, wherein the first registration data indicates that the destination device is not within a first wireless coverage area associated with the first DMA server;

determining that a second DMA server supports wireless communication with the destination device based on second registration data stored at the DMAG, wherein the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server and the second DMA server;

converting information associated with the call to packet data; and

routing the packet data to the destination device via the second DMA server.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 348 of 469

11. (Previously Presented) The method of claim 10, further comprising:

in response to a second DMAG failing, receiving a second call from a second communication device, wherein the second call is associated with a second destination device, and wherein the second communication device is associated with the second DMAG;

determining that a third DMA supports wireless communication with the second destination device based on the second registration data;

converting second voice information associated with the second call to second packet data; and

routing the second packet data to the second destination device via the first DMAG.

12. (Previously Presented) The method of claim 10, wherein the second registration data indicates that the DMAG is a node that controls communications related to the first DMA server and that a second DMAG controls communications related to a third DMA server.

13. (Previously Presented) The method of claim 10, wherein the second registration data stored at the DMAG indicates that the second DMA server is associated with a second wireless coverage area, and wherein the second registration data indicates that the destination device is within the second wireless coverage area.

14. (Previously Presented) The method of claim 13, further comprising:

in response to determining that the destination device has moved from the second wireless coverage area into a third wireless coverage area associated with a third DMA server, determining that the third DMA server supports communication with the destination device based on the second registration data stored at the DMAG; and

routing additional packet data to the destination device via the third DMA server.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 349 of 469

15. (Previously Presented) A non-transitory computer-readable storage medium, comprising instructions, that when executed by a processor, cause the processor to:

receive a call from a communication device at a distributed mobile architecture gateway (DMAG) via a network, wherein the call is associated with a destination device, wherein the call is routed to the DMAG from a first distributed mobile architecture (DMA) server in response to the first DMA server determining that the DMAG supports communication with the destination device based on first registration data stored at the first DMA server, wherein the first registration data indicates that the destination device is not within a first wireless coverage area associated with the first DMA server;

determine that a second DMA server supports communication with the destination device based on second registration data stored at the DMAG, wherein the DMAG is communicatively coupled to a plurality of DMA servers including the first DMA server and the second DMA server; and

convert information associated with the call to packet data to be routed to the destination device via the second DMA server.

16. (Previously Presented) The non-transitory computer-readable storage medium of claim 15,-wherein the instructions further cause the processor to receive a second call at the DMAG from a third DMA server, wherein the call uses a first wireless communication protocol, and wherein the second call uses a second wireless communication protocol that is different from the first wireless communication protocol.

17. (Previously Presented) The non-transitory computer-readable storage medium of claim 16, wherein the instructions further cause the processor to determine that a legacy network supports communication with a second destination device associated with the second call based on the second registration data.

18. (Previously Presented) The non-transitory computer-readable storage medium of claim 17, wherein-the instructions further cause the processor to convert second information associated with the second call to second packet data to be routed to the second destination device via the legacy network.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 350 of 469

19. (Original) The non-transitory computer-readable storage medium of claim 15, wherein the DMAG supports communication with the network via a first network interface.

20. (Previously Presented) The non-transitory computer-readable storage medium of claim 19, wherein the DMAG supports communication with at least one additional network via at least one additional network interface.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 351 of 469

REMARKS

This amendment is in response to the Non-Final Office Action mailed March 24, 2015 ("Office Action"). Claims 1-20 are pending.

Double Patenting

The Office has rejected claims 1-20, on the grounds of non-statutory double patenting, as being unpatentable over claims 1-25 of U.S. Pat. No. 8,046,420.

Applicant is filing a Terminal Disclaimer over U.S. Pat. No. 8,046,420. Accordingly, Applicant respectfully requests that the Double Patenting rejections be withdrawn. No other rejections or objections have been presented. Therefore, Applicant respectfully submits that the application is in condition for allowance.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 352 of 469

CONCLUSION

Applicant respectfully requests reconsideration and withdrawal of each of the objections and rejections, as well as an indication of the allowability of each of the pending claims.

The Examiner is invited to contact the undersigned attorney at the telephone number listed below if such a call would in any way facilitate allowance of this application.

The Commissioner is hereby authorized to charge any fees, which may be required, or credit any overpayment, to Deposit Account Number 50-2469.

Respectfully submitted,

_6/24/2015_____
Date

___/Jeffrey G. Toler/_____
Jeffrey G. Toler, Reg. No. 38,342
TOLER LAW GROUP, PC
8500 Bluffstone Cove, Suite A201
Austin, TX 78759
Telephone: (512) 327-5515
Facsimile: (512) 327-5575

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 353 of 469

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1.	H1918	A	2000-11-07	Hoffpauir et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1.	1427637	CN	A	2003-07-02	SAMSUNG ELECTRONICS CO. LTD.		

NON-PATENT LITERATURE DOCUMENTS

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

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

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

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

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

CERTIFICATION STATEMENT

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

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

OR

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

☐ See attached certification statement.

☒ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

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

Signature	/Jeffrey G. Toler/	Date (YYYY-MM-DD)	2015-06-24
Name/Print	Jeffrey G. Toler	Registration Number	38,342

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

Espacenet

Bibliographic data: CN1427637 (A) — 2003-07-02

System and method for providing distributed treating element units in mobile communication network

Inventor(s): GO-YON N [KR] ± (N. GO-YON)

Applicant(s): SAMSUNG ELECTRONICS CO LTD [KR] ± (SAMSUNG ELECTRONICS CO. LTD)

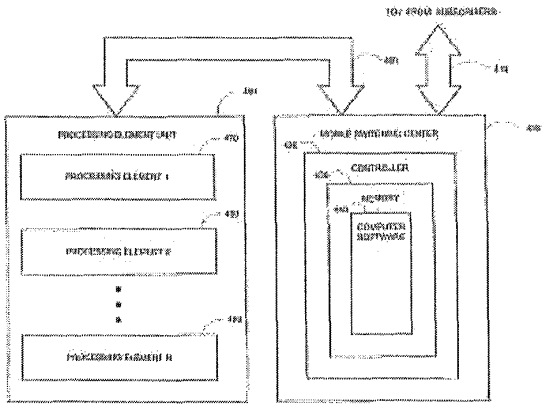
Classification: - international: ***H04W76/04;*** *H04W8/18; H04W88/14; H04W88/18; H04W92/24;* (IPC1-7): H04B7/26; H04L29/02; H04Q35/45; H04Q7/20
- cooperative: **H04W76/04;** H04W8/18; H04W88/14; H04W88/18; H04W92/24

Application number: CN2002128191 20021205

Priority number (s): US20010008723 20011205

Also published as: US2003104828 (A1) US2003104828 (A1) US6947758 (B2) US6947758 (B2) GB2384656 (A) more

Abstract not available for CN1427637 (A)
Abstract of corresponding document: US2003104828 (A1)



For use in a mobile telecommunications network comprising a mobile switching center, a plurality of subscribers, and a plurality of processing elements within a processing element unit, a system and method is disclosed for providing a distributed processing element unit that is capable of quickly and efficiently accessing each processing element by using a temporary subscriber identification number that contains embedded address information for the processing element. Subscriber records and application software programs are located within the processing elements to avoid having to send message traffic over the network requesting such information and to

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 357 of 469

avoid the use of a centralized database server. In one advantageous embodiment of the invention, the processing element unit is a visitor location register.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 358 of 469

[19] 中华人民共和国国家知识产权局

[51] Int. Cl[7]
H04Q 7/20
H04Q 3/545 H04B 7/26
H04L 29/02

[12] 发明专利申请公开说明书

[21] 申请号 02128191.2

[43] 公开日 2003 年 7 月 2 日

[11] 公开号 CN 1427637A

[22] 申请日 2002.12.5 [21] 申请号 02128191.2

[30] 优先权

[32] 2001.12.5 [33] US [31] 10/008,723

[71] 申请人 三星电子株式会社

地址 韩国京畿道

[72] 发明人 努特·古延

[74] 专利代理机构 北京市柳沈律师事务所

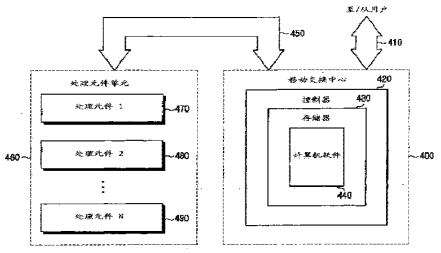
代理人 郭鸿禧 马 莹

权利要求书 4 页 说明书 12 页 附图 7 页

[54] 发明名称 在移动通信网络中提供分布式处理元件单元的系统和方法

[57] 摘要

一种在包括移动交换中心、多个用户、和处理元件单元中的多个处理元件的移动通信网络中使用的系统和方法被公开，以便提供一种通过使用包含处理元件的嵌入式地址信息的临时用户标识号，能够迅速和有效地访问每个处理元件的分布式处理元件单元。 用户记录和应用软件程序位于处理元件中以避免必须通过网络发送请求上述信息的消息业务和避免使用集中式数据库服务器。 在本发明的一个优选实施例中，处理元件单元是一个访问位置寄存器。



ISSN1008-4274

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 359 of 469

1. 一种在包括移动交换中心、多个用户、和处理元件单元的移动通信网络中使用的装置，用于提供能够访问所述处理元件单元中的每个处理元件的分布式处理元件单元；该移动通信网络中的所述移动交换中心能够与所述多个用户和所述处理元件单元通信；所述装置包括：

所述移动交换中心中的处理元件单元控制器，所述处理元件单元控制器能够将信息嵌入用户的临时标识号中，其中所述信息位于所述处理元件单元中的一个处理元件中。

2. 如权利要求 1 所述的装置，其中所述临时标识号是临时移动台标识号、和基于分组的临时移动台标识号之一。

3. 如权利要求 1 所述的装置，其中所述处理元件单元控制器通过将地址偏移指针添加到所述临时标识号中，能够将信息嵌入到所述用户的所述临时标识号中以定位所述处理元件单元中的所述处理元件。

4. 如权利要求 3 所述的装置，其中所述临时标识号是临时移动台标识号、和基于分组的临时移动台标识号之一。

5. 如权利要求 1 所述的装置，其中所述处理元件单元控制器包括：

所述移动交换中心中的控制器；和

可由所述控制器操作的计算机软件指令，以执行所述控制器中的下列程序之一：消息路由功能应用程序、负载分布功能应用程序、临时标识号应用程序、和地址信息嵌入应用程序。

6. 如权利要求 1 所述的装置，其中至少一个用户记录位于所述处理元件单元中。

7. 如权利要求 6 所述的装置，其中至少一个用户记录位于所述处理元件单元中的至少一个处理元件中。

8. 如权利要求 6 所述的装置，其中至少一个应用软件程序位于所述处理元件单元中。

9. 如权利要求 8 所述的装置，其中至少一个应用软件程序位于所述处理元件单元中的至少一个处理元件中。

10. 如权利要求 6 所述的装置，其中所述移动交换中心能够将工作量消息发送给所述用户记录所在的所述至少一个处理元件。

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 360 of 469

11. 如权利要求 10 所述的装置，其中如果所述用户对于所述移动交换中心来说是新用户，那么所述移动交换中心能够将该用户分配给一个处理元件。

12. 一种在包括移动交换中心、多个用户、和处理元件单元的移动通信网络中使用的方法，其用于提供能够访问所述处理元件单元中的每个处理元件的分布式处理元件单元，该移动通信网络中的所述移动交换中心能够与所述多个用户和所述处理元件单元通信，所述方法包括下列步骤：

给所述移动交换中心中的处理元件单元控制器内的用户分配临时标识号；和

将信息嵌入到所述移动交换中心中的所述处理元件单元控制器内的所述临时标识号中，其中所述信息位于所述处理元件单元中的处理元件中。

13. 如权利要求 12 所述的方法，其中所述临时标识号是临时移动台标识号、和基于分组的临时移动台标识号之一。

14. 如权利要求 12 所述的方法，其中将信息嵌入到所述用户的所述临时标识号中以在所述处理元件单元中定位所述处理元件的所述步骤包括以下步骤：

将地址指针添加到所述临时标识号中。

15. 如权利要求 14 所述的方法，其中所述临时标识号是临时移动台标识号、和基于分组的临时移动台标识号之一。

16. 如权利要求 12 所述的方法，其中还包括下列步骤：

执行所述移动交换中心中的控制器内的计算机软件指令以执行下列程序之一：消息路由功能应用程序、负载分布功能应用程序、临时标识号应用程序、和地址信息嵌入应用程序。

17. 如权利要求 12 所述的方法，还包括步骤：定位所述处理元件单元中的至少一个用户记录。

18. 如权利要求 17 所述的方法，还包括步骤：定位在所述处理元件单元中的至少一个处理元件内的至少一个用户记录。

19. 如权利要求 17 所述的方法，还包括步骤：定位在所述处理元件单元中的至少一个应用软件程序。

20. 如权利要求 19 所述的方法，还包括步骤：定位在所述处理元件单元中的至少一个处理元件内的至少一个应用软件程序。

21. 如权利要求 17 所述的方法，还包括步骤：

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 361 of 469

将来自所述移动交换中心的工作量消息发送给所述用户记录所在的所述至少一个处理元件。

22. 如权利要求 21 所述的方法，还包括步骤：

如果所述用户对于所述移动交换中心来说是新用户，那么就将该用户分配给一个处理元件。

23. 一种在包括移动交换中心、多个用户、和访问位置寄存器的移动通信网络中使用的装置，其提供了能够访问所述访问位置寄存器中的每个访问位置寄存器站点的分布式访问位置寄存器，该移动通信网络中的所述移动交换中心能够与所述多个用户和所述访问位置寄存器通信，所述装置包括：

所述移动交换中心中的访问位置寄存器控制器，所述访问位置寄存器控制器能够将信息嵌入到用户的临时标识号中，其中所述信息位于所述访问位置寄存器中的访问位置寄存器站点。

24. 如权利要求 23 所述的装置，其中所述临时标识号是临时移动台标识号、和基于分组的临时移动台标识号之一。

25. 如权利要求 1 所述的装置，其中所述访问位置寄存器控制器通过将地址指针添加到所述临时标识号中，能够将信息嵌入到所述用户的所述临时标识号中，以定位所述访问位置寄存器中的所述访问位置寄存器站点。

26. 如权利要求 25 所述的装置，其中所述临时标识号是临时移动台标识号、和基于分组的临时移动台标识号之一。

27. 如权利要求 23 所述的装置，其中所述访问位置寄存器控制器包括：

所述移动交换中心中的控制器；和

可由所述控制器操作的计算机软件指令，以执行所述控制器中的下列程序之一：消息路由功能应用程序、负载分布功能应用程序、临时标识号应用程序、和地址信息嵌入应用程序。

28. 如权利要求 23 所述的装置，其中至少一个用户记录位于所述访问位置寄存器中。

29. 如权利要求 28 所述的装置，其中至少一个用户记录位于所述访问位置寄存器中的至少一个访问位置寄存器站点内。

30. 如权利要求 28 所述的装置，其中至少一个应用软件程序位于所述访问位置寄存器中。

31. 如权利要求 30 所述的装置，其中至少一个应用软件程序位于所述访

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 362 of 469

问位置寄存器中的至少一个访问位置寄存器站点内。

32. 如权利要求 28 所述的装置，其中所述移动交换台能够将工作量消息发送给所述用户记录所在的所述至少一个访问位置寄存器站点。

33. 如权利要求 32 所述的装置，其中如果所述用户对于所述移动交换中心来说是新用户，那么所述移动交换中心能够将该用户分配给一个访问位置寄存器站点。

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 363 of 469

在移动通信网络中提供分布式处理元件单元的系统和方法

技术领域

本发明通常涉及移动通信网络，特别涉及在移动通信网络中提供分布式处理元件单元的系统和方法。

背景技术

目前在世界范围内蜂窝电话和其它无线设备的用户超过了3亿。这些无线设备相当大的部份正被用作“数据管道”（即：语音业务不是主要功能）。在美国，蜂窝业务提供商，Regional Bell 公司和国家长途运营商提供蜂窝业务。激烈的竞争已促使蜂窝业务的价格下降到大部分人能够负担的地步。

当前一代蜂窝电话主要用于在用户设备（或无线设备）和另一方之间通过无线网络进行语音会话。少数无线设备是数字设备，如装备有蜂窝/无线调制解调器的个人数字助理（PDAs）。因为当前一代无线设备的带宽通常被限定为每秒几十个千比特（kbps），因此，相对限制了当前一代无线设备的应用。但是，希望在下一代（或第三代）蜂窝／无线技术，有时称之为“3G”无线／蜂窝技术，中改变这种情况。上述下一代（或第三代）蜂窝／无线技术将会为每个无线设备提供更大带宽（即，125Kbps 或更高）。更高的数据速率将使用于无线设备的互联网应用更普遍。例如，3G 蜂窝电话（或具有 3G 蜂窝调制解调器的 PC）可用于浏览互联网上的站点，发送/接收图片，执行音频流或视频流应用等。由 3G 蜂窝系统处理无线业务的很大一部分将会是网际协议（IP）业务，很少一部分是传统的语音业务。

近年来，基于网际协议（IP）网络的多媒体内容的实时流已被日益广泛地应用。如上所述，3G 无线网络将给用于实时应用的无线设备提供流数据（音频和视频）。大范围的交互式和非交互式多媒体互联网应用，诸如新闻点播，TV 直播，电视会议，直接广播（如 Broadcast。com）等，将给无线设备提供“实时”数据流。与“下载”的视频文件不同，实时（或流）数据应用要求数据源对流数据信号进行编码，并通过网络发送给实时解码和播放信号（音频或视频）的接收机。上述“下载”的视频文件首先以“非实时”方式获得，然后再观看或回放。

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 364 of 469

正如在本领域众所周知的，用户从移动台（如，蜂窝电话）打电话时，该呼叫被路由到用于注册的移动交换中心（MSC）。移动交换中心（MSC）与访问位置寄存器（VLR）相连接。MSC 能够将信息发送给访问位置寄存器（VLR）并能访问位置寄存器接收来自访问位置寄存器（VLR）的信息。VLR 能够接收从移动台发送给 MSC 的注册消息。VLR 用分配给它的归属位置寄存器（HLR）注册每一个移动台。VLR 也能够临时存储用于每一个已注册用户和每一个移动台业务配置的复本。VLR 还能在呼入期间访问 MSC 以获得临时路由号。

在分布式体系结构中，诸如 MSC 的网元可包括多个处理元件（PEs）。每个处理元件（PE）共享其所属网元的工作量。分布式体系结构具有许多优点，包括可伸缩性和灵活性。然而，当网络处理元件（PE）需要存取诸如 VLR 的数据库中的用户数据时，PE 能够迅速和有效地存取用户数据是非常重要的。那么问题是如何组织数据库以获得最大效率。

一种方法是提供一个由所有处理元件（PEs）共享的集中式数据库。这种简单的配置会产生重大的问题。首先，集中式数据库服务器将会是系统中潜在的瓶颈。数据库服务器的容量可能不足以满足对它的需求。第二，可能存在性能问题，其中集中式数据库服务器的存取时间对于实时应用来说可能太长了。第三，可能对集中式数据库服务器有内存限制。可能对集中式数据库服务器支持的用户数有限制。最后，与集中式数据库服务器相关的成本可能非常高。

另一种方法是分割数据库并在处理元件之中分布数据。这种方法可消除使用集中式数据库服务器时出现的上述问题。但是，该方法带来了另一个挑战性的问题。更具体地说，如何分割数据库才能使处理元件能够迅速和有效地存取用户数据？

假设该数据库被分割并被分发到在网元中的处理元件中。一个简单的方法将会是任意地将一部分数据库分配给一个处理元件。那么在网元的第一处理元件中的应用需要存取用户记录时，第一处理元件将给网元中的其它处理元件发送请求。包含用户记录的处理元件将会把所请求的用户记录发送给发出该请求的第一处理元件。

这种方案虽然简单，但是具有重大的缺陷，其中可能在处理元件之间产生非常大的发送请求和应答的消息业务。本方法还存在另一潜在的缺陷，它要求在数据库中存取数据。

因此，在本技术领域中需要一种能够迅速和有效地分布和存取用户记录的改进的移动通信网络体系结构。特别是，在移动通信网络中需要一种改进的系统和方法，其能够无需在网元的处理元件之间请求和发送用户记录。

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 365 of 469

发明内容

本发明的主要目的是提供一种能够在移动通信网络中迅速、有效地分布和存取用户记录的改进的装置和方法。

本发明的目的是应用于包括移动交换中心，多个用户和处理元件单元中的多个处理元件的这种移动通信网络。本发明提供一种分布式处理元件单元，该分布式处理元件单元通过使用包含处理元件的嵌入式地址信息的临时用户标识号，能够迅速、有效地存取包含在处理元件单元内每个处理元件中的信息。本发明包括一处理元件单元控制器和移动交换中心中的相关计算机软件，该移动交换中心能够将处理元件的正确的址信息嵌入到临时用户标识号内。

用户记录和应用软件程序还可放置在处理元件中。这能够避免经移动通信网络发送请求这样的信息的消息业务。它还能够避免使用集中式数据库服务器。在本发明的一个优选实施例中，处理元件单元是一个访问位置寄存器。

本发明的一个目的是提供一种能够在移动通信网络中提供分布式处理元件单元的装置和方法。

本发明的另一个目的是提供一种在移动通信网络中的处理元件单元控制器，该移动通信网络能够嵌入用于标识处理元件单元中的处理元件的位置的临时标识号信息。

本发明的又一个目的是提供一种在移动通信网络中的处理元件单元控制器，该移动通信网络通过加入一地址偏移指针以指向一特定处理元件单元，能够嵌入用于标识处理元件单元中的处理元件的位置的临时标识号信息。

本发明的再一个目的是提供一种在移动通信网络中的处理元件单元控制器，该移动通信网络能够在处理元件单元中定位用户记录。

本发明的还一个目的是提供一种在移动通信网络中的分布式处理元件单元，该移动通信网络能够执行位于包含用户记录的分布式处理元件单元的处理元件中的应用软件程序。

本发明的一个目的是提供一种在移动通信网络中用于提供分布式访问位置寄存器的装置和方法。

本发明的另一个目的是提供一种移动通信网络中的访问位置寄存器控制器，该移动通信网络能够嵌入用于标识访问位置寄存器中访问位置寄存器站点的地址的临时标识号信息。

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 366 of 469

本发明的又一个目的是提供一种移动通信网络中的访问位置寄存器控制器，该移动通信网络通过加入一地址偏移指针以指向一特定的访问位置寄存器站点，能够嵌入用于标识访问者地址寄存器中访问位置寄存器站点的位置的临时标识号信息。

本发明的再一个目的是提供一种在移动通信网络中的访问位置寄存器控制器，该移动通信网络能够在访问位置寄存器中定位用户记录。

前面已经较广泛地概述了本发明的特点和技术优点，所以本领域的技术人员可更好地理解下面本发明的详细描述。下文将描述形成本发明的权利要求的保护主体的本发明的其它特点和优点。本领域的技术人员应该明白：他们可以直接使用所公开的概念和具体实施例，作为修改或设计能够实现与本发明的目的相同目的的其它结构的基础。本领域的技术人员还应该认识到；具有其最广泛形式的这种等效结构没有背离本发明的精神和范围。

在下面开始本发明的详细描述前，最好是对本专利文献通篇使用的某些词和短语作出定义：术语“包括”和“由...组成”及其派生词，表示没有限制的包括；术语“或”是包括，表示和/或；短语“与...有关”和“与此有关”及其派生词，可表示包括，被包括在，与...互联，包含，被包含在...内，与...连接或有关，与...系在一起或耦接，与...可达，与...合作，交错，并列，接近于，与...有联系，具有，具有...性能等；和术语“控制器”表示至少能够控制一种操作的任何设备，系统或其部份，这样一种可在硬件，固件或软件，或至少它们中两个的某些组合实现的设备。应该明白：与任何特定控制器相关的功能可以是集中式的或分布式的，本地的或是远端的。在通篇的本专利文献中提供某些词和短语的定义，本领域的普通技术人员应该明白：即使不是在绝大多数情况下，也是在许多情况下这些定义适用于这些所定义的词和短语的先前的及将来的使用。

附图说明

为了更完全的理解本发明及其优点，现在结合附图作出下面的描述，其中相同的标号表示相同的对象，图中：

图 1 说明了典型的现有技术中的无线网络；

图 2 说明了图 1 中示出的典型的现有技术中的无线网络的典型的现有技术中的基站；

图 3 说明了与现有技术中的语音网络连接的并与现有技术中的网际协议（IP）网络连接的基站中的基站控制器；

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 367 of 469

图 4 说明了根据本发明原理的移动交换中心和许多处理元件;

图 5 说明了由本发明的移动交换中心使用的计算机软件应用程序;

图 6 是说明本发明的方法的优选实施例的操作的流程图;

图 7 说明了根据本发明原理的移动交换中心和分布式访问位置寄存器。

具体实施方式

下面讨论的图 1 至 7，和在本专利文献中用于描述本发明原理的各种实施例仅用于说明，而不应以任何限制本发明的范围的方式解释它。使用无线通信网络来解释本发明的原理。但是，本领域的技术人员将明白：可以以任何适当构造的通信网络实现本发明的原理。

图 1 说明了典型的无线网络 100 的总概。无线电话网络 100 包括许多蜂窝站 121－123，每个蜂窝站包含基站 BS 101，BS 102 或 BS 103 中的一个。基站 101－103 是可操作的，以使其能与许多移动台（MS）111－114 通信。移动台 111－114 可以是任何合适的无线通信设备，包括常用的蜂窝电话，PCS 手机，便携式电脑，遥测设备等，这些设备能够通过无线链路与基站进行通信。

虚线表示基站 101－103 位于的蜂窝站 121－123 的大致边界。仅为了说明和解释的目的，圆圈大致示出了蜂窝站。应该清楚：蜂窝站还可以是不规则形状的，其取决于所选择的小区配置，和自然及人为的障碍物。

每个基站 BS 101，BS 102 和 BS 103 可包括一个基站控制器（BSC）和一个基站收发信台（BTS）。基站控制器和基站收发信台对于本领域的技术人员来说是公知的。基站控制器是一种管理无线通信网络中的特定小区的无线通信资源的，包括基站收发信台，的设备。基站收发信台包括 RF 无线收发机，天线和其它位于每个蜂窝站中的电气设备。该设备可包括空调单元，加热单元，电源，电话线接口和 RF 发射机及 RF 接收机，以及呼叫处理电路。为了在解释本发明的工作原理时简单和清楚起见，在每个蜂窝站 121，122 和 123 中的基站收发信台和与每个基站收发信台相关的基站控制器都分别地用 BS 101，BS 102 和 BS 103 表示。

BS 101，BS 102 和 BS 103 经通信线路 131 和移动交换中心（MSC）140 在彼此之间和与公用电话系统（未图示）之间传送语音和数据信号。移动交换中心 140 对于本领域的技术人员来说是公知的。移动交换中心 140 是一种在无线网络和诸如公用电话系统和／或互联网的外部网络的用户之间提供服务和协调的交换设备。通信线路 131 可以是任何合适的连接件，包括 T1 线，T3 线，光纤连接，网络主干连

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 368 of 469

接等。在一些实施例中，通信线路 131 可以是几种不同的数据链路，其中每个数据链路将 BS 101，BS 102 和 BS 103 其中之一连接到 MSC 140。

在典型的无线网络 100 中，MS 111 位于蜂窝站 121 中，并与 BS 101 进行通信。MS 113 位于蜂窝站 122 中，并与 BS 102 进行通信。MS 114 位于蜂窝站 123 中，并与 BS 103 进行通信。MS 112 也位于蜂窝站 121 中，且靠近蜂窝站 123 的边缘。接近 MS 112 的方向箭头表示 MS 112 向蜂窝站 123 移动。在某一点，当 MS 112 移入蜂窝站 123 且离开蜂窝站 121 时，将会发生“切换”。

众所周知，切换将呼叫控制从第一小区传送到第二小区。例如，如果 MS 112 正与 BS 101 进行通信，并检测出来自 BS 101 的信号正变得难以接受的弱，那么 MS 112 可以转换到具有较强信号，诸如由 BS 103 发射的信号，的基站。MS 112 和 BS 103 建立新的通信链路，并且信号被发送给 BS 101 和公用电话系统以通过 BS 103 传送正在进行的语音、数据、或控制信号。因此该呼叫被无缝地从 BS 101 传送给 BS 103。“空闲”切换是一种在控制信道或寻呼信道上正在进行通信的移动设备的小区之间，而不是在常规的业务信道上正在传送语音和／或数据信号的移动设备的小区之间进行的切换。

无线网络 100 中的一个或多个无线设备能够执行诸如流音频或流视频应用程序的实时应用。无线网络 100 从，例如互联网中，接收实时数据，并将其在前向信道中发送给无线设备。例如，MS 112 可包括一个能够上网冲浪和收听音频流的 3G 蜂窝电话设备，上述音频流是来自网站“www。mp3。com”的音乐或是来自网站“www。broadcast。com“的体育无线广播。MS 112 还可浏览来自诸如www。CNN。com的新闻网站的视频流。为了避免提高内存需求和无线电话设备大小，无线网络 100 中的一个或多个基站提供了实时数据缓冲器，这些缓冲器能够缓冲正被发送给，例如 MS 112 的实时数据。

图 2 较详细地说明了典型的基站 101。基站 101 包括基站控制器（BSC）210 和基站收发信台（BTS）220。先前结合图 1 描述了基站控制器和基站收发信台。BSC 210 管理蜂窝站 121 中的资源，包括 BTS 220。BTS 220 包括 BTS 控制器 225，带有典型信道元件 240 的信道控制器 235，收发信机接口（IF）245，RF 收发信机单元 250，和天线阵列 255。

BTS 控制器 225 包括处理电路和能够执行一个控制 BTS 220 的全部操作和与 BSC 210 通信的操作程序的存储器。在一般情况下，BTS 控制器 225 指示 235 的操作，该信道控制器包含许多信道元件的信道控制器 235 的操作，该信道元件包括信

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 369 of 469

道元件 240，其在前向信道和反向信道上执行双向通信。“前向”信道是指从基站到移动台的输出信号，而“反向”信道是指从移动台到基站的输入信号。收发信机 IF 245 在信道控制器 235 和 RF 收发信机单元 250 之间传送双向信道信号。

天线阵列 255 将从 RF 收发信机单元 250 收到的前向信道信号发送给 BS 101 覆盖的区域内的移动台。天线阵列 255 将从 BS 101 覆盖的区域内的移动台收到的反向信道信号发送给收发信机 250。在一个实施例中，天线阵列 255 可包括多扇区天线，如三扇区天线，其中每个天线扇区负责在覆盖区域 120^0 的扇区内的发送和接收。此外，RF 收发信机 250 可包含一天线选择单元，以在发送操作和接收操作过程中在天线阵列 255 的不同天线之中选择天线。

为便于解释，假定移动台 111 的用户希望呼叫不是移动台 111 的本地接入提供商网络的一部分的另一个移动台。该呼叫可以是来自蜂窝电话的语音呼叫或是来自能够发送和接收数据分组的无线设备的数据呼叫。来自移动台 111 的呼叫必须发送给被呼叫的移动台的本地接入提供商网络。

图 3 说明了基站 101 中的基站控制器 210，该基站 101 与现有技术语音网络 310 连接，并与现有技术网际协议（IP）网络 320 连接。移动台 111 通过先将呼叫发送给基站 101 来发出呼叫。

如果来自移动台 111 的呼叫是语音呼叫，那么基站 101 中的基站控制器 210 就将该呼叫路由到语音网络 310。该语音呼叫进入用于注册的移动交换中心（MSC）140。移动交换中心（MSC）140 与访问位置寄存器（VLR）（图 3 中未显示）连接。该声音呼叫经信令网络 330 被路由到归属位置寄存器（HLR）335。

如果来自移动台 111 的呼叫是数据呼叫，那么基站 101 中的基站控制器 210 就将该呼叫路由到 IP（网际协议）网络 320。该数据呼叫进入 IP 网络 340，然后再进入分组数据服务节点 345。分组数据服务节点在图 3 中表示为 PDSN。该呼叫经互联网 355 被路由到 IP 网络 375 和本地代理 365。访问者范围数据库 350 与 PDSN 345 和互联网 355 连接。代理人范围数据库 360 与互联网 355 连接。本地范围数据库 370 与 IP 网络 375 和主代理商 365 连接。

图 4 说明了本发明的移动交换中心（MSC）400，其与许多用户（图 4 中未显示）连接并与处理元件单元 460 连接。正如将更全面地描述的那样，MSC 400 能够通过数据线 410 接收来自用户的工作量消息，并通过数据线 450 将其路由到处理元件单元 460 中的合适的处理元件（470，480，…，490）。MSC 400 包括控制器 420，存储器 430 和计算机软件 440。

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 370 of 469

图 5 说明了 MSC 400 中本发明的计算机软件。控制器 420 和计算机软件 440 包括能够实现本发明功能的处理元件单元控制器。计算机软件 440 包括能够通过控制器 420 的操作协调计算机软件 440 的各种应用程序的操作的操作系统接口程序 510。计算机软件 440 包括信息路由功能应用程序 520、负载分布功能应用程序 530、临时号码标识应用程序 540 和地址信息嵌入应用程序 550。将会对这些计算机软件应用程序的功能和操作作更全面地描述。

在移动通信网络中，MSC 400 的工作量是由诸如移动台（111，112，113，114）的用户的活动和其它网元（例如：归属位置寄存器 335）产生的。MSC 400 的工作量采用了工作量消息的形式，该消息以信令消息的形式到达 MSC 400。发信号信息包含用户身份信息以将该活动与一特定用户关联起来。

在第三代（3G）无线网络中，用户的身份信息或者是国际移动台标识（IMSI）号，或者是临时移动台标识（TMSI）号。对于与活动相关的数据，使用基于临时移动台标识（P-TMSI）号的分组。TMSI 和 P-TMSI 是由 MSC 400 分配给移动台的号。下面阐述与 TMSI 号有关，也与 P-TMSI 号有关的注释。

现有技术方法要求当需要用户记录时，在各种处理元件之间请求和发送用户记录。为了避免该过程，本发明的 MSC 400 将用户记录存储在处理元件中。如图所示，本发明能够使 MSC 400 通过在将 TMSI 号（和 P-TMSI 号）分配给移动台的全过程中，利用 MSC400 具有的灵活性，有效地将用户记录分布给合适的处理元件（470，480，…，490）。

MSC 400 在特定处理元件中存储了特定用户记录之后，MSC 400 必须在与特定用户记录相关的工作量消息到达时，能够迅速和有效地确定包含该特定用户记录的处理元件的位置。即，MSC 400 必须能够定位工作量消息要被路由到的处理元件。

本发明的 MSC 400 在临时移动台标识号、TMSI 和 P-TMSI 中嵌入了必要的位置信息，以便能将工作量消息发送给合适的处理元件。这种方法允许 MSC 400 迅速和有效地将工作量消息发送给合适的处理元件。

在 MSC 400 的操作中，MSC 400 接收来自移动台或网元的工作量消息。为方便起见，我们将移动台和网元共同称为用户。MSC 400 执行消息路由选择功能应用程序 520，以使消息路由功能检查工作量消息。如果工作量消息来自先前处理过的用户，那么 MSC 400 就会知道用于该工作量消息的处理元件的正确位置。然后消息路由功能将该工作量消息发送给用户记录所在的处理元件。其后 MSC 400 处理下一个工作量消息。

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 371 of 469

如果工作量消息不是来自先前处理过的用户，那么 MSC 400 就使消息路由功能从工作量消息中提取移动标识信息，并确定哪个处理元件将接收该工作量消息。如果用户对于 MSC 400 来说是新用户，那么 MSC 400 就执行负载分布功能应用程序 530 以能产生一个负载分布功能将新用户分配给处理元件。

然后 MSC 400 执行临时标识号应用程序 540 以给用户分配一个 TMSI 号（或 P-TMSI 号）。其后 MSC 400 执行地址信息嵌入应用程序 550 以将处理元件的必要的地址信息嵌入到 TMSI 号（或 P-TMSI 号）中。在本发明的一个优选实施例中，地址信息嵌入应用程序 550 将一个表示地址的号码添加到 TMSI 号（或 P-TMSI 号）中，该地址指向特定处理元件。还可以设计将地址信息嵌入到 TMSI 号（或 P-TMSI 号）中的其它方法。然后消息路由功能就将工作量消息发送给用户记录所在的处理元件。

后来的来自用户的工作量消息到达时，消息路由功能检查 TMSI 号（或在 P-TMSI 号）中的标识信息。由于具有用户记录的处理元件的地址信息被嵌入到 TMSI 号（或在 P-TMSI 号）中，所以消息路由功能能够非常迅速和有效地将随后而来的工作量消息发送给合适的处理元件。

包含用户记录的处理元件还可在处理元件中包含应用软件以在工作量消息到达时对它们进行处理。在本发明中，不需要处理元件给其它处理元件发送消息，以请求其它处理元件发送相关的用户记录。因为避免了处理元件之间的过多的消息业务，所以本发明带来了巨大的节约。而且，由于用户记录和应用软件位于相同的处理元件中，对用户记录的存取是非常快捷和有效的。这种特点提高了应用软件的实时性能。本发明还能够通过消除对集中式数据库服务器的需要来降低成本。

图 6 说明了本发明的一个操作方法的优选实施例的步骤的流程图。该方法的步骤通常用参考标号 600 表示。MSC 400 接收来自用户的工作量消息（步骤 610）。然后 MSC 400 确定该工作量消息是否是来自先前处理过的用户（确定步骤 620）。如果工作量消息是来自先前处理过的用户，那么消息路由功能将该工作量消息发送给用户记录所在的处理元件（步骤 680）。然后该控制返回步骤 610，在此处 MSC 400 接收下一个工作量消息。

如果工作量消息不是来自先前处理过的用户，那么消息路由功能从该工作量消息中提取移动标识信息，并确定哪个处理元件用于接收该工作量消息（步骤 630）。然后 MSC 400 确定用户对 MSC 400 来说是否是新用户（判断步骤 640）。如果用户对 MSC 400 来说是新用户，那么负载分布功能就将该用户分配给该处理元件（步骤 650）。然后 MSC 400 给该用户分配临时标识号（例如：TMSI，P-TMSI）（步骤 660）。

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 372 of 469

如果用户对MSC 400来说不是新用户，那么就无需执行步骤650。MSC 400就直接进入步骤660。

在步骤660中给用户分配临时标识号之后，MSC 400将处理元件的地址信息嵌入到临时标识号中（步骤670）。然后消息路由功能将工作量消息发送给用户记录所在的处理元件（步骤680）。其后控制返回到步骤610，在该处MSC 400接收下一个工作量消息，且该过程继续进行。

图7说明了本发明的一个优选实施例，其中处理元件包括访问位置寄存器740中的访问位置寄存器（VLR）站点。传统上，访问位置寄存器（VLR）被组织成网络中的单个实体。对大多数场合来说，这种结构是适用的。但是，在像芝加哥或洛杉矶这样的大都市中，有非常多的用户。由于用户的数量还在继续增长，因此VLR用户的数量可能是一百万（1，000，000）或更多。由于当前的技术对VLR能够管理的用户数量存在限制。例如，一些类型的VLR不能够管理大约超过二十万（200，000）个用户。

通过使用许多较小的VLR单元，可能产生具有较大容量的VLR。图7中示出了这种配置，其中访问位置寄存器（VLR）740包括第一VLR单元VLR-1 750、第二VLR单元VLR-2 760、……、和第M个VLR单元VLR-M 770。VLR单元（750，760，…，770）与将经数据线450来自MSC 400的消息直接传送给VLR单元的多路复用器745相连接。

在现有技术的系统中，VLR单元中的用户记录被随机分布。这是一个问题，因为现有技术的MSC不能准确地知道在哪里查找用户记录。如果有单个的VLR数据库，那么MSC 400将简单地搜索整个VLR数据库。当有多个VLR数据库时，MSC 400不知道哪一个VLR数据库包含特定的用户记录，而必须搜索所有的VLR数据库。

本发明提供一种使用嵌入在临时标识号中的地址信息，分布和存取VLR数据库中的用户记录的装置和方法。移动交换中心400（如图4所示）中的控制器420和计算机软件440包括能够实现本发明功能的访问位置寄存器控制器。

如图7所示，通过数据线410给MSC 400提供来自多个基站控制器（例如：基站控制器210）的蜂窝电话呼叫。如上所述，MSC 400给每个电话号码分配一个临时标识号（例如：TMSI）。MSC 400把TMSI－1 715分配给第一电话号码710，MSC 400把TMSI－2 725分配给第二电话号码720。MSC 400继续该过程，并把TMSI－N 735分配给第N个电话号码730。而且，如上所述，MSC 400将处理元件的地址

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 373 of 469

信息（即 VLR 单元（750，760，...，770）之一的 VLR 站点的地址）嵌入到临时标识号中。

在图 7 所示的本发明典型的优选实施例中，TMSI 号的第一部分 755 被分配给 VLR-1 750。TMSI 号的第一部分 755 包括标号 TMSI-1 至 TMSI-Q，其中 Q 是一个小于 N 的整数。TMSI 号的第二部分 765 被分配给 VLR-2 760。TMSI 号的第二部分 765 包括标号 TMSI-（Q + 1）至 TMSI-R，其中 R 是一个大于 Q 且小于 N 的整数。剩余的 TMSI 号被顺序置于其它 VLR 单元中。TMSI 号的最后部分 775 被分配给 VLR-2 770。TMSI 号的最后部分 775 包括标号 TMSI-（R + 1）至 TMSI-N。应该明白每个 VLR 单元的大小根据整数 Q、R、和 N 选取的值的变化而变化。还应该明白根据 VLR740 的操作要求使用 VLR 单元的变量数（M）。由于 VLR 中的用户数量的增长，如果需要可增加其它的 VLR 单元。

每个 VLR 单元中的每个 VLR 站点的地址信息都嵌有相应的 TMSI 号。因此 MSC 400 能够自动地访问 VLR 740 中的适当的 VLR 站点，即使 VLR740 包括许多 VLR 单元。例如，假定 MSC 400 接收来自第一用户的蜂窝电话呼叫，且该呼叫具有临时标识号 TMSI-2。MSC 400 能够立即确定 TMSI-2 是在 VLR－1 750 中，并能够从嵌入在 TMSI-2 中的地址偏移信息立即访问 VLR-1 750 中的 TMSI－1 VLR 站点。同样，假定 MSC 400 接收来自第二用户的蜂窝电话呼叫，且该呼叫具有临时标识号 TMSI-（R + 1）。MSC 400 能够立即地确定 TMSI-（R + 1）是在 VLR－M 770 中，并能够从嵌入在 TMSI-（R + 1）中的地址偏移信息立即访问 VLR-M 770 中的 TMSI －（R + 1） VLR 站点。

本发明的 MSC 400 和 VLR 740 与现有技术的 VLR 系统相比具有许多优点。本发明不需要网元之间的消息业务以定位用户记录。此外，VLR 740 中的 VLR 单元可包含能够直接存取和处理用户记录信息的应用软件。这个特点提高了应用软件的实时性能。MSC 400 能够将工作量消息直接发送给所需用户记录所在的 VLR 单元中的合适 VLR 站点。本发明的 MSC 400 和 VLR 740 还通过消除对集中式数据库服务器的需求来降低成本。

虽然参考分布式访问位置寄存器 740 描述了本发明，但是本发明并不局限于在访问位置寄存器中使用。移动交换中心 400 本身可使用本发明的分布式体系结构。即，移动交换中心 400 本身可包括许多根据本发明原理组织的和可访问的处理元件。

虽然已详细描述了本发明，但是本领域的技术人员应该明白他们在没有背离本发明的精神和范围的情况下，可以最广泛形式对本发明作出各种变化、

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 374 of 469

替换和改变。

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 375 of 469

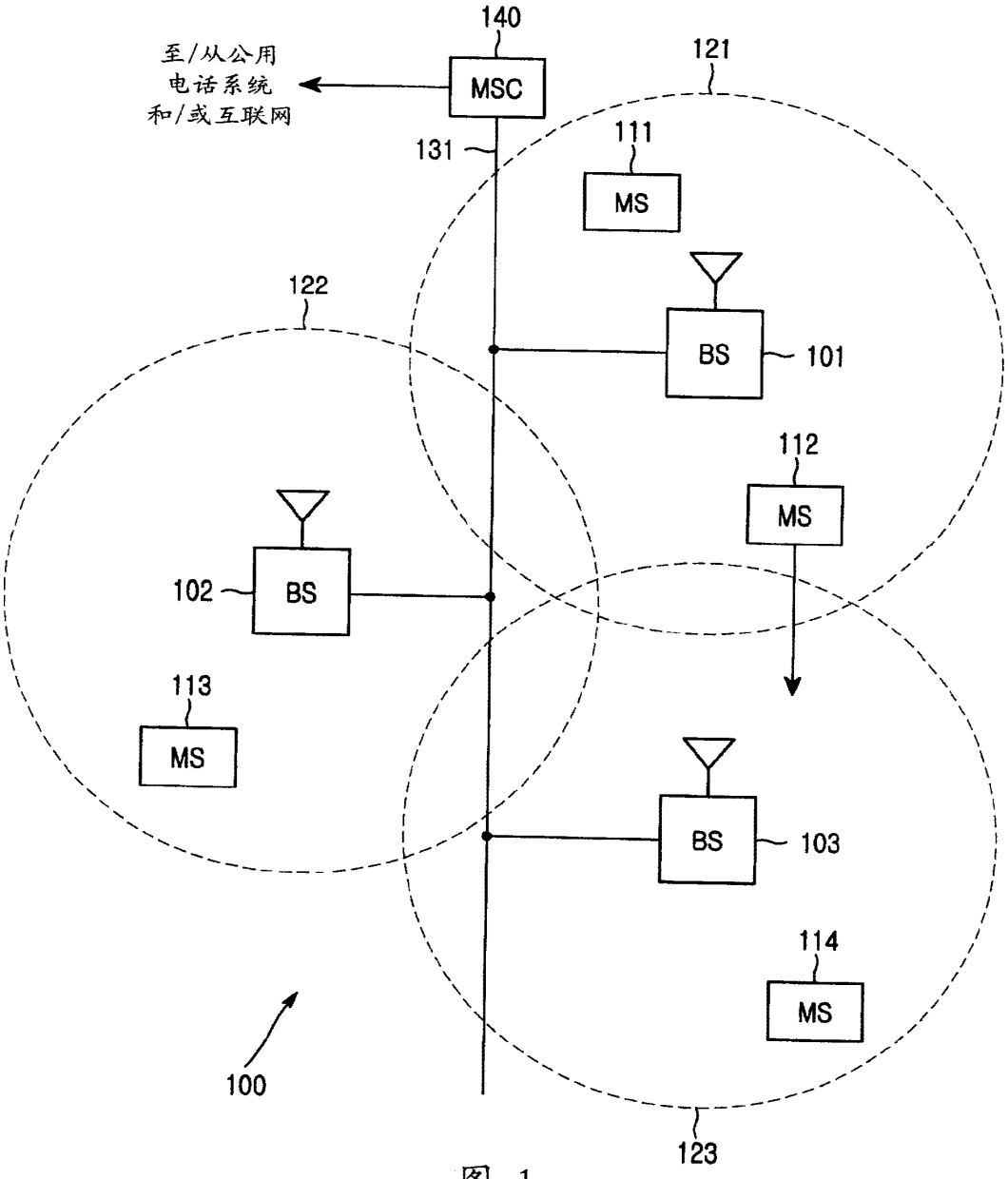


图 1

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 376 of 469

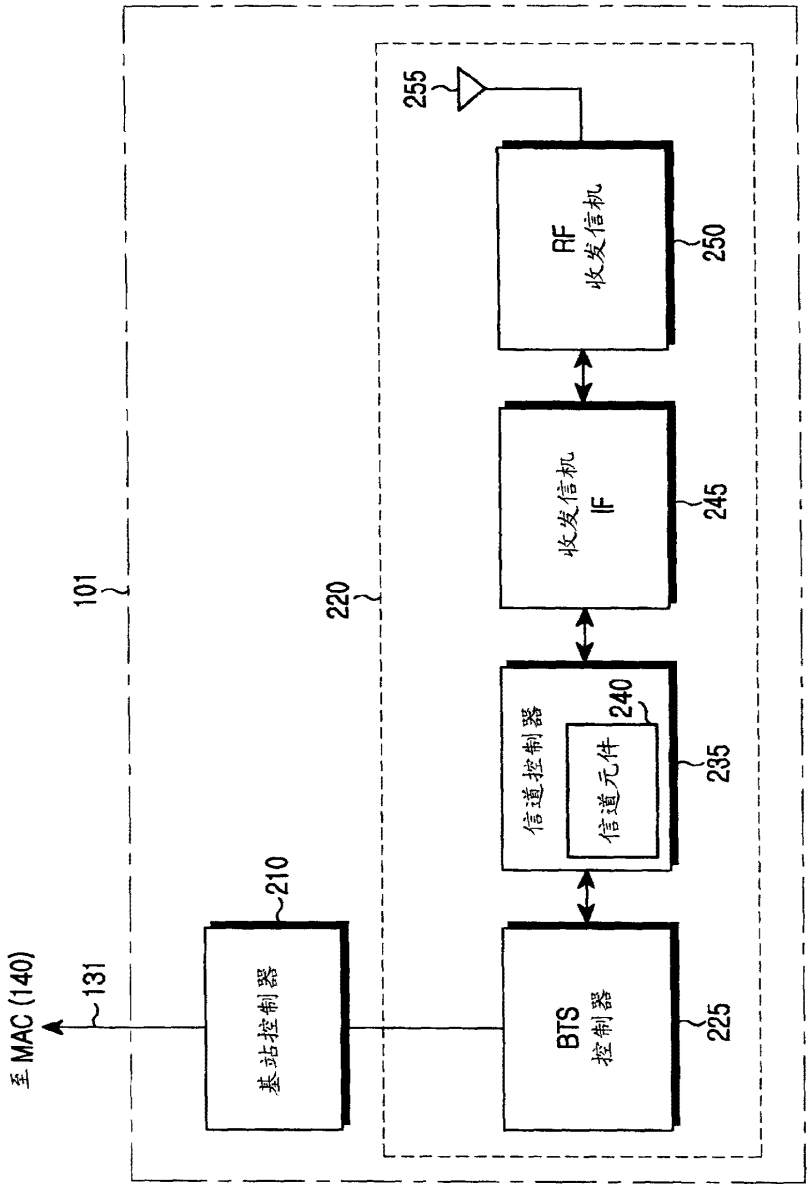


图 2

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 377 of 469

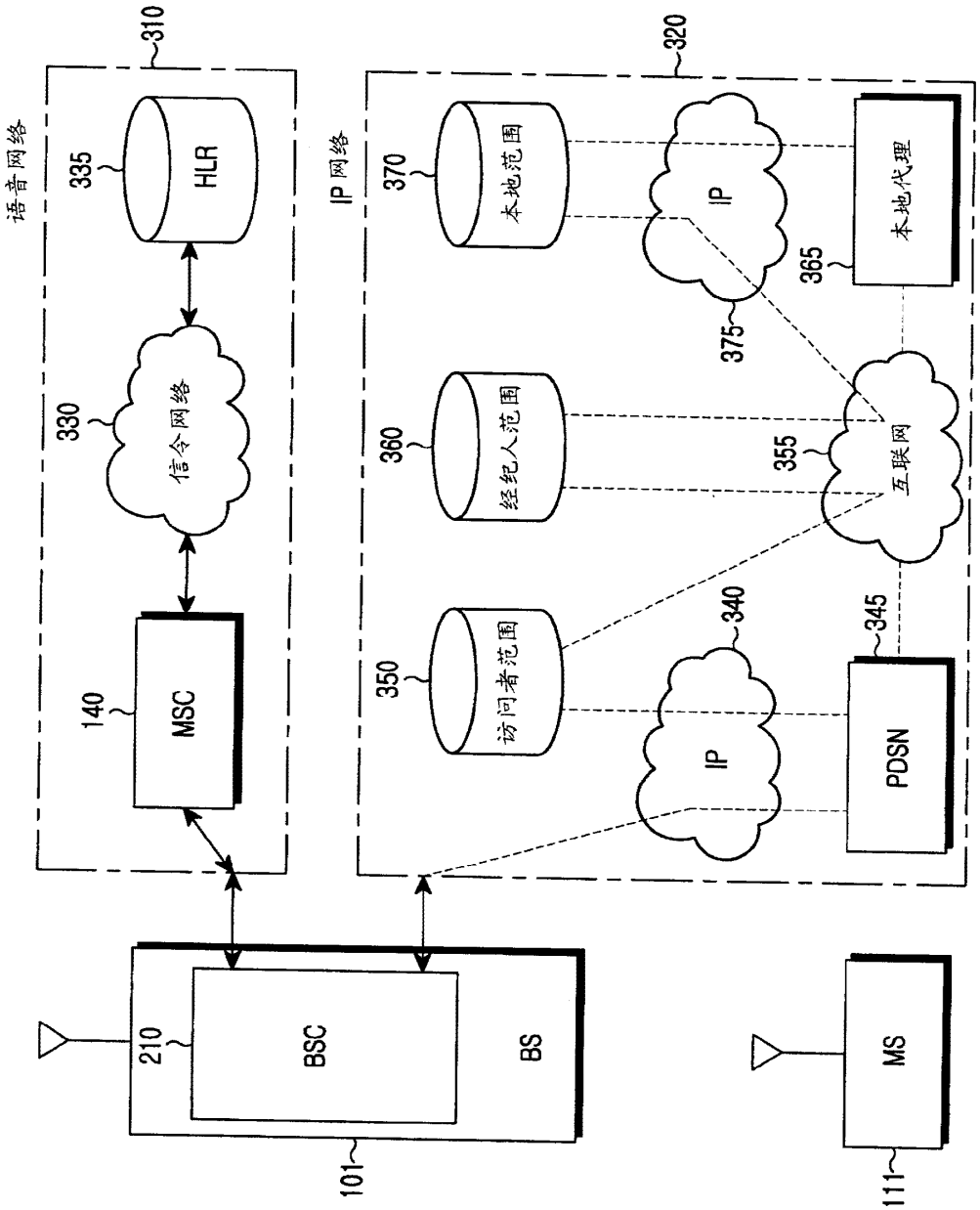


图 3

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 378 of 469

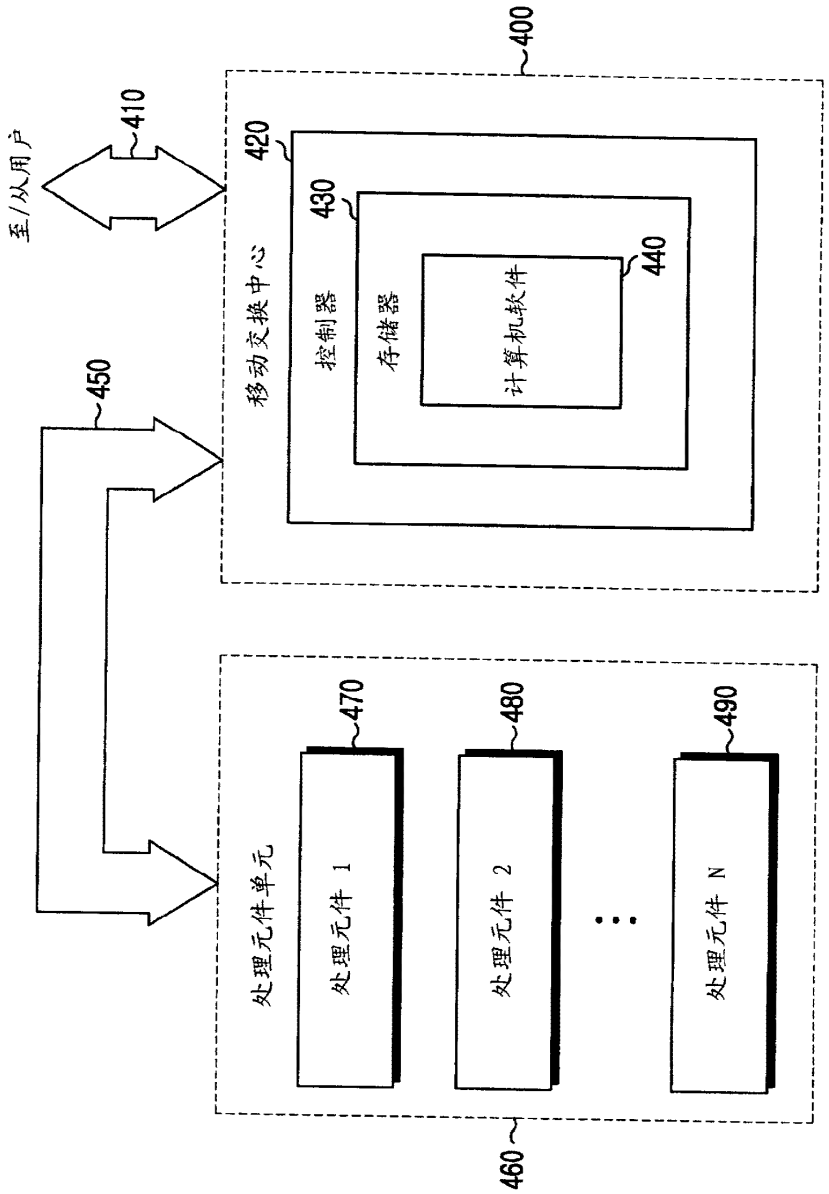


图 4

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 379 of 469

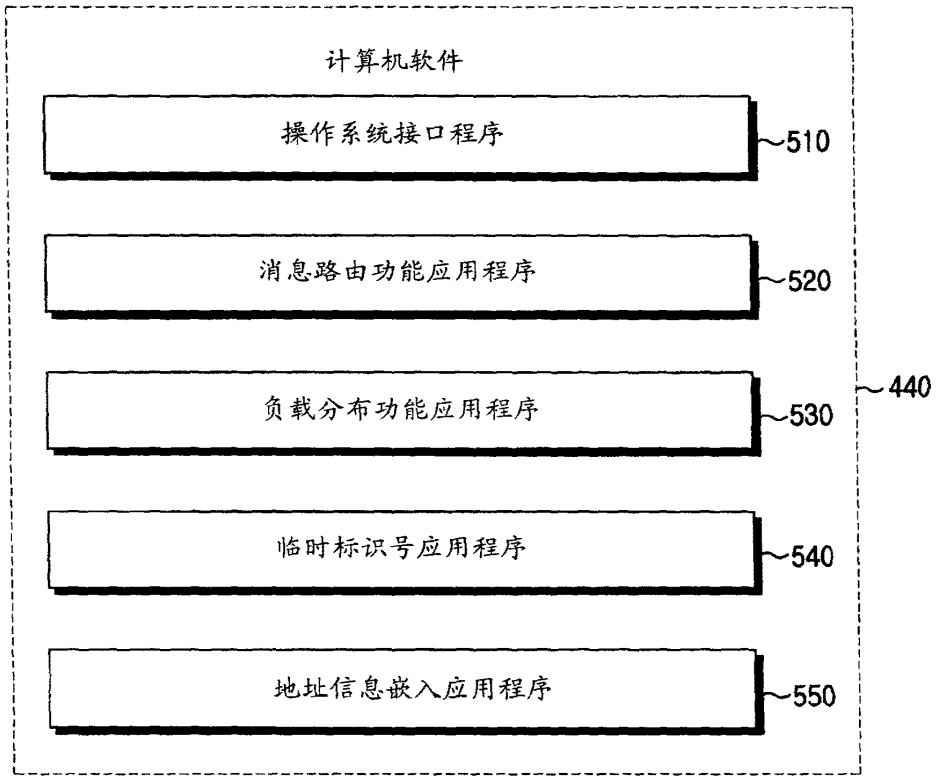


图 5

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 380 of 469

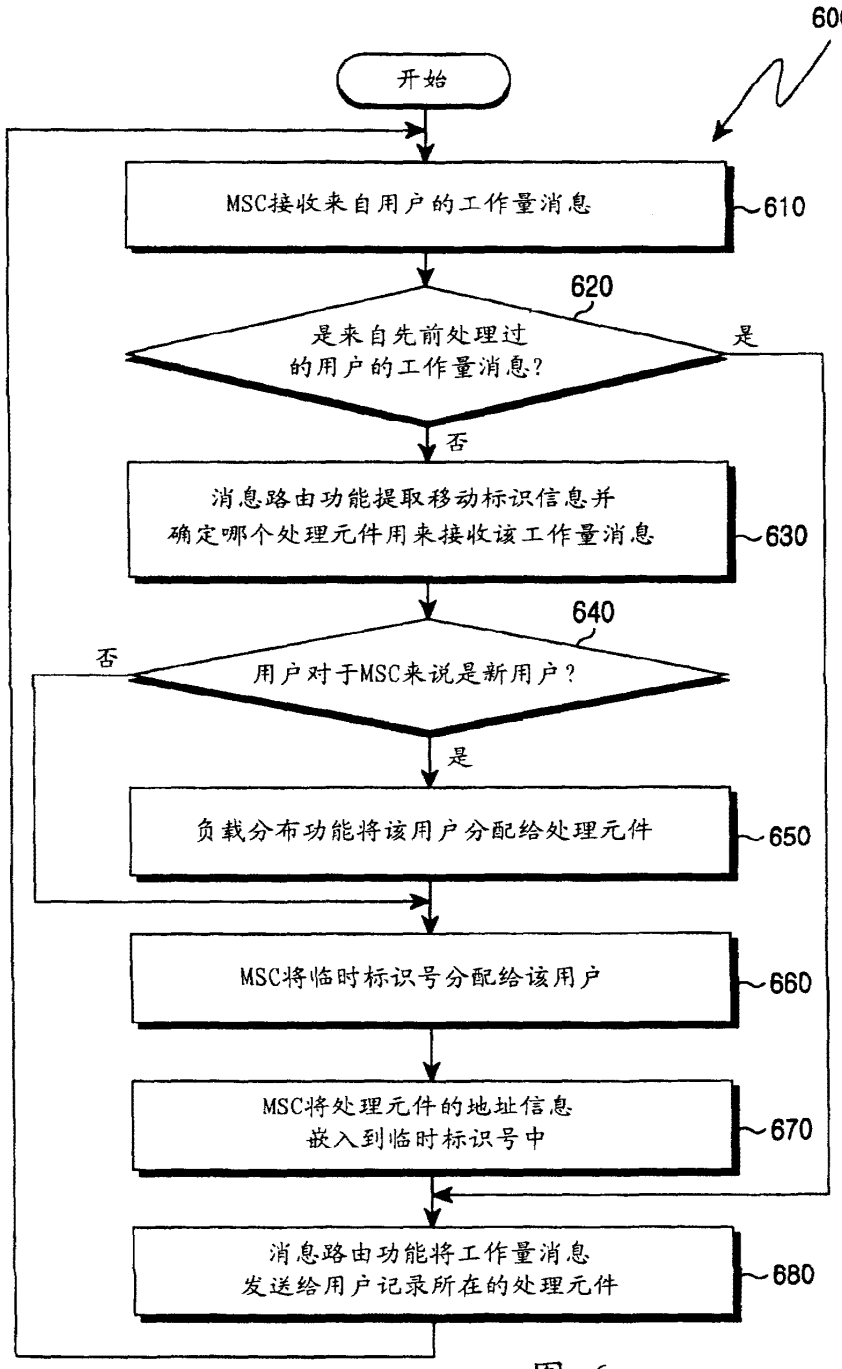


图 6

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 381 of 469

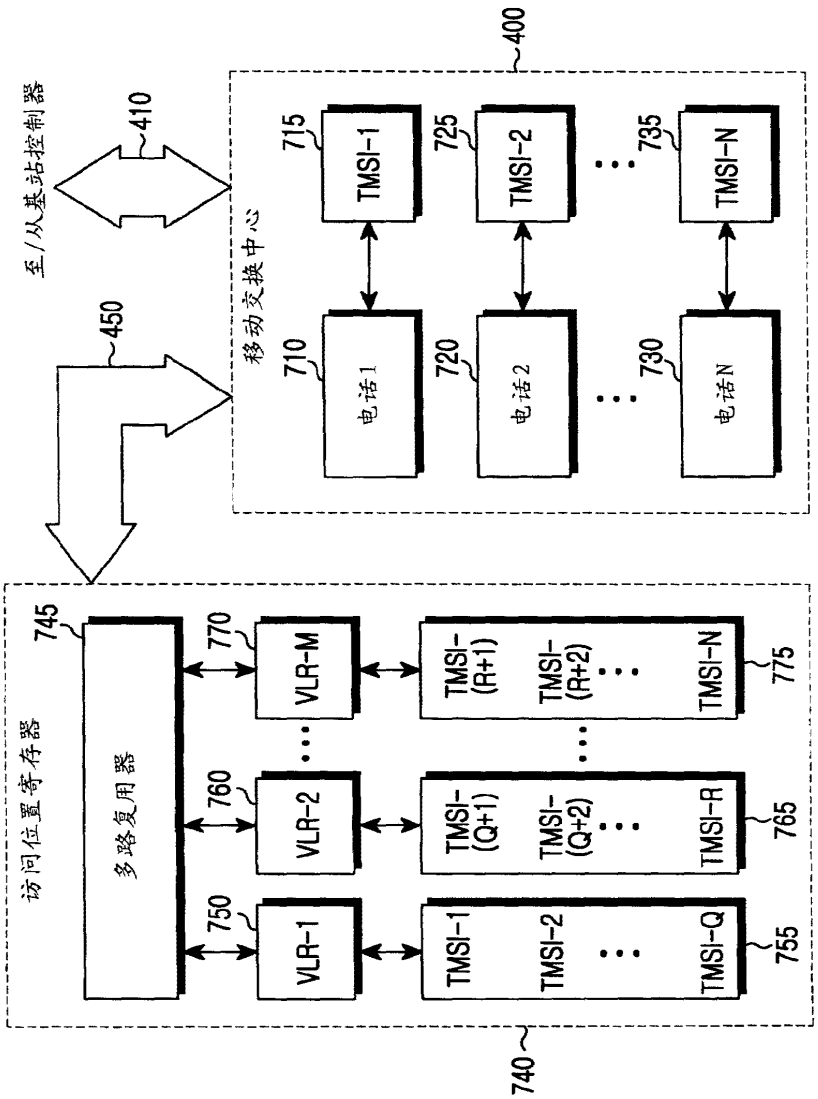


图 7

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 382 of 469

Electronic Patent Application Fee Transmittal	
Application Number:	13235021
Filing Date:	16-Sep-2011
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Filer:	Jeffrey G. Toler/Laura Russo
Attorney Docket Number:	1082-0008-C1
Filed as Large Entity	
Filing Fees for **Utility under 35 USC 111(a)**	

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

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
Statutory or Terminal Disclaimer	1814	1	160	160
		Total in USD ($)		**340**

Electronic Acknowledgement Receipt	
EFS ID:	22730557
Application Number:	13235021
International Application Number:	
Confirmation Number:	2302
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Customer Number:	60533
Filer:	Jeffrey G. Toler/Laura Russo
Filer Authorized By:	Jeffrey G. Toler
Attorney Docket Number:	1082-0008-C1
Receipt Date:	24-JUN-2015
Filing Date:	16-SEP-2011
Time Stamp:	16:49:54
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$340
RAM confirmation Number	14888
Deposit Account	502469
Authorized User	TOLER, JEFFREY G
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		1082-0008-C1_Response_to_Non-Final_Office_Action_6-24-15.pdf	84644 4b8bcf2535a6944c42fc55a90fe1545768ce1930	yes	9
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	7	
	Applicant Arguments/Remarks Made in an Amendment		8	9	
Warnings:					
Information:					
2	Terminal Disclaimer Filed	1082-0008-C1_TerminalDisclaimer.pdf	146234 09c0c4ff1a55e4372dede35a256c865189acc022	no	2
Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Form (SB08)	1082-0008-C1_IDS_6-24-15.pdf	107404 af81988b550dae8937f3eec45b0f7ed468873664	no	3
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
4	Foreign Reference	CN1427637A.pdf	1236721 d68fe7643f832a3b2e8f51643b120e08fd60857d	no	26
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	32181 136b2a7f1f0a7b7831707 1f928cbfeaf1e4e7e8c	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1607184		

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

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

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

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

PTO/AIA/26 (04-13)
Approved for use through 04/30/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	Docket Number (Optional) 1082-0008-C1

In re Application of: Shaowei Pan

Application No.: 13/235,021

Filed: September 16, 2011

For: SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS

The applicant, Lemko Corporation, owner of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **prior patent** No. 8,046,420 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The applicant hereby agrees that any patent so granted on the instant application shall be enforceable only for any during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the applicant does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

expires for failure to pay a maintenance fee;
is held unenforceable;
is found invalid by a court of competent jurisdiction;
is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
has all claims canceled by a reexamination certificate;
is reissued; or
is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ The undersigned is the applicant. If the applicant is an assignee, the undersigned is authorized to act on behalf of the assignee.

I hereby acknowledge that any willful false statements made are punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

2. ☑ The undersigned is an attorney or agent of record. Reg. No. 32342

/Jeffrey G. Toler/ — Signature
6/24/2015 — Date

Jeffrey G. Toler — Typed or printed name

Attorney of Record — Title
512-327-5515 — Telephone Number

☑ Terminal disclaimer fee under 37 CFR 1.20(d) included.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.321. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/235,021	Filing Date 09/16/2011	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 06/24/2015

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $40 =	0
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $210 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/eugenia v. hardy/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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

NOTICE OF ALLOWANCE AND FEE(S) DUE

60533 7590 07/31/2015

TOLER LAW GROUP
TOLER LAW GROUP
8500 BLUFFSTONE COVE
SUITE A201
AUSTIN, TX 78759

EXAMINER
NGUYEN, THU HA T

ART UNIT	PAPER NUMBER
2453	

DATE MAILED: 07/31/2015

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/235,021	09/16/2011	Shaowei Pan	1082-0008-C1	2302

TITLE OF INVENTION: SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$480	$0	$0	$480	11/02/2015

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

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

HOW TO REPLY TO THIS NOTICE:

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

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

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

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

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

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

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

PTOL-85 (Rev. 02/11)

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 391 of 469

PART B - FEE(S) TRANSMITTAL

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

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

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

60533 7590 07/31/2015
TOLER LAW GROUP
TOLER LAW GROUP
8500 BLUFFSTONE COVE
SUITE A201
AUSTIN, TX 78759

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

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

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/235,021	09/16/2011	Shaowei Pan	1082-0008-C1	2302

TITLE OF INVENTION: SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$480	$0	$0	$480	11/02/2015

EXAMINER	ART UNIT	CLASS-SUBCLASS
NGUYEN, THU HA T	2453	370-328000

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

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

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

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

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

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

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

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

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

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

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

PTOL-85 Part B (10-13) Approved for use through 10/31/2013. OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 392 of 469

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/235,021	09/16/2011	Shaowei Pan	1082-0008-C1	2302

60533 7590 07/31/2015

TOLER LAW GROUP
TOLER LAW GROUP
8500 BLUFFSTONE COVE
SUITE A201
AUSTIN, TX 78759

EXAMINER	
NGUYEN, THU HA T	
ART UNIT	PAPER NUMBER
2453	

DATE MAILED: 07/31/2015

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

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

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

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

PTOL-85 (Rev. 02/11)

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 393 of 469

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

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

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

Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 13/235,021	Applicant(s) PAN, SHAOWEI	
	Examiner THU HA NGUYEN	Art Unit 2453	AIA (First Inventor to File) Status No

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

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

1. ☒ This communication is responsive to *amendment filed 10/10/14*.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are *1-20*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov .
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

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

   * Certified copies not received: _____.

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

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

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

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 06/24/15
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☐ Examiner's Amendment/Comment
6. ☐ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/THU HA NGUYEN/
Primary Examiner, Art Unit 2453

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 395 of 469

Notice of References Cited	Application/Control No. 13/235,021	Applicant(s)/Patent Under Reexamination PAN, SHAOWEI	
	Examiner THU HA NGUYEN	Art Unit 2453	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2011/0320576 A1	12-2011	Lauer et al.	709/220
*	B	US-2012/0324041 A1	12-2012	Gerber et al.	709/217
*	C	US-8,351,420 B2	01-2013	Linkola et al.	370/352
*	D	US-8,676,155 B2	03-2014	Fan et al.	455/406
*	E	US-2015/0081812 A1	03-2015	Davies et al.	709/206
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13235021	PAN, SHAOWEI
	Examiner	Art Unit
	THU HA NGUYEN	2453

CPC- SEARCHED		
Symbol	Date	Examiner
H04L12/66	03/15/15	THN
H04L65/1036	03/15/15	THN
H04W88/10, 16	03/15/15	THN

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
709	217, 218	05/20/13	THN
707	748	05/20/13	THN
370	352, 401	05/20/13	THN
Update search		05/15/14	THN
709	212, 217, 218	03/15/15	THN
455	433	05/15/15	THN

SEARCH NOTES		
Search Notes	Date	Examiner
East, Derwent, JPO, EPO, USPG-Pub search	05/20/13	THN
Update search	05/15/14	THN
East, Derwent, JPO, EPO, USPG-Pub search	03/15/15	THN
Inventor name search	03/15/15	THN

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
709	217	03/15/15	THN

INTERFERENCE SEARCH			
US Class/ CPC Symbol	**US Subclass / CPC Group**	**Date**	**Examiner**
455	433	03/15/15	THN

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 398 of 469

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1.	H1910	A	2000-11-07	Hoffpauir et al.	

No document provided

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1.	1427637	CN	A	2003-07-02	SAMSUNG ELECTRONICS CO. LTD.		

NON-PATENT LITERATURE DOCUMENTS

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

EXAMINER SIGNATURE

Examiner Signature	/Thu Ha Nguyen/	Date Considered	07/26/2015

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

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

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

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13/235,021
	Filing Date	Sep 16, 2011
	First Named Inventor	Shaowei Pan
	Art Unit	2453
	Examiner Name	Thu Ha T Nguyen
	Attorney Docket Number	1082-0008-C1

CERTIFICATION STATEMENT

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

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

OR

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

☐ See attached certification statement.

☒ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

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

Signature	/Jeffrey G. Toler/	Date (YYYY-MM-DD)	2015-06-24
Name/Print	Jeffrey G. Toler	Registration Number	38,342

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

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	"20040203677".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L2	2	"20070003062".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L3	2	"20080226071".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L4	2	"20060014530".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L5	2	"20070266076".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L6	200	aggregat$4 same contact$4 with list$4 same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L7	237	(aggregat$4 or collaborat$4)with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L8	108	(aggregat$4 or collaborat$4)with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4)) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L9	24	(aggregat$4 or collaborat$4)with single same (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L10	13	(aggregat$4 or collaborat$4)with (multiple$4 or plurality$4) with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L11	2	(aggregat$4 or collaborat$4)with (multiple$4 or plurality$4) with (contact$4 with list$4) same single with (user$4 or client$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L12	2	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4 with list$4) same (single with (user$4 or client$4)) same (IM or	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 402 of 469

		chat$4 or (instant with messag$4))				
L13	8	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L14	15	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L15	251	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L16	112	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4)) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L17	2	"20070266076".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L18	34	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))same ("same" or common) same (ID or contact$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L19	149	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))and ("same" or common) same (ID or contact$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L20	2	"20090113007".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L21	0	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) same (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L22	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) same (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L23	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L24	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4)and request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 403 of 469

L25	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4)and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L26	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L27	2	"20070287452".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L28	2	"20060098661".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L29	2	"20060221912".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L30	757	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L31	2	"6122499".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L32	174	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L33	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L34	2	"6141586".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L35	2	"6141584".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L36	2	"6141564".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L37	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L38	3	(gateway or router or intermediat$4)	US-PGPUB;	ADJ	ON	2015/01/26

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 404 of 469

		same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	USPAT; EPO; JPO; DERWENT			09:38
L39	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L40	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L41	7	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L42	7	(gateway or router or intermediat$4) and server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L43	189	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L44	75	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L45	93	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L46	20	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L47	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 405 of 469

		architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)				
L48	6	(gateway or router or intermediat$4) same (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L49	6	(gateway or router or intermediat$4) and (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L50	1	(gateway or router or intermediat$4) and (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 709/217.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L51	1	(gateway or router or intermediat$4) and(convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 709/217.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L52	1	(gateway or router or intermediat$4) and(convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 455/416.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L53	10	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L54	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/419.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L55	5	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/412.1.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L56	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 406 of 469

L57	1	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.07.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L58	0	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.08.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L59	6	(gateway or router or intermediat$4) and(server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L60	0	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L61	3	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L62	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L63	467	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L64	29	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L65	99	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L66	7	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L85	2	"20030120938".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 407 of 469

L86	2	"20040203677".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L87	2	"20070003062".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L88	2	"20080226071".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L89	2	"20060014530".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L90	2	"20070266076".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L91	200	aggregat$4 same contact$4 with list$4 same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L92	237	(aggregat$4 or collaborat$4)with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L93	108	(aggregat$4 or collaborat$4)with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4)) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L94	24	(aggregat$4 or collaborat$4)with single same (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L95	13	(aggregat$4 or collaborat$4)with (multiple$4 or plurality$4) with (contact$4 with list$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L96	2	(aggregat$4 or collaborat$4)with (multiple$4 or plurality$4) with (contact$4 with list$4) same single with (user$4 or client$4) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L97	2	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4 with list$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L98	8	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L99	15	(aggregat$4 or collaborat$4)same (multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 408 of 469

		chat$4 or (instant with messag$4))				
L100	251	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L101	112	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4)) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L102	2	"20070266076".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L103	34	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))same ("same" or common) same (ID or contact$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L104	149	(multiple$4 or plurality$4) with (contact$4 or account$4) same (single with (user$4 or client$4)) same (IM or chat$4 or (instant with messag$4))and ("same" or common) same (ID or contact$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L105	2	"20090113007".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L106	0	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) same (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L107	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) same (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L108	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L109	0	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4)and request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L110	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4)and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L111	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 409 of 469

L112	2	"20070287452".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L113	2	"20060098661".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L114	2	"20060221912".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L115	757	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L116	2	"6122499".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L117	174	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L118	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L119	2	"6141586".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L120	2	"6141584".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L121	2	"6141564".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L122	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L123	3	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L124	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 410 of 469

		architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)				
L125	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L126	7	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L127	7	(gateway or router or intermediat$4) and server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L128	189	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L129	75	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L130	93	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L131	20	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "709"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L132	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L133	6	(gateway or router or intermediat$4) same (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 411 of 469

L134	6	(gateway or router or intermediat$4) and (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L135	1	(gateway or router or intermediat$4) and (server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 709/217.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L136	1	(gateway or router or intermediat$4) and(convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 709/217.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:38
L137	1	(gateway or router or intermediat$4) and(convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and 455/416.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L138	10	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L139	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/419.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L140	5	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/412.1.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L141	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/$4.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L142	1	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.07.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L143	0	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 412 of 469

		"379"/201.08.ccls.				
L144	6	(gateway or router or intermediat$4) and(server$4 or basestation$4) same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L145	0	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) same request$4 same (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L146	3	(legacy same network$4) same (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L147	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L148	467	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L149	29	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L150	99	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L151	7	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L152	2	"20030120938".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L153	2	"20040203677".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2015/01/26 09:39
L154	27	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6) and (outside$4 or (out adj4 band) or range$4 or area$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 413 of 469

L155	13	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6) and (outside$4 or (out adj4 band) or range$4 or area$4) same (mov$6 or roam46)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L174	3	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L175	27	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L176	2	"20040156495".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L177	0	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and exchang$4 same message$4 same wireless	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L178	0	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and exchang$4 same message$4 and wireless	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L179	29	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and message$4 and wireless	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L180	2	"20040133642".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L181	29	synchron$9 same request$4 same parameter$4 same index$4 same value$4 same (ID or identifier)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L182	54	synchron$9 same request$4 same parameter$4 same index$4 same (ID or identifier)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L183	21	synchron$9 with request$4 same parameter$4 same index$4 same (ID or identifier)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L184	15	client same server same synchron$9 same parameter$4 same index$4 same (ID or identifier)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L185	45	wireless same synchron$9 same parameter$4 same index$4 same (ID or identifier)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L186	2	"7620001".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 414 of 469

L187	2	"20040133642".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L188	2	"20040203890".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L189	2	"5710884".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L190	4	"6701362".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L191	2	"20040122730".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L192	2	"20020073058".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L193	2	"20120020293".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L194	2	"20100095297".did.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 09:39
L198	0	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and H04L65/102.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2015/01/26 10:11
L199	0	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and H04L65/1013.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2015/01/26 10:11
L200	0	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice and H04L65/1036.cpc.	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2015/01/26 10:12
L205	3	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice and H04L12/66.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2015/01/26 10:13
L206	2	"8046420".pn.	US-PGPUB; USPAT;	ADJ	ON	2015/01/26 10:16

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 415 of 469

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L67	188	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:38
L68	1	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.07.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:38
L69	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:38
L70	5	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/412.1.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:38
L71	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/419.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:38
L72	10	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:38
L73	15	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:38
L74	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:38
L75	466	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:38
L76	27	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:38
L77	174	wireless same (gateway or router or	US-	ADJ	ON	2015/01/26

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 416 of 469

		intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and "455"/$4.ccls.	PGPUB; USPAT; UPAD			09:38
L78	98	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:38
L79	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:38
L80	75	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:38
L81	93	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:38
L82	47	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:38
L83	69	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same (IP or (internet adj protocol))	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:38
L84	7	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol))	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:38
L156	188	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:39
L157	1	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/201.07.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:39
L158	3	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "379"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:39
L159	5	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:39

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 417 of 469

		"455"/412.1.ccls.				
L160	6	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/419.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:39
L161	10	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:39
L162	15	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/433.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:39
L163	3	(legacy same network$4) and (DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (DMA adj server$4) and request$4 and (convert$4 or translat$4) same voice	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:39
L164	466	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:39
L165	27	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:39
L166	174	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and "455"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:39
L167	98	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) same (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:39
L168	6	(gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:39
L169	75	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "455"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:39
L170	93	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 and (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:39
L171	47	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6) and "370"/$4.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:39
L172	69	wireless same (gateway or router or	US-	ADJ	ON	2015/01/26

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 418 of 469

		intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same (IP or (internet adj protocol))	PGPUB; USPAT; UPAD			09:39
L173	7	wireless same (gateway or router or intermediat$4) same server$4 same (convert$4 or translat$4) same voice$4 same (basestation or (base adj station)) and (register$4 or registr$6)and rout$4 same privat$4 with(IP or (internet adj protocol))	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 09:39
L195	7	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6)	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 10:10
L196	3	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and H04L12/66.cpc.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 10:10
L197	0	(gateway or router or intermediat$4) same server$4 and (convert$4 or translat$4) same voice$4 and (distribut$4 adj mobile adj architecture$4) and (basestation or (base adj station)) and (register$4 or registr$6) and H04L65/102.cpc.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 10:11
L201	0	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice and H04L65/1036.cpc.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 10:12
L202	0	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice and H04W88/10.cpc.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 10:13
L203	0	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice and H04L65/1036.cpc.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 10:13
L204	3	(DMAG or (distribut$4 adj3 mobile adj2 architect$4 adj2 gateway)) and (server$4)and request$4 and (convert$4 or translat$4) same voice and H04L12/66.cpc.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/01/26 10:13

1/26/2015 10:16:50 AM
C:\Users\tnguyen39\Documents\EAST\Workspaces\13235021.wsp

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 419 of 469

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13235021	PAN, SHAOWEI
	Examiner	**Art Unit**
	THU HA NGUYEN	2453

CPC						
Symbol					**Type**	**Version**
H04W		76	/	022	F	2013-01-01
H04W		88	/	10	A	2013-01-01
H04W		88	/	16	A	2013-01-01
H04L		65	/	1036	A	2013-01-01
			/			
			/			
			/			
			/			
			/			
			/			
			/			
			/			
			/			
			/			
			/			

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

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 20	
/THU HA NGUYEN/ Primary Examiner.Art Unit 2453 (Primary Examiner)	03/15/15 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13235021	PAN, SHAOWEI
	Examiner	Art Unit
	THU HA NGUYEN	2453

US ORIGINAL CLASSIFICATION		INTERNATIONAL CLASSIFICATION	
CLASS	SUBCLASS	CLAIMED	NON-CLAIMED
709	218		

CROSS REFERENCE(S)					
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)				
709	212	217			
370	328				
455	433				

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	20	
/THU HA NGUYEN/ Primary Examiner.Art Unit 2453	03/15/15	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13235021	PAN, SHAOWEI
	Examiner	**Art Unit**
	THU HA NGUYEN	2453

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

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	17	17												
2	2	18	18												
3	3	19	19												
4	4	20	20												
5	5														
6	6														
7	7														
8	8														
9	9														
10	10														
11	11														
12	12														
13	13														
14	14														
15	15														
16	16														

NONE (Assistant Examiner) (Date)	**Total Claims Allowed:** 20	
/THU HA NGUYEN/ Primary Examiner.Art Unit 2453 03/15/15 (Primary Examiner) (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 422 of 469

PART B - FEE(S) TRANSMITTAL

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

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

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

60533 7590 07/31/2015
TOLER LAW GROUP
TOLER LAW GROUP
8500 BLUFFSTONE COVE
SUITE A201
AUSTIN, TX 78759

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

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

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/235,021	09/16/2011	Shaowei Pan	1082-0008-C1	2302

TITLE OF INVENTION: SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$480	$0	$0	$480	11/02/2015

EXAMINER	ART UNIT	CLASS-SUBCLASS
NGUYEN, THU HA T	2453	370-328000

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

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

1 Toler Law Group, P.C.
2
3

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

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

(A) NAME OF ASSIGNEE: Lemko Corporation

(B) RESIDENCE: (CITY and STATE OR COUNTRY): Itasca, Illinois

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

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

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☒ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 502469 (enclose an extra copy of this form).

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

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

Authorized Signature /Jason L. Moore/ Date 10-14-2015

Typed or printed name Jason L. Moore Registration No. 52,046

PTOL-85 Part B (10-13) Approved for use through 10/31/2013. OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 423 of 469

Electronic Patent Application Fee Transmittal

Application Number:	13235021
Filing Date:	16-Sep-2011
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Filer:	Jeffrey G. Toler/Laura Russo
Attorney Docket Number:	1082-0008-C1

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl Issue Fee	2501	1	480	480

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**480**

Electronic Acknowledgement Receipt	
EFS ID:	23784720
Application Number:	13235021
International Application Number:	
Confirmation Number:	2302
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Customer Number:	60533
Filer:	Jeffrey G. Toler/Laura Russo
Filer Authorized By:	Jeffrey G. Toler
Attorney Docket Number:	1082-0008-C1
Receipt Date:	14-OCT-2015
Filing Date:	16-SEP-2011
Time Stamp:	16:37:54
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$480
RAM confirmation Number	3335
Deposit Account	502469
Authorized User	TOLER, JEFFREY G
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	1082-0008-C1_IssueFeeTransmittal_10-14-15.pdf	999209 8baa16ff2716a62534733d8c18306b18ffd04b58	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30553 c862f2245f75b448e50b4321c9a2a4e37371c495	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1029762		

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

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

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

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY.DOCKET NO./TITLE	REQUEST ID
13/235,021	09/16/2011	Shaowei Pan	1082-0008-C1	5689

Acknowledgement of Loss of Entitlement to Entity Status Discount

The entity status change request below filed through Private PAIR on 10/14/2015 has been accepted.

CERTIFICATIONS:

Change of Entity Status:

X Applicant changing to regular undiscounted fee status.
NOTE: Checking this box will be taken to be notification of loss of entitlement to small or micro entity status, as applicable.

This portion must be completed by the signatory or signatories making the entity status change in accordance with 37 CFR 1.4(d)(4).

Signature:	/Jeffrey G. Toler/
Name:	Jeffrey G. Toler
Registration Number:	38342

Document code: WFEE

United States Patent and Trademark Office
Sales Receipt for Accounting Date: 10/16/2015

DTERRY ADJ #00000001 Mailroom Dt: 10/14/2015
Seq No: 3335 Sales Acctg Dt: 10/15/2015 502469 13235021
01 FC : 2501 480.00 CR

Document code: WFEE

United States Patent and Trademark Office
Sales Receipt for Accounting Date: 10/16/2015

DTERRY SALE #00000001 Mailroom Dt: 10/15/2015 502469 13235021
01 FC : 1501 960.00 DA

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)		
	Application Number	
	Filing Date	
	First Named Inventor	Shaowei Pan
	Art Unit	
	Examiner Name	
	Attorney Docket Number	1082-0008-C1

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	6122499		2000-09-19	Magnusson	
	2	6141564		2000-10-31	Bruner et al.	
	3	6411825	B1	2002-06-25	Csapo et al.	
	4	6421325	B1	2002-07-16	Kikinis	
	5	6515985	B2	2003-02-04	Shmulevich et al.	
Change(s) applied to document, /J.E/ 8/17/2015	6	6539237	B1	2003-03-25	Sayers et al.	
	7	6584098	B1	2003-06-24	Dutnall	
	8	6611533	B1	2003-08-26	Liao et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13235021
	Filing Date	2011-09-16
	First Named Inventor	SHAOWEI PAN
	Art Unit	2473
	Examiner Name	YAO, Kwang Bin
	Attorney Docket Number	1082-0008-C1

	20	7120435	B2	2006-10-10	USHER ET AL.	
	21	7313399	B2	2007-12-25	RHEE ET AL.	
	22	7324478	B2	2008-01-29	PARK ET AL.	
	23	7787879	B1	2010-08-31	PHILIPS ET AL.	
	24	7349412	B1	2008-03-25	JONES ET AL.	
	25	7328268	B1	2008-02-05	FOLTAK ET AL.	
	26	5933784		1999-08-03	GALLAGHER ET AL.	
	27	5991639		1999-11-23	RAUTIOLA ET AL.	
Change(s) applied to document, /J.E./ 8/17/2015	28	6160804		2000 ~~2002~~ 12-12	AHMED ET AL.	
	29	6542497	B1	2003-04-01	CURRY ET AL.	
	30	6697355	B1	2004-02-04	LIM	

EFS Web 2.1.17

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TN/

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/235,021	11/17/2015	9191980	1082-0008-C1	2302

60533 7590 10/28/2015

TOLER LAW GROUP
TOLER LAW GROUP
8500 BLUFFSTONE COVE
SUITE A201
AUSTIN, TX 78759

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

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

The Patent Term Adjustment is 383 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

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

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

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

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

Shaowei Pan, Kildeer, IL;

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

PTO/AIA/123 (08-12)
Approved for use through 01/31/2018. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

CHANGE OF CORRESPONDENCE ADDRESS
Patent

Address to:
Mail Stop Post Issue
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Patent Number	9,191,980
Issue Date	11/17/2015
Application Number	13/235,021
Filing Date	9/16/2011
First Named Inventor	Shaowei Pan
Attorney Docket Number	1082-0008-C1

Please change the Correspondence Address for the above-identified patent to:

☑ The address associated with Customer Number: 15346

OR

☐ **Firm *or* Individual Name**

Address

City | **State** | **ZIP**

Country

Telephone | **Email**

This form cannot be used to change the data associated with a Customer Number. To change the data associated with an existing Customer Number use "Request for Customer Number Data Change" (PTO/SB/124).

This form will not affect any "fee address" provided for the above-identified patent. To change a "fee address" use the "Fee Address Indication Form" (PTO/SB/47).

I am the:

☐ Patentee.

☐ If the Patentee was not the applicant for patent (37 CFR 1.42), then a Statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is enclosed or was filed on _____. See 37 CFR 3.71.

☑ Attorney or agent of record. Registration Number 38342.

☐ Patent practitioner acting in a representative capacity whose correspondence address is the correspondence address of record. Notice has been given to the patentee or owner. Registration Number 38342.

Signature

Typed or Printed Name Jeffrey G. Toler

Date 12/02/2015 | Telephone 512-327-5515

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☑ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop Post Issue, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/47 (03-09)
Approved for use through 03/31/2012. OMB 0651-0016
U.S. Patent and Trademark Office; U. S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

"FEE ADDRESS" INDICATION FORM

Address to:
Mail Stop M Correspondence
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

- OR -

Fax to:
571-273-6500

INSTRUCTIONS: The issue fee must have been paid for application(s) listed on this form. In addition, only an address represented by a Customer Number can be established as the fee address for maintenance fee purposes (hereafter, fee address). A fee address should be established when correspondence related to maintenance fees should be mailed to a different address than the correspondence address for the application. **When to check the first box below**: If you have a Customer Number to represent the fee address. **When to check the second box below**: If you have no Customer Number representing the desired fee address, in which case a completed Request for Customer Number (PTO/SB/125) must be attached to this form. For more information on Customer Numbers, see the Manual of Patent Examining Procedure (MPEP) § 403.

For the following listed application(s), please recognize as the "Fee Address" under the provisions of 37 CFR 1.363 the address associated with:

☑ Customer Number: 15346

OR

☐ The attached Request for Customer Number (PTO/SB/125) form.

PATENT NUMBER (if known)	APPLICATION NUMBER
9,191,980	13/235,021

Completed by (check one):

☐ Applicant/Inventor _____ Signature

☑ Attorney or Agent of record 38342 (Reg. No.) Jeffrey G. Toler Typed or printed name

☐ Assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96) 512-327-5515 Requester's telephone number

☐ Assignee recorded at Reel _____ Frame _____ 12/02/2015 Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more that one signature is required, see below*.

☑ * **Total of** 1 **forms are submitted.**

This collection of information is required by 37 CFR 1.363. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1. 11 and 1.14. This collection is estimated to take 5 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313- 1450. DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.
SEND TO: Mail Stop M Correspondence, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	24614125
Application Number:	13235021
International Application Number:	
Confirmation Number:	2302
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Customer Number:	60533
Filer:	Jeffrey G. Toler/Laura Russo
Filer Authorized By:	Jeffrey G. Toler
Attorney Docket Number:	1082-0008-C1
Receipt Date:	13-JAN-2016
Filing Date:	16-SEP-2011
Time Stamp:	16:43:45
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Change of Address	1082-0008-C1_Change_of_Correspondence_Address.pdf	230401 97f1e6c8622c4fcd32545cb4a689e0799f2e3446	no	2
Warnings:					
Information:					

2	Maintenance Fee Address Change	1082-0008-C1_Fee_Address_Indication_Form.pdf	312392 e10201a406407aab8938b874057e697013b81fa3	no	2

Warnings:	
Information:	
Total Files Size (in bytes):	542793

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

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

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

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/235,021	09/16/2011	Shaowei Pan	1082-0008-C1

CONFIRMATION NO. 2302

IMPROPER CFR REQUEST

60533
TOLER LAW GROUP
TOLER LAW GROUP
8500 BLUFFSTONE COVE
SUITE A201
AUSTIN, TX 78759



Date Mailed: 01/19/2016

RESPONSE TO REQUEST FOR CORRECTED FILING RECEIPT

Power of Attorney, Claims, Fees, System Limitations, and Miscellaneous

In response to your request for a corrected Filing Receipt, the Office is unable to comply with your request because:

- The change of correspondence address submitted on 01/13/2016 has not been entered because it was not properly signed.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/vnguyen/

PTO/AIA/123 (08-12)
Approved for use through 01/31/2018. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

CHANGE OF CORRESPONDENCE ADDRESS
Patent

Address to:
Mail Stop Post Issue
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Patent Number	9,191,980
Issue Date	11/17/2015
Application Number	13/235,021
Filing Date	9/16/2011
First Named Inventor	Shaowei Pan
Attorney Docket Number	1082-0008-C1

Please change the Correspondence Address for the above-identified patent to:

☑ The address associated with Customer Number: 15346

OR

☐ **Firm *or* Individual Name**

Address

City | **State** | **ZIP**

Country

Telephone | **Email**

This form cannot be used to change the data associated with a Customer Number. To change the data associated with an existing Customer Number use "Request for Customer Number Data Change" (PTO/SB/124).

This form will not affect any "fee address" provided for the above-identified patent. To change a "fee address" use the "Fee Address Indication Form" (PTO/SB/47).

I am the:

☐ Patentee.

☐ If the Patentee was not the applicant for patent (37 CFR 1.42), then a Statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is enclosed or was filed on _____. See 37 CFR 3.71.

☑ Attorney or agent of record. Registration Number 38342.

☐ Patent practitioner acting in a representative capacity whose correspondence address is the correspondence address of record. Notice has been given to the patentee or owner. Registration Number 38342.

Signature /Jeffrey G. Toler/

Typed or Printed Name Jeffrey G. Toler

Date 12/02/2015 | Telephone 512-327-5515

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☑ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop Post Issue, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/47 (03-09)
Approved for use through 03/31/2012. OMB 0651-0016
U.S. Patent and Trademark Office; U. S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

"FEE ADDRESS" INDICATION FORM

Address to:
Mail Stop M Correspondence
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

- OR -

Fax to:
571-273-6500

INSTRUCTIONS: The issue fee must have been paid for application(s) listed on this form. In addition, only an address represented by a Customer Number can be established as the fee address for maintenance fee purposes (hereafter, fee address). A fee address should be established when correspondence related to maintenance fees should be mailed to a different address than the correspondence address for the application. **When to check the first box below**: If you have a Customer Number to represent the fee address. **When to check the second box below**: If you have no Customer Number representing the desired fee address, in which case a completed Request for Customer Number (PTO/SB/125) must be attached to this form. For more information on Customer Numbers, see the Manual of Patent Examining Procedure (MPEP) § 403.

For the following listed application(s), please recognize as the "Fee Address" under the provisions of 37 CFR 1.363 the address associated with:

☑ Customer Number: 15346

OR

☐ The attached Request for Customer Number (PTO/SB/125) form.

PATENT NUMBER (if known)	APPLICATION NUMBER
9,191,980	13/235,021

Completed by (check one):

☐ Applicant/Inventor — /Jeffrey G. Toler/ (Signature)

☑ Attorney or Agent of record 38342 (Reg. No.) — Jeffrey G. Toler (Typed or printed name)

☐ Assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96) — 512-327-5515 (Requester's telephone number)

☐ Assignee recorded at Reel _____ Frame_____ — 12/02/2015 (Date)

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more that one signature is required, see below*.

☑ * **Total of** 1 **forms are submitted.**

This collection of information is required by 37 CFR 1.363. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1. 11 and 1.14. This collection is estimated to take 5 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313- 1450. DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.
SEND TO: Mail Stop M Correspondence, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	24688834
Application Number:	13235021
International Application Number:	
Confirmation Number:	2302
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Customer Number:	60533
Filer:	Jeffrey G. Toler/Laura Russo
Filer Authorized By:	Jeffrey G. Toler
Attorney Docket Number:	1082-0008-C1
Receipt Date:	21-JAN-2016
Filing Date:	16-SEP-2011
Time Stamp:	15:46:33
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Change of Address	1082-0008-C1_Change_of_Correspondence_Address.pdf	235670 b9ed9d994ae278865457a396fceaf29a0b00f101	no	2

Warnings:	
Information:	

2	Maintenance Fee Address Change	1082-0008-C1_Fee_Address_Indication_Form.pdf	313101 7017ec8797e1339c5f1fa434890331b98e7e9231	no	2

Warnings:	
Information:	
Total Files Size (in bytes):	548771

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

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

PETITION TO ACCEPT UNINTENTIONALLY DELAYED PAYMENT OF MAINTENANCE FEE IN AN EXPIRED PATENT (37 CFR 1.378(b))

Patent Number	Issue Date	Application Number	Filing Date	Docket Number (if applicable)
9191980	17-Nov-2015	13235021	16-Sep-2011	

CAUTION: Maintenance fee (and surcharge, if any) payment must correctly identify: (1) the patent number and (2) the application number of the actual U.S. application leading to issuance of that patent to ensure the fee(s) is/are associated with the correct patent. 37 CFR 1.366(c) and (d).

Applicants claims the following fee status:

- (●) Small Entity
- ( ) Micro Entity
- ( ) Regular Undiscounted

Applicants selects the following :

(●) 3 1/2	( ) 7 1/2	( ) 11 1/2

PETITION FEE
The petition fee required by 37 CFR 1.17(m) (Fee Code 1558/2558) must be paid as a condition of accepting unintentionally delayed payment of the maintenance fee.

MAINTENANCE FEE (37 CFR 1.20(e)-(g))
The appropriate maintenance fee must be submitted with this petition.

STATEMENT
THE UNDERSIGNED CERTIFIES THAT THE DELAY IN PAYMENT OF THE MAINTENANCE FEE TO THIS PATENT WAS UNINTENTIONAL

PETITIONER(S) REQUEST THAT THE DELAYED PAYMENT OF THE MAINTENANCE FEE BE ACCEPTED AND THE PATENT REINSTATED

THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES

37 CFR 1.378(c) states: "Any petition under this section must be signed in compliance with 37 CFR 1.33(b)."

I certify, in accordance with 37 CFR 1.4(d)(4) that I am

- ( ) An attorney or agent registered to practice before the Patent and Trademark Office who has been given power of attorney in this application.
- (●) An attorney or agent registered to practice before the Patent and Trademark Office
- ( ) A sole patentee
- ( ) A joint patentee; I certify that I am authorized to sign this submission on behalf of all the other patentees as evidenced by the power of attorney in the application
- ( ) A joint patentee; all of whom are signing this e-petition
- ( ) The assignee of record of the entire interest that qualifies as an authorized party under 37 CFR 1.33(b)

Patent Practitioner			
A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature			
Signature	/Philip Hof/		
Name	Philip Hof	Registration Number	72606

Electronic Patent Application Fee Transmittal

Application Number:	13235021
Filing Date:	16-Sep-2011
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Filer:	Dean D. Small/Philip Hof
Attorney Docket Number:	1082-0008-C1

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
MAINTENANCE FEE DUE AT 3.5 YEARS	2551	1	800	800
PET. DELAY PYMT MAINTAIN PATENT IN FORCE	2558	1	1000	1000
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**1800**

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

In re Patent No. 9191980
Issue Date: November 17,2015
Application No. 13235021
Filed: September 16,2011
Attorney Docket No. 1082-0008-C1

:
:DECISION GRANTING PETITION
:UNDER 37 CFR 1.378(b)
:

This is a decision on the electronic petition, filed May 27,2020 ,under 37 CFR 1.378(b) to accept the unintentionally delayed payment of the 3.5 year maintenance fee for the above-identified patent.

The petition is **GRANTED**.

The maintenance fee is accepted, and the above-identified patent reinstated as of May 27,2020 . This decision also constitutes notice that the fee has been accepted. An electronic copy of the petition and this decision has been created as an entry in the Image File Wrapper. Nevertheless, petitioner should print and retain an independent copy.

Telephone inquiries related to this electronic decision should be directed to the Electronic Business Center at 1-866-217-9197.

Electronic Acknowledgement Receipt	
EFS ID:	39550602
Application Number:	13235021
Patent Number:	9191980
Confirmation Number:	2302
Petition Issued Date:	May 27,2020
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Customer Number:	15346
Filer:	Dean D. Small/Philip Hof
Filer Authorized By:	Dean D. Small
Attorney Docket Number:	1082-0008-C1
Receipt Date:	27-MAY-2020
Filing Date:	16-SEP-2011
Time Stamp:	14:58:02
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1800
RAM confirmation Number	E20205QE59210715
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Petition automatically granted by EFS	petition-request.pdf	32590 26f174072066db04ead2f220db6436671ca c6864	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	31637 ca6b75e9c23415a4db0a7d6238e9a851c93 14704	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	64227		

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

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

DocuSign Envelope ID: 7896DB62-CEB0-46CB-B90E-FBE4930AE4F2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.:	(SEE TABLE)	Confirmation No.:	(SEE TABLE)
Patent No:	(SEE TABLE)	Group Art Unit:	N/A
Issue Date:	(SEE TABLE)	Customer No.:	171308

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

PATENT – REVOVATION OF POWER OF ATTORNEY WITH A NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS

Dear Commissioner:

LEMKO CORPORATION hereby revokes all previous powers of attorney given in the below-listed patents and in each patent file in which the present document is filed.

LEMKO CORPORATION hereby appoints Practitioner(s) associated with Customer Number **171308** as our attorney(s) or agent(s) with respect to the patents identified below, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please recognize or change the correspondence address for the below-identified patents to the address associated with the above-identified Customer Number.

I am the patent owner and an accompanying Statement under 37 C.F.R. 3.73(c) is filed contemporaneously herewith for each patent identified below.

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 454 of 469

DocuSign Envelope ID: 7896DB62-CEB0-46CB-B90E-FBE4930AE4F2

Patent No.	**Issue Date**	**App. No.**	**Confirmation**	**Assignment Recordation Reel/Frame No.**	**Title**
9515770	12/06/16	14/177119	1973	032187/0791	SYSTEM, METHOD, AND DEVICE TO CONTROL WIRELESS COMMUNICATIONS
8744435	06/03/14	13/670262	3432	029254/0167	MULTIPLE IMSI NUMBERS
9332478	05/03/16	13/648704	3818	029105/0936	System, Method, and Device for Routing Calls Using a Distributed Mobile Architecture
9198020	11/24/15	13/334753	1778	027435/0137	OAMP FOR DISTRIBUTED MOBILE ARCHITECTURE
9191980	11/17/15	13/235021	2302	026921/0782	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
8326286	01/04/12	13/113819	1332	026326/0626	MULTIPLE IMSI NUMBERS
8310990	11/13/12	12/942642	2064	025337/0066; 035620/0609	SYSTEM, METHOD, AND DEVICE FOR ROUTING CALLS USING A DISTRIBUTED MOBILE ARCHITECTURE

8359029	01/22/13	12/946012	9057	025360/0435	SYSTEM, METHOD, AND DEVICE FOR PROVIDING COMMUNICATIONS USING A DISTRIBUTED MOBILE ARCHITECTURE
7840230	11/23/10	12/471253	5521	022728/0890	COMMUNICATIONS USING A DISTRIBUTED MOBILE ARCHITECTURE
7979066	07/12/11	12/238269	1333	021588/0277	MULTIPLE IMSI CONNECTIONS
7855988	12/21/10	12/172639	5341	021234/0219; 035632/0948	SYSTEM, METHOD, AND DEVICE FOR ROUTING CALLS USING A DISTRIBUTED MOBILE ARCHITECTURE
8340667	01/25/12	12/146618	5489	021155/0968; 035621/0802	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
8046420	10/25/11	12/108209	1152	020846/0601	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
8224322	07/17/12	11/451238	4852	018029/0407; 018165/0034	ROAMING MOBILE SUBSCRIBER REGISTRATION IN A DISTRIBUTED MOBILE ARCHITECTURE

DocuSign Envelope ID: 7896DB62-CEB0-46CB-B90E-FBE4930AE4F2

7856233	12/21/10	11/393993	7919	017702/0684	SYSTEM, METHOD, AND DEVICE FOR PROVIDING COMMUNICATIONS USING A DISTRIBUTED MOBILE ARCHITECTURE

Respectfully submitted,

DocuSigned by:
Dr. Shaowei Pan
F77975C858434BF...

Shaowei Pan
Chief Technology Officer
LEMKO CORPORATION

DocuSign Envelope ID: 7896DB62-CEB0-46CB-B90E-FBE4930AE4F2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.:	(SEE TABLE)	Confirmation No.:	(SEE TABLE)
Patent No:	(SEE TABLE)	Group Art Unit:	N/A
Issue Date:	(SEE TABLE)	Customer No.:	171308

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

STATEMENT UNDER 37 C.F.R. 3.73(c) FOR LEMKO CORPORATION PATENTS

Dear Commissioner:

LEMKO CORPORATION states that, for the patents identified below, it is the ASSIGNEE of the entire right, title, and interest. Assignments from the inventor(s) of the patents identified below are recorded in the United States Patent and Trademark Office at the reel and frame numbers indicated:

Patent No.	Issue Date	App. No.	Confirmation	Assignment Recordation Reel/Frame No.	Title
9515770	12/06/16	14/177119	1973	032187/0791	SYSTEM, METHOD, AND DEVICE TO CONTROL WIRELESS COMMUNICATIONS
8744435	06/03/14	13/670262	3432	029254/0167	MULTIPLE IMSI NUMBERS

9332478	05/03/16	13/648704	3818	029105/0936	System, Method, and Device for Routing Calls Using a Distributed Mobile Architecture
9198020	11/24/15	13/334753	1778	027435/0137	OAMP FOR DISTRIBUTED MOBILE ARCHITECTURE
9191980	11/17/15	13/235021	2302	026921/0782	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
8326286	01/04/12	13/113819	1332	026326/0626	MULTIPLE IMSI NUMBERS
8310990	11/13/12	12/942642	2064	025337/0066; 035620/0609	SYSTEM, METHOD, AND DEVICE FOR ROUTING CALLS USING A DISTRIBUTED MOBILE ARCHITECTURE
8359029	01/22/13	12/946012	9057	025360/0435	SYSTEM, METHOD, AND DEVICE FOR PROVIDING COMMUNICATIONS USING A DISTRIBUTED MOBILE ARCHITECTURE
7840230	11/23/10	12/471253	5521	022728/0890	COMMUNICATIONS USING A DISTRIBUTED MOBILE ARCHITECTURE
7979066	07/12/11	12/238269	1333	021588/0277	MULTIPLE IMSI CONNECTIONS

7855988	12/21/10	12/172639	5341	021234/0219; 035632/0948	SYSTEM, METHOD, AND DEVICE FOR ROUTING CALLS USING A DISTRIBUTED MOBILE ARCHITECTURE
8340667	01/25/12	12/146618	5489	021155/0968; 035621/0802	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
8046420	10/25/11	12/108209	1152	020846/0601	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
8224322	07/17/12	11/451238	4852	018029/0407; 018165/0034	ROAMING MOBILE SUBSCRIBER REGISTRATION IN A DISTRIBUTED MOBILE ARCHITECTURE
7856233	12/21/10	11/393993	7919	017702/0684	SYSTEM, METHOD, AND DEVICE FOR PROVIDING COMMUNICATIONS USING A DISTRIBUTED MOBILE ARCHITECTURE

The undersigned, whose title is supplied below, is authorized to act on behalf of the assignee.

Respectfully submitted,

DocuSigned by:
/ Dr. Shaowei Pan /
F77975C858434BF...

Shaowei Pan
Chief Technology Officer
LEMKO CORPORATION

DATE: 10/1/2021

Electronic Acknowledgement Receipt

EFS ID:	44035533
Application Number:	13235021
International Application Number:	
Confirmation Number:	2302
Title of Invention:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS
First Named Inventor/Applicant Name:	Shaowei Pan
Customer Number:	15346
Filer:	Joseph T. Cygan
Filer Authorized By:	
Attorney Docket Number:	1082-0008-C1
Receipt Date:	14-OCT-2021
Filing Date:	16-SEP-2011
Time Stamp:	18:36:18
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter accompanying New/ Add'l Drawings	05_9191980_13235021_LEMKO_USA_POA_373_XMIT_14OCT2021.pdf	20932 f66c35afbe66f091f78cf86f2fcf56d46173aa5b	no	1

Warnings:

Information:					
2	Power of Attorney	LEMKO_PATENT_POWER_OF_ATTORNEY_01OCT2021.pdf	159745 4e0b6120ce386558104a6183833c0c2f7bee1611	no	4

Warnings:
The PDF file has been signed with a digital signature and the legal effect of the document will be based on the contents of the file not the digital signature.

Information:					
3	Assignee showing of ownership per 37 CFR 3.73	LEMKO_PATENT_STATEMENT_OF_OWNERSHIP_01OCT2021.pdf	161997 28d2547076f1c8deaf7ce65d00e3c6241efe3bdb	no	4

Warnings:
The PDF file has been signed with a digital signature and the legal effect of the document will be based on the contents of the file not the digital signature.

Information:	
Total Files Size (in bytes):	342674

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

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.:	13/235021	Confirmation No.: 2302	
Patent No:	9191980	Group Art Unit:	
Issue Date:	11/17/15	Customer No.:	
Title:	SYSTEM AND METHOD TO CONTROL WIRELESS COMMUNICATIONS		

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

TRANSMITTAL OF POWER OF ATTORNEY AND STATEMENT OF OWNERSHIP

Dear Commissioner:

A patent power of attorney and Statement Under 37 C.F.R. § 3.73(c) is hereby submitted for the above-identified patent.

Respectfully submitted,

/Joseph T. Cygan/
Joseph T. Cygan October 14, 2021
Registration No. 50,937
Telephone: (847) 973-5246, (ext. 100)

Please forward all correspondence to:
Cygan Law Offices, P.C.
2300 Barrington Road, Suite 400
Hoffman Estates, IL 60169

Microsoft - Exhibit 1002
Microsoft v. Lemko- IPR2023-00570
Page 464 of 469

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/235,021	09/16/2011	Shaowei Pan	2302

CONFIRMATION NO. 2302

171308
Lemko Corporation c/o Cygan Law Offices, P.C.
2300 Barrington Road
Suite 400
Hoffman Estates, IL 60169

POA ACCEPTANCE LETTER

OC000000129225839

Date Mailed: 10/21/2021

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 10/14/2021.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/cvorachack/

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/235,021	09/16/2011	Shaowei Pan	1082-0008-C1

CONFIRMATION NO. 2302

POWER OF ATTORNEY NOTICE

15346
Lemko Corporation
One Pierce Place
Suite 700
Itasca, IL 60143

OC000000129225831

Date Mailed: 10/21/2021

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 10/14/2021.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/cvorachack/

Organization _____ Bldg/Room _____
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
If Undeliverable Return in Ten Days

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

AN EQUAL OPPORTUNITY EMPLOYER

U.S. POSTAGE PITNEY BOWES
ZIP 22206 $ 000.53⁰
02 4W
0000355069 OCT 21 2021

RECEIVED
NOV 01 2021
USPTO MAIL CENTER

AD601

NIXIE 601 FE 1 0010/26/21
RETURN TO SENDER
NOT DELIVERABLE AS ADDRESSED
UNABLE TO FORWARD

BC: 22313145050 *0117-00011-21-41

22313>1450
8014038606 0009

OPAP
NOV 01 2021
PATENT & TRADEMARK OFFICE

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/235,021	09/16/2011	Shaowei Pan	1082-0008-C1

CONFIRMATION NO. 2302

15346
Lemko Corporation
One Pierce Place
Suite 700
Itasca, IL 60143

POWER OF ATTORNEY NOTICE

OC000000129225831

Date Mailed: 10/21/2021

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 10/14/2021.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/cvorachack/

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY.DOCKET NO./TITLE	REQUEST ID
13/235,021	09/16/2011	Shaowei Pan	2302	151496

Acknowledgement of Loss of Entitlement to Entity Status Discount

The entity status change request below filed through Private PAIR on 11/02/2021 has been accepted.

CERTIFICATIONS:

Change of Entity Status:

X Applicant changing to regular undiscounted fee status.

NOTE: Checking this box will be taken to be notification of loss of entitlement to small or micro entity status, as applicable.

This portion must be completed by the signatory or signatories making the entity status change in accordance with 37 CFR 1.4(d)(4).

Signature:	/Joseph T. Cygan/
Name:	Joseph T. Cygan
Registration Number:	50937