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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/240,776	09/22/2011	Vasudevan Ganesan	HAVA-00401	7797

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HAVERSTOCK & OWENS LLP
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SUNNYVALE, CA 94086

EXAMINER

KASRAIAN, ALLAHYAR

ART UNIT	PAPER NUMBER
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2642

MAIL DATE	DELIVERY MODE
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11/05/2012

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. 13/240,776	Applicant(s) GANESAN, VASUDEVAN	
	Examiner ALLAHYAR KASRAIAN	Art Unit 2642	

-- 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 08 June 2012.
- 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) 1-18 and 38 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 - 5a) Of the above claim(s) _____ is/are withdrawn from consideration.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) 1-10, 12-18 and 38 is/are rejected.
- 8) Claim(s) 11 is/are objected to.
- 9) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 10) The specification is objected to by the Examiner.
- 11) The drawing(s) filed on 22 September 2011 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).
- 12) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 - 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) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

Examiner and Art Unit- Location

1. The Examiner and Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Examiner Allahyar Kasraian and Art Unit 2642.

Remarks

2. The present Office Action is based upon the Applicant's amendment filed on June 08, 2012. **Claims 1-18 and 38** are now pending in the present application.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the feature of **claims 14-18 and 38** must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. **Claims 2, 4, 6, 11, 14 and 38** are objected to because of the following informalities:

- a) On **line 2** of **claim 2**, the acronym word, "WiFi" should be presented for what it stands for;
- b) On **line 2** of **claim 4**, the acronym word, "VOIP" should be presented for what it stands for;
- c) On **line 2** of **claim 6**, the acronym word, "VOIP" should be presented for what it stands for;
- d) On **line 2** of **claim 11**, replace "router" with --routing-- before "association";
- e) On **line 2** of **claim 14**, the acronym word, "WiFi" should be presented for what it stands for;
- f) On **line 11** of **claim 38**, replace "a" with --an-- before "Internet";

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claim 15 and 17** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. **Claim 15** recites the limitation "the mobile switching center" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim. (Note: independent claim 14 is related roaming a mobile communication device between multiple WiFi coverage area. There is nothing regarding a cellular network with a mobile switching center in claim 14).

B. **Claim 17** is vague and indefinite because it recites, "routing a termination communication intended for the mobile communication device from the mobile switching center to the interface server according to the routing association, and routing the termination communication from the interface server to the mobile communication device over the communication path." However, it is unclear why the termination communication from the mobile switching center to the interface server happens since the independent claim 14 is related roaming a mobile communication device between multiple WiFi coverage area, and there is nothing regarding a cellular network and connection to a mobile switching center indicated in claim 14 (or claims 16 and 17).

Claim Rejections - 35 USC § 102

7. 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:

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A person shall be entitled to a patent unless – (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

A. **Claims 1-10, 12 and 13** are rejected under 35 U.S.C. 102(e) as being anticipated by **Ibe et al. (US Patent # 8041360 B2)** (hereinafter Ibe).

Consider **claim 1**, Ibe discloses a method of providing communications for a mobile communication device that roams between multiple different types of wireless networks, the method comprising:

- a. establishing a first communication link between the mobile communication device and an end destination device, wherein the first communication link includes a first wireless communication link between the mobile communication device and a first type of wireless network (FIG. 2, col. 3, lines 32-36, for a dual mode mobile device originates a call (the claimed first communication link includes a first wireless communication link) within a WLAN (the claimed first type of wireless network) to other party);
- b. monitoring a signal strength of the first wireless communication link (col. 3, lines 32-47, for monitoring signal quality by measuring SNR);
- c. when the signal strength drops below a predetermined threshold (col. 3, lines 32-47, for when the SNR reaches some threshold value d), notifying an interface server with the mobile communication device and establishing a second communication link between the interface server and the end destination device (col. 3, lines 48-51 for sending a HandoffRequest message to cellular proxy

(claimed interface server), and FIG. 2, col. 3, line 55 to col. 4, line 12 for forwarding the call to mobile device over a new connection established via the cellular network);

d. notifying the mobile communication device to terminate transmission over the first communication link (FIG. 2, col. 3 line 55 to col. 4 line 12 for commands the mobile station to switch its radio to the cellular network); and

e. re-directing the second communication link from the interface server to the mobile communication device, thereby establishing a second wireless communication link between the mobile communication device and the second type of wireless network (FIG. 2, col. 3 line 55 to col. 4 line 12, for forwarding the call to mobile device over a new connection established via the cellular network; Note: the second communication link is considered as the link where the call is connected through a radio link (the claimed second wireless communication link) through the cellular network).

Consider **claim 2 as applied to claim 1 above**, and lbe further discloses wherein the first type of wireless communication link comprises a WiFi communication link, and the first type of wireless network includes a WiFi network access point (FIG. 1 col. 3, lines 7-31, for WLAN connection and access point; note that Wi-Fi is defined as any WLAN products that are based on IEEE 802.11 standard).

Consider **claim 3 as applied to claim 2 above**, and lbe further discloses wherein the second type of wireless network includes a wireless cellular network (FIG.

1, col. 3, line 55 to col. 4, line 12, for forwarding the call to mobile device over a new connection established via the cellular network).

Consider **claim 4 as applied to claim 1 above**, and lbe further discloses wherein establishing the first communication link includes routing through a VOIP network (FIG. 1, col. 2, lines 16-29 for the cellular proxy also provides the VoIP interface between the enterprise LAN and the PBX).

Consider **claim 5 as applied to claim 1 above**, and lbe further discloses wherein establishing the first communication link includes routing through a cellular network (FIG. 3, col. 4 lines 13-26 for the situation when the other party is located in the cellular carrier network).

Consider **claim 6 as applied to claim 1 above**, and lbe further discloses wherein establishing the second communication link includes routing through a VOIP network (FIGS. 1 and 2, with consideration of the teachings of: col. 2, lines 16-29 for the cellular proxy also provides the VoIP interface between the enterprise LAN and the PBX; and col. 3 line 55 to col. 4 line 12 for the situation when the other party is located in the PSTN).

Consider **claim 7 as applied to claim 1 above**, and lbe further discloses wherein establishing the second communication link includes routing through a cellular network (FIG. 1, col. 3, line 55 to col. 4, line 12, for forwarding the call to mobile device over a new connection established via the cellular network).

Consider **claim 8 as applied to claim 1 above**, and lbe further discloses the method further comprising providing a connectivity status by the mobile communication device to the interface server while the mobile communication device is within a first coverage area of the first type of wireless network (col. 3, lines 48-51 for when a mobile device experiences SNR measurement value of r , it sends a Handoff Request message to the Cellular Proxy via the TCP connection that exists between the two devices).

Consider **claim 9 as applied to claim 8 above**, and lbe further discloses providing a routing association to a mobile switching center within the second type of wireless network, wherein the routing association associates the mobile communication device to the interface server (col. 3, line 55 to col. 4, line 12, for receiving parameters of the call (claimed routing association) from the cellular network (with an inherent MSC) the Cellular Proxy will forward the parameters to the mobile device; or FIG. 5, col. 4 line 28 to col. 5 line 11 for sending SMS message 512 (claimed routing association) to the cellular base station (connected to its inherent MSC) and it is routed the cellular Proxy by SMS message 514).

Consider **claim 10 as applied to claim 9 above**, and lbe further discloses routing a termination communication intended for the mobile communication device from the mobile switching center to the interface server according to the routing association when the connectivity status is active, and routing the termination communication from the interface server to the mobile communication device over the

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first type of wireless network (col. 3, line 55 to col. 4, line 12, for the Cellular Proxy closing the TCP connection).

Consider **claim 12 as applied to claim 1 above**, and lbe further discloses registering the mobile communication device with a mobile switching center within the second type of wireless network when the signal strength drops below the predetermined threshold (col. 3, line 55 to col. 4, line 12 for forwarding the call to mobile device over a new connection (claimed registering) established via the cellular network with an inherent MSC).

Consider **claim 13 as applied to claim 12 above**, and lbe further discloses setting up the second communication link with the end destination device and forwarding the second communication link to the interface server (FIG. 1, col. 3, line 55 to col. 4, line 12, for forwarding the call to mobile device over a new connection established via the cellular network through Cellular Proxy).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 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.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

A. **Claims 14 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Rue (US Patent Application Publication # 20030185172 A1)** in view of **Wang (US Patent Application Publication # 20040114559 A1)**.

Consider **claim 14**, Rue discloses a method of providing communications for a mobile communication device that roams between multiple WiFi coverage areas (FIGS. 1 and 3, par. [0010] for a mobile node moving between the WLAN areas), the method comprising:

- a. associating the mobile communication device with a nomadic server, wherein the nomadic server is coupled to one or more WiFi access points (FIG. 2, par. [0029] and [0030] for MAS 104 receiving access request from mobile node 101);
- b. establishing a first WiFi communication link between the mobile communication device and a first WiFi access point (par. [0029] for *performing communication* through the first access point 102 after receiving Access_Res and Association_Res);
- c. registering the mobile communication device with the nomadic server [including providing an IP address of the first WiFi access point to the nomadic server] (par. [0029] for MAS confirming the location move based on received Assocaion_Req and Access_Req);

- d. configuring a communication path to the mobile communication device via the nomadic server according to [the IP address of the first WiFi access point and] the first WiFi communication link (par. [0029] for MAS confirming the location move based on received Associaion_Req, Access_Req, Access_Res and Association_Res; Note: it is inherently taught and well-known that the a communication link is set up based on the identification of a mobile station and the identification of an access point (or mobile station));
- e. detecting movement of the mobile communication device into a coverage area of a second WiFi access point (par. [0030] for when the mobile node moves to the second access point 103 and detecting the signal intensity of the first access point has been weakened);
- f. registering the mobile communication device with the nomadic server [including an IP address of the second WiFi access point] (par. [0030] for sending Reassociation_Req and Handover_Req to MAS 104, and sending back Reassociation_Res to the mobile node 101 to notify that the handover has been completed);
- g. establishing a second WiFi communication link between the mobile communication device and the second WiFi access point (par. [0030] for the mobile node 101 can *perform communication* through the second access point 103); and
- h. re-configuring the communication path according to [the IP address of the second WiFi access point and] the second WiFi communication link (par. [0030]

for the mobile node 101 can perform communication through the second access point 103; Note: it is inherently taught and well-known that the a communication link is set up based on the identification of a mobile station and the identification of an access point (or mobile station));

wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold (par. [0030] for the mobile node 101 concludes that the signal intensity of the first access point has been weakened and notifying MAS 104 by sending Reassociation_Req and Handover_Req).

However, Rue may fail to explicitly disclose providing an IP address of the first WiFi access point and an IP address of the second WiFi access point to the nomadic server.

In the same field of endeavor, Wang discloses providing an IP address of the first WiFi access point and an IP address of the second WiFi access point to the nomadic server (FIGS. 2, 4 and 5, par. [0044] and [0045] for an IP address of the sending access point (e.g. claimed second access point) and the IP address of the target access point (e.g. the first access point) with consideration of FA, HA or DHCP as the claimed nomadic server).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the IP addresses of access points as taught by Wang to registration with an access point (when a mobile stations moves the coverage area of one access point to a new access point) as disclosed by Rue for purpose of

including the IP addresses of the access points during the accessing or registration process.

Consider **claim 18**, Rue as modified by Wang discloses the claimed invention **as applied to claim 14 above**, and Rue further discloses wherein registering the mobile communication device with the nomadic server provides a connectivity status of the mobile communication device while the mobile communication device is within a specific coverage area of a specific WiFi access point (par. [0030] for when the mobile node moves to the second access point 103 and detecting the signal intensity of the first access point has been weakened, and sending Reassociation_Req and Handover_Req to MAS 104, and sending back Reassociation_Res to the mobile node 101 to notify that the handover has been completed).

B. **Claims 15-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rue in view of Wang and further in view of **Kallio (US Patent Application Publication # 20020147008 A1)**.

Consider **claim 15 as applied to claim 14 above**, Rue as modified by Wang discloses the claimed invention except disclosing associating the mobile communication device to the nomadic server at the mobile switching center.

In the same field of endeavor, Kallio discloses associating the mobile communication device to the nomadic server at the mobile switching center (FIG. 1, par. [0011] and [0015] for sending measurement reports to the WMC (the nomadic server) of the wireless LAN, where the handover algorithm generates a handover request to the

Mobile Switching Center (MSC), via the Wireless Mobile Center (WMC) of the wireless LAN).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a Mobile Switching Center with a Wireless Mobile Center for reporting a handover request as taught by Kallio to the mobile access server (MAS) for managing roaming or handover of a mobile device between different access points of WLAN network(s) as disclosed by Rue as modified by Wang for purpose of updating location of the mobile device at the MSC.

Consider **claim 16 as applied to claim 14 above**, Rue as modified by Wang discloses the claimed invention except providing a routing association to a mobile switching center within a cellular network, wherein the routing association associates the mobile communication device to the interface server.

In the same field of endeavor, Kallio discloses providing a routing association to a mobile switching center within a cellular network, wherein the routing association associates the mobile communication device to the interface server (FIG. 1, par. [0011] and [0015] for sending measurement reports to the WMC (the nomadic server) of the wireless LAN, where the handover algorithm generates a handover request to the Mobile Switching Center (MSC), via the Wireless Mobile Center (WMC) of the wireless LAN).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a Mobile Switching Center with a Wireless Mobile Center for reporting a handover request as taught by Kallio to the

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mobile access server (MAS) for managing roaming or handover of a mobile device between different access points of WLAN network(s) as disclosed by Rue as modified by Wang for purpose of updating location of the mobile device at the MSC.

C. **Claim 38** is rejected under 35 U.S.C. 103(a) as being unpatentable over

McCormick et al. (US Patent Application Publication # 20040203802 A1)

(hereinafter McCormick) in view of Ibe.

Consider **claim 38**, McCormick discloses a method of providing communications between mobile communication devices (FIGS. 1 and 2, par. [0018] and [0019] for call process between calling party 101 and calling party 101'), the method comprising:

- a. routing a communication over a first communication link between a first mobile communication device and a first cellular base station, wherein the communication is directed from the first mobile communication device to a second communication device (FIGS. 1 and 2, par. [0019] for connection between calling party 101 and base station 133 when calling party initiates a call for calling party 101');
- b. routing the communication over a second communication link between the first cellular base station and a first controller device (FIGS. 1 and 2, par. [0019] for the call route or connection between the base station 133 and RNC 132);
- c. routing the communication over a third communication link between the first controller device and a second controller device, wherein the third communication link comprises a Internet Protocol network (FIGS. 1 and 2, par. [0020] for if the routing of the call is over a Voice over IP connection, at step 208

inserting a parameter into the IP trunk routing message and the Gateway GPRS Support Node (GGSN) 106B extends the call connection to the IP Network 107, between RNC 132 and RNC 142);

d. routing the communication over a fourth communication link between the second controller device and a second cellular base station (FIGS. 1 and 2, par. [0014], [0019] and [0020] for the link between RNC 142 and base station 144);
and

e. routing the communication over a fifth communication link between the second cellular base station and the second communication device (FIGS. 1 and 2, par. [0019] and [0020] for completing the call, from base station 144 to the called party device 101').

McCormick further discloses the first communication link falls below a threshold (FIG. 1, par. [0015] and [0016] for the radio unit in the wireless subscriber device 101 re-tunes the transmitter-receiver equipment contained therein to use these designated radio frequencies and orthogonal coding. Once the communication connection is established, the control messages are typically transmitted to adjust transmitter power and change the transmission channel when required to handoff this wireless subscriber device 101 to an adjacent cell, when the subscriber moves from the present cell to one of the adjoining cells (i.e. the radio link 111 falls below a threshold)).

However, McCormick may fail to explicitly disclose wherein the mobile communication device notifies an interface server if the first communication link falls below a threshold.

In the same field of endeavor, lbe discloses the mobile communication device notifies an interface server if the first communication link falls below a threshold (col. 3 lines 32-54 for when a mobile device moves closer to the edge of a cell (of a network), it monitors SNR. If the SNR drops to a threshold d, then the mobile device sends Handoff request message to a Cellular Proxy (claimed interface server) connected to cellular network).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate sending a Handoff Request message to a Cellular Proxy when a mobile device moves and determines the SNR drops to a threshold level as taught by lbe to the method of call routing when a device is handing off from one base station to an adjacent base station as disclosed by McCormick for purpose of requesting a handoff to an device for managing handoff and routing the calls.

Allowable Subject Matter

9. **Claim 11** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. **Claim 17** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

11. Applicant's arguments, see pages 6 to 10 of the Applicant's remarks, filed 06/08/2012, with respect to the rejection(s) of claim(s) 1-18 and 38 under U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of new prior arts as indicated above.

Conclusion

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

- a. Jiang et al. (U.S. Patent # 7254119 B2) disclose Interworking mechanism between CDMA2000 and WLAN.
- b. Chiou et al. (U.S. Patent # 6473413 B1) disclose Method for inter-IP-domain roaming across wireless networks.
- c. Hicks, III et al. (U.S. Patent Application Publication # 20100074228 A1) disclose COMMUNICATION ENVIRONMENT SWITCHOVER.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALLAHYAR KASRAIAN whose telephone number is (571)270-1772. The examiner can normally be reached on Monday through Friday 8:00 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. The fax phone

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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.

/Allahyar Kasraian/
Examiner, Art Unit 2642

Notice of References Cited	Application/Control No. 13/240,776	Applicant(s)/Patent Under Reexamination GANESAN, VASUDEVAN	
	Examiner ALLAHYAR KASRAIAN	Art Unit 2642	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-8,041,360 B2	10-2011	Ibe et al.	455/448
*	B US-7,254,119 B2	08-2007	Jiang et al.	370/328
*	C US-6,473,413 B1	10-2002	Chiou et al.	370/331
*	D US-2003/0185172 A1	10-2003	Rue, Seon-Soo	370/331
*	E US-2004/0114559 A1	06-2004	Wang, Huizhao	370/338
*	F US-2002/0147008 A1	10-2002	Kallio, Janne	455/426
*	G US-2004/0203802 A1	10-2004	McCormick et al.	455/445
*	H US-2010/0074228 A1	03-2010	Hicks et al.	370/332
	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

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	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. 13240776	Applicant(s)/Patent Under Reexamination GANESAN, VASUDEVAN
	Examiner ALLAHYAR KASRAIAN	Art Unit 2642

✓	Rejected
=	Allowed


-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

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

CLAIM		DATE							
Final	Original	02/29/2012	10/27/2012						
	1	✓	✓						
	2	✓	✓						
	3	✓	✓						
	4	✓	✓						
	5	✓	✓						
	6	✓	✓						
	7	✓	✓						
	8	✓	✓						
	9	✓	✓						
	10	✓	✓						
	11	✓	✓						
	12	✓	✓						
	13	✓	✓						
	14	✓	✓						
	15	✓	✓						
	16	✓	✓						
	17	✓	✓						
	18	✓	✓						
	19	-	-						
	20	-	-						
	21	-	-						
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	26	-	-						
	27	-	-						
	28	-	-						
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	31	-	-						
	32	-	-						
	33	-	-						
	34	-	-						
	35	-	-						
	36	-	-						

<i>Index of Claims</i> 	Application/Control No. 13240776	Applicant(s)/Patent Under Reexamination GANESAN, VASUDEVAN
	Examiner ALLAHYAR KASRAIAN	Art Unit 2642

✓	Rejected
=	Allowed

-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant		<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47			
CLAIM		DATE							
Final	Original	02/29/2012	10/27/2012						
	37	-	-						
	38	✓	✓						

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	Group Art Unit: 2642
Vasudevan Ganesan	)	Examiner: Kasraian, Allahyar
Serial No.: 13/240,776)	
Filed: September 22, 2011	)	AMENDMENT AND RESPONSE TO
	)	OFFICE ACTION MAILED
	)	November 5, 2012
For: MOBILE TELEPHONE)	
VOIP/CELLULAR SEAMLESS	)	162 N. Wolfe Rd.
ROAMING SWITCHING	)	Sunnyvale, CA 94086
CONTROLLER	)	(408) 530-9700
_____	)	Customer No. 28960

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

AMENDMENT

Amendments to the Drawings begin on page 2 of this paper.
Amendments to the Specification begin on page 3 of this paper.
Amendments to the Claims are reflected in the listing of claims which begins on page 5 of this paper.
Remarks/Arguments begin on page 10 of this paper.

Amendments to the Drawings:

New sheets and replacement sheets have been filed herewith adding Figure 3 and 4 to the Drawings and renumbering Figures 1 and 2.

Amendments to the Specification:

Please insert the paragraphs below at page 8, line 12 of the Specification:

Figure 3 illustrates a method of providing communications for a mobile communication device that roams between multiple WiFi coverage areas according to some embodiments.

Figure 4 illustrates a method of providing communications between mobile communication devices according to some embodiments.

Please insert the paragraphs below between lines 17 and 18 of page 21 of the Specification:

Figure 3 illustrates a method of providing communications for a mobile communication device that roams between multiple WiFi coverage areas according to some embodiments. As shown in Figure 3, the mobile communication device is associated with a nomadic server, wherein the nomadic server is coupled to one or more WiFi access points at the step 302. A first WiFi communication link is established between the mobile communication device and a first WiFi access point at the step 304. The mobile communication device is registered with the nomadic server including providing an IP address of the first WiFi access point to the nomadic server at the step 306. A communication path to the mobile communication device is configured via the nomadic server according to the IP address of the first WiFi access point and the first WiFi communication link at the step 308. Movement of the mobile communication device into a coverage area of a second WiFi access point is detected at the step 310. The mobile communication device is registered with the nomadic server including an IP address of the second WiFi access point at the step 312. A second WiFi communication link is established between the mobile communication device and the second WiFi access point at the step 314. The communication path is re-configured according to the IP address of the second WiFi access point and the second WiFi communication link at the step 316. The mobile communication device notifies the nomadic server if the first communication link falls below a threshold at the step 318. The mobile communication device is associated with the nomadic server at the mobile switching center at the step 320. A routing association is provided to a mobile switching center within a cellular network, wherein the routing association associates the mobile communication device to the interface server at the step 322. A termination communication intended for the mobile communication device from the mobile switching center is routed to the interface server

according to the routing association, and routing the termination communication from the interface server to the mobile communication device over the communication path at the step 324. Providing a connectivity status of the mobile communication device while the mobile communication device is within a specific coverage area of a specific WiFi access point by registering the mobile communication device with the nomadic server at the step 326.

Figure 4 illustrates a method of providing communications between mobile communication devices according to some embodiments. As shown in Figure 4, a communication is routed over a first communication link between a first mobile communication device and a first cellular base station, wherein the communication is directed from the first mobile communication device to a second communication device at the step 402. The communication is routed over a second communication link between the first cellular base station and a first controller device at the step 404. The communication is routed over a third communication link between the first controller device and a second controller device, wherein the third communication link comprises a Internet Protocol network at the step 406. The communication is routed over a fourth communication link between the second controller device and a second cellular base station at the step 408. The communication is routed over a fifth communication link between the second cellular base station and the second communication device at the step 410. The mobile communication device notifies an interface server if the first communication link falls below a threshold at the step 412.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (previously presented) A method of providing communications for a mobile communication device that roams between multiple different types of wireless networks, the method comprising:
 - a. establishing a first communication link between the mobile communication device and an end destination device, wherein the first communication link includes a first wireless communication link between the mobile communication device and a first type of wireless network;
 - b. monitoring a signal strength of the first wireless communication link;
 - c. when the signal strength drops below a predetermined threshold, notifying an interface server with the mobile communication device and establishing a second communication link between the interface server and the end destination device;
 - d. notifying the mobile communication device to terminate transmission over the first communication link; and
 - e. re-directing the second communication link from the interface server to the mobile communication device, thereby establishing a second wireless communication link between the mobile communication device and the second type of wireless network.

2. (currently amended) The method of claim 1 wherein the first type of wireless communication link comprises a ~~WiFi~~ IEEE 802.11 standard based communication link, and the first type of wireless network includes a ~~WiFi~~ IEEE 802.11 standard based network access point.

3. (original) The method of claim 2 wherein the second type of wireless network includes a wireless cellular network.

4. (currently amended) The method of claim 1 wherein establishing the first communication link includes routing through a ~~VOIP~~ voice over internet protocol network.

5. (original) The method of claim 1 wherein establishing the first communication link includes routing through a cellular network.
6. (currently amended) The method of claim 1 wherein establishing the second communication link includes routing through a ~~VOP~~ voice over internet protocol network.
7. (original) The method of claim 1 wherein establishing the second communication link includes routing through a cellular network.
8. (original) The method of claim 1 further comprising providing a connectivity status by the mobile communication device to the interface server while the mobile communication device is within a first coverage area of the first type of wireless network.
9. (original) The method of claim 8 further comprising providing a routing association to a mobile switching center within the second type of wireless network, wherein the routing association associates the mobile communication device to the interface server.
10. (original) The method of claim 9 further comprising routing a termination communication intended for the mobile communication device from the mobile switching center to the interface server according to the routing association when the connectivity status is active, and routing the termination communication from the interface server to the mobile communication device over the first type of wireless network.
11. (currently amended) The method of claim 10 further comprising when the connectivity status is not provided to the interface server, the ~~router~~ routing association is removed from the mobile switching center.
12. (original) The method of claim 1 further comprising registering the mobile communication device with a mobile switching center within the second type of wireless network when the signal strength drops below the predetermined threshold.

13. (original) The method of claim 12 further comprising setting up the second communication link with the end destination device and forwarding the second communication link to the interface server.

14. (currently amended) A method of providing communications for a mobile communication device that roams between multiple ~~WiFi~~ IEEE 802.11 standard based coverage areas, the method comprising:
 - a. associating the mobile communication device with a nomadic server, wherein the nomadic server is coupled to one or more ~~WiFi~~ IEEE 802.11 standard based access points;
 - b. establishing a first ~~WiFi~~ IEEE 802.11 standard based communication link between the mobile communication device and a first ~~WiFi~~ IEEE 802.11 standard based access point;
 - c. registering the mobile communication device with the nomadic server including providing an IP address of the first ~~WiFi~~ IEEE 802.11 standard based access point to the nomadic server;
 - d. configuring a communication path to the mobile communication device via the nomadic server according to the IP address of the first ~~WiFi~~ IEEE 802.11 standard based access point and the first ~~WiFi~~ IEEE 802.11 standard based communication link;
 - e. detecting movement of the mobile communication device into a coverage area of a second ~~WiFi~~ IEEE 802.11 standard based access point;
 - f. registering the mobile communication device with the nomadic server including an IP address of the second ~~WiFi~~ IEEE 802.11 standard based access point;
 - g. establishing a second ~~WiFi~~ IEEE 802.11 standard based communication link between the mobile communication device and the second ~~WiFi~~ IEEE 802.11 standard based access point; and
 - h. re-configuring the communication path according to the IP address of the second ~~WiFi~~ IEEE 802.11 standard based access point and the second ~~WiFi~~ IEEE 802.11 standard based communication link;

wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold.

15. (currently amended) The method of claim 14 further comprising associating the mobile communication device to the nomadic server at ~~the~~ a mobile switching center.
16. (original) The method of claim 14 further comprising providing a routing association to a mobile switching center within a cellular network, wherein the routing association associates the mobile communication device to the interface server.
17. (currently amended) The method of claim 16 further comprising routing a ~~termination~~ communication, from an end destination device and intended for the mobile communication device, from the mobile switching center to the interface server according to the routing association, and routing the ~~termination~~ communication from the interface server to the mobile communication device over the communication path.
18. (original) The method of claim 14 wherein registering the mobile communication device with the nomadic server provides a connectivity status of the mobile communication device while the mobile communication device is within a specific coverage area of a specific WiFi access point.

Claims 19-37 (canceled).

38. (currently amended) A method of providing communications between mobile communication devices, the method comprising:
 - a. routing a communication over a first communication link between a first mobile communication device and a first cellular base station, wherein the communication is directed from the first mobile communication device to a second communication device;
 - b. routing the communication over a second communication link between the first cellular base station and a first controller device;
 - c. routing the communication over a third communication link between the first controller device and a second controller device, wherein the third communication link comprises an Internet Protocol network;
 - d. routing the communication over a fourth communication link between the second controller device and a second cellular base station; and

- e. routing the communication over a fifth communication link between the second cellular base station and the second communication device;

wherein the mobile communication device notifies an interface server if the first communication link falls below a threshold and further wherein the first controller device and the second controller device are not directly coupled to the first cellular base station and the second cellular base station.

REMARKS

The Applicant respectfully requests further examination and consideration of the claims in view of the above amendments and the arguments set forth fully below. Claims 1-18 and 38 were pending in this application. Within the Office Action, Claims 1-10, 12-18 and 38 have been rejected and Claim 11 has been objected to. By the above amendments, Claims 2, 4, 6, 11, 14, 15, 17 and 38 have been amended. Accordingly, Claims 1-18 and 38 are now pending.

Objections to Drawings

Within the Office Action, the Drawings have been objected to under 37 CFR 1.83(a) because they do not show every feature of the invention specified in method claims 14-18 and 38. By the above amendments, new sheets have been added to the Drawings including new Figures 3 and 4 illustrating the features of Claims 14-18 and 38. These new figures are supported within the Present Specification at least at page 5, line 17 to page 6, line 13, page 15, lines 1-18 and page 20, line 24 to page 21, line 17. Accordingly, no new matter has been added.

Amendments to the Specification

By the above amendments, the Present Specification has been amended to reference the steps of the newly added Figures 3 and 4. Support for these amendments is found within the Present Specification at least at page 5, line 17 to page 6, line 13, page 15, lines 1-18 and page 20, line 24 to page 21, line 17. Accordingly, no new matter has been added.

Objections to the Claims

Within the Office Action, Claims 2, 4, 6, 11, 14 and 38 have been objected to due to informalities. By the above amendments, Claims 2, 4, 6, 11, 14 and 38 have been amended to correct the indicated informalities. Accordingly, the objection should be withdrawn.

Rejections Under 35 U.S.C. § 112

Within the Office Action, Claims 15 and 17 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 15, it is asserted that “the mobile switching center” in line 2 of the claim lacks sufficient antecedent basis. By the above amendments, line 2 of Claim 15 has been

amended to recite “a mobile switching center.” Accordingly, Claim 15 is now has sufficient antecedent basis, is definite and the rejection should be withdrawn.

Regarding Claim 17, it is asserted that “routing a termination communication intended for the mobile communication device from the mobile switching center to the interface server according to the routing association, and routing the termination communication from the interface server to the mobile communication device over the communication path” is vague because it is unclear why the termination communication from the mobile switching center to the interface server happens since the independent claim 14 is related to roaming a mobile communication device between multiple WiFi coverage areas and there is nothing regarding a cellular network and connection to a mobile switching center. By the above amendments, Claim 17 has been amended to recite “routing a communication, from an end destination device and intended for the mobile communication device, from the mobile switching center to the interface server according to the routing association, and routing the communication from the interface server to the mobile communication device over the communication path.” Thus, Claim 17 is no longer recites “termination communications” and instead relates to communications between the end destination device and the mobile communication device. Indeed, these communications often still involve a mobile switching center because although the mobile communication device is roaming between two WiFi networks, the end user device is calling via a mobile network. Accordingly, Claim 17 is now definite and the rejection should be withdrawn.

Rejections Under 35 U.S.C. § 102

Within the Office Action, Claims 1-10, 12 and 13 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 8,041,360 to Ibe et al. (hereinafter “Ibe”). The Applicant respectfully disagrees.

Ibe is directed to a method of seamless roaming between wireless local area networks and cellular carrier networks. Specifically, Ibe teaches enabling a user that originates a call in a WLAN and happens to go outside the range of the WLAN to automatically switch over to the cellular carrier network. [Ibe, Abstract] However, Ibe does not teach establishing a second communication link between the interface server and the end destination device. Instead, Ibe merely teaches that a second link is made between the cellular proxy (i.e. asserted interface server) and the mobile device, not between the cellular proxy and the end destination device.

Within the Office Action, it is asserted that Ibe teaches the above limitation by col. 3, lines 48-51, col. 3 line 55 to col. 4, line 12 and Figure 2 by the mobile device sending a handoff request message to the cellular proxy and the cellular proxy forwarding the call to the mobile device over a new connection established via the cellular network. [Office Action, pages 5-6] The Applicant respectfully disagrees. The cited portions of Ibe describe Figure 3, not Figure 2, and as described above, merely teach “a new connection” 320 between the cellular proxy and the mobile device, not between the cellular proxy and the end destination device. Specifically, the cellular proxy of Ibe is designed to receive calls from a cellular network and forward them to the mobile device over a TCP connection 310 through a WLAN network of a building. When the mobile device can no longer use the TCP connection 310, the cellular proxy uses the cellular network to call the mobile device 314 (not the end destination device to which it is already connected and was forwarding to the mobile device through the TCP connection 310). The cellular proxy actually receives its own call 316 because it receives all calls through the cellular network and so it just sends the call connection info to the mobile device itself 318. As a result, the cellular proxy and the mobile device form a new connection 320 through the cellular network (instead of the WLAN) and the cellular proxy continues to forward the end destination device data to the mobile device through this new connection 320. Throughout this process the same single link between the cellular proxy and the end destination device is kept and all that changes is how the cellular proxy is linked to the mobile device. This process is clearly illustrated in Figure 3 of Ibe which shows a dashed line indicating the new connection 320 between the cellular proxy and the mobile device through the cellular network. Therefore, it is clear that nowhere does Ibe teach establishing a second communication link between the interface server and the end destination device.

In contrast to the teachings of Ibe, the presently claimed invention is directed to a system that provides seamless roaming for a mobile communication device between different types of wireless networks, such as WiFi and cellular networks for voice, data and video communication. Use of the system enables a combination of different types of wireless networks such as WiFi and cellular for providing access to the mobile communication device and makes use of the Voice over Internet (VOIP) networks for switching the calls whenever possible. Specifically, the system enables telephone communications that can be initiated using VOIP while within a VOIP access point, such as a WiFi hotspot, and enables telephone communications that can be initiated using a cellular network while within a cellular area and outside of a VOIP access point. As

described above, Ibe does not teach establishing a second communication link between the interface server and the end destination device.

The independent Claim 1 is directed to a method of providing communications for a mobile communication device that roams between multiple different types of wireless networks. The method comprises establishing a first communication link between the mobile communication device and an end destination device, wherein the first communication link includes a first wireless communication link between the mobile communication device and a first type of wireless network, monitoring a signal strength of the first wireless communication link, when the signal strength drops below a predetermined threshold, notifying an interface server with the mobile communication device and establishing a second communication link between the interface server and the end destination device, notifying the mobile communication device to terminate transmission over the first communication link and re-directing the second communication link from the interface server to the mobile communication device, thereby establishing a second wireless communication link between the mobile communication device and the second type of wireless network. As described above, Ibe does not teach establishing a second communication link between the interface server and the end destination device. For at least these reasons, the independent Claim 1 is allowable over the teachings of Ibe.

Claims 2-10, 12 and 13 are dependent upon the independent Claim 1. As discussed above, the independent Claim 1 is allowable over Ibe. Accordingly, Claims 2-10, 12 and 13 are all also allowable as being dependent on an allowable base claim.

Rejections Under 35 U.S.C. § 103

Within the Office Action, Claims 14 and 18 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Pub. No. 2003/0185172 to Rue et al. (hereinafter “Rue”) in view of U.S. Patent Pub. No. 2004/0114559 to Wang et al. (hereinafter “Wang”). The Applicants respectfully disagree.

Rue is directed to an apparatus and method for supporting mobility between subnetworks of mobile nodes in a wireless LAN. [Rue, Abstract] However, Rue does not teach wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold. Instead, Rue teaches nothing about a first communication link threshold, much less the mobile device notifying the nomadic server if the link falls below a threshold. Within the Office Action, it is asserted that this limitation is taught in Rue at paragraph 0030 by

“the mobile node 101 concludes that the signal intensity of the first access point has weakened,” the reassociation_req S209 and the handover_req S211. [Office Action, page 12] The Applicants respectfully disagree.

“Concluding that a signal intensity has weakened” is not the same as determining if a signal has fallen below a threshold. Indeed, signals strengthen and weaken constantly due to numerous factors without ever crossing defined thresholds. Thus, even if Rue teaches concluding a signal has weakened, it still fails to teach the claimed “threshold” determination. Additionally, even if Rue did teach the use of a threshold, it would still fail to teach the claimed limitation because it does not teach that the mobile node 101 notifies the mobile access server 104 (i.e. the asserted nomadic server) if the signal weakens. Instead, Rue teaches that the mobile node simply “scans another new access point until it acquires a signal of the second access point 103.” Scanning for an access point is not the same as notifying the mobile access server 104. For example, if the mobile node 101 is not able to find a new access point during its scan, there is nothing in Rue that teaches that the mobile access server 104 will ever be notified of the weakened signal detection. Thus, Rue cannot teach wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold.

Additionally, as recognized within the Office Action, Rue does not teach providing an IP address of the first and second WiFi access points to the nomadic server.

Wang is directed to inter-proxy communication protocol for mobile IP. Specifically, Wang teaches a first access point sends an inter-proxy request message to one or more additional access points that requests the IP configuration information for the node. [Wang, Abstract] However, Wang does not teach wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold. Further, Wang does not teach providing an IP address of the first and second WiFi access points to the nomadic server. Within the Office Action, it is asserted that Wang teaches the claimed providing at Figures 2, 4 and 5 and paragraphs 0044 and 0045 by teaching an IP address of the sending access point (e.g. claimed second access point) and the IP address of the target access point (e.g. the first access point) with consideration of FA, HA or DHCP as the claimed nomadic server. [Office Action, page 12] The Applicants respectfully disagree. Even if the FA, HA or DHCP of Wang were equivalent to the nomadic server of the presently claimed invention, Wang would still fail to teach the above limitation because the inter-proxy messages (i.e. request and reply) are not to the nomadic server. Instead, they are messages between one or more access points 210, 212, not to the FA, HA or DHCP. Indeed, the whole purpose of Wang is to provide IP configuration data of

a node from the initial access point to other access points, not to the FA, HA or DHCP. [Wang, ¶ 0016] Therefore, neither the cited portion nor the remainder of Wang teaches providing an IP address of the first and second WiFi access points to the nomadic server.

As described above, Rue and Wang both fail to teach providing an IP address of the first and second WiFi access points to the nomadic server and wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold. As a result, the combination of Rue and Wang does not teach the presently claimed invention.

In contrast to the teachings of Rue and Wang, the presently claimed invention is directed to a system that provides seamless roaming for a mobile communication device between different types of wireless networks, such as WiFi and cellular networks for voice, data and video communication. Use of the system enables a combination of different types of wireless networks such as WiFi and cellular for providing access to the mobile communication device and makes use of the Voice over Internet (VOIP) networks for switching the calls whenever possible. Specifically, the system enables telephone communications that can be initiated using VOIP while within a VOIP access point, such as a WiFi hotspot, and enables telephone communications that can be initiated using a cellular network while within a cellular area and outside of a VOIP access point. As described above, the combination of Rue and Wang does not teach providing an IP address of the first and second WiFi access points to the nomadic server or wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold.

The independent Claim 14 is directed to a method of providing communications for a mobile communication device that roams between multiple IEEE 802.11 standard based coverage areas. The method comprises associating the mobile communication device with a nomadic server, wherein the nomadic server is coupled to one or more IEEE 802.11 standard based access points, establishing a first IEEE 802.11 standard based communication link between the mobile communication device and a first IEEE 802.11 standard based access point, registering the mobile communication device with the nomadic server including providing an IP address of the first IEEE 802.11 standard based access point to the nomadic server, configuring a communication path to the mobile communication device via the nomadic server according to the IP address of the first IEEE 802.11 standard based access point and the first IEEE 802.11 standard based communication link, detecting movement of the mobile communication device into a coverage area of a second IEEE 802.11 standard based access point, registering the mobile communication device with the nomadic server including an IP address of the second IEEE

802.11 standard based access point, establishing a second IEEE 802.11 standard based communication link between the mobile communication device and the second IEEE 802.11 standard based access point and re-configuring the communication path according to the IP address of the second IEEE 802.11 standard based access point and the second IEEE 802.11 standard based communication link; wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold. As described above, the combination of Rue and Wang does not teach providing an IP address of the first and second IEEE 802.11 standard based access points to the nomadic server or wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold. For at least these reasons, the independent Claim 14 is allowable over Rue, Wang and their combination.

Claim 18 is dependent on the independent Claim 14. As discussed above, the independent Claim 14 is allowable over Rue, Wang and their combination. Accordingly, Claim 18 is also allowable as being dependent on an allowable base claim.

Within the Office Action, Claims 15-17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Rue and Wang in view of U.S. Patent Pub. No. 2002/0147008 to Kallio et al. (hereinafter “Kallio”). The Applicants respectfully disagree.

Claims 15-17 are dependent on the independent Claim 14. As discussed above, the independent Claim 14 is allowable over Rue, Wang and their combination. Accordingly, Claims 15-17 are all also allowable as being dependent on an allowable base claim.

Within the Office Action, Claim 38 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Pub. No. 2004/0203802 to McCormick et al. (hereinafter “McCormick”) in view of Ibe. The Applicants respectfully disagree.

McCormick is directed to a process for optimizing speech coding as a function of end user device characteristics. [McCormick, Abstract] However, McCormick does not teach wherein the first controller device and the second controller device are not directly coupled to the first cellular base station and the second cellular base station. Instead, the RNCs 132, 142 (i.e. asserted controller devices) of McCormick are both directly coupled to the base stations 133, 143, 144 as shown in Figure 1. Thus, McCormick does not teach the presently claimed invention.

As described above, Ibe is directed to a method of seamless roaming between wireless local area networks and cellular carrier networks. However, Ibe does not teach wherein the first controller device and the second controller device are not directly coupled to the first cellular base station and the second cellular base station. Instead, Ibe is only cited for the purpose of teaching the mobile communication device notifying an interface server if the first communication link falls below a threshold. Accordingly, Ibe does not teach the presently claimed invention.

As described above, McCormick and Ibe both fail to teach wherein the first controller device and the second controller device are not directly coupled to the first cellular base station and the second cellular base station. As a result, the combination of McCormick and Ibe does not teach the presently claimed invention.

In contrast to the teachings of McCormick and Ibe, the presently claimed invention is directed to a system that provides seamless roaming for a mobile communication device between different types of wireless networks, such as WiFi and cellular networks for voice, data and video communication. Use of the system enables a combination of different types of wireless networks such as WiFi and cellular for providing access to the mobile communication device and makes use of the Voice over Internet (VOIP) networks for switching the calls whenever possible. Specifically, the system enables telephone communications that can be initiated using VOIP while within a VOIP access point, such as a WiFi hotspot, and enables telephone communications that can be initiated using a cellular network while within a cellular area and outside of a VOIP access point. As described above, the combination of McCormick and Ibe does not teach wherein the first controller device and the second controller device are not directly coupled to the first cellular base station and the second cellular base station.

The independent Claim 38 is directed to a method of providing communications between mobile communication devices. The method comprises routing a communication over a first communication link between a first mobile communication device and a first cellular base station, wherein the communication is directed from the first mobile communication device to a second communication device, routing the communication over a second communication link between the first cellular base station and a first controller device, routing the communication over a third communication link between the first controller device and a second controller device, wherein the third communication link comprises a Internet Protocol network, routing the communication over a fourth communication link between the second controller device and a second cellular base station and routing the communication over a fifth communication link

between the second cellular base station and the second communication device, wherein the mobile communication device notifies an interface server if the first communication link falls below a threshold and further wherein the first controller device and the second controller device are not directly coupled to the first cellular base station and the second cellular base station. As described above, neither McCormick, Ibe nor their combination teach wherein the first controller device and the second controller device are not directly coupled to the first cellular base station and the second cellular base station. For at least these reasons, the independent Claim 38 is allowable over McCormick, Ibe and their combination.

Allowable Subject Matter

Within the Office Action, it is asserted that Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten to be independent including any intervening claims.

Within the Office Action, it is asserted that Claim 17 would be allowable if rewritten to be independent including any intervening claims and to overcome the rejection under 15 USC 112, second paragraph.

CONCLUSION

Applicant respectfully submits that the claims are in a condition for allowance, and allowance at an early date would be appreciated. Should the Examiner have any questions or comments, they are encouraged to call the undersigned at (408) 530-9700 to discuss the same so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,
HAVERSTOCK & OWENS LLP

Dated: December 6, 2012

By: /Jonathan O. Owens/
Jonathan O. Owens
Reg. No.: 37,902
Attorneys for Applicants

Replacement Sheet

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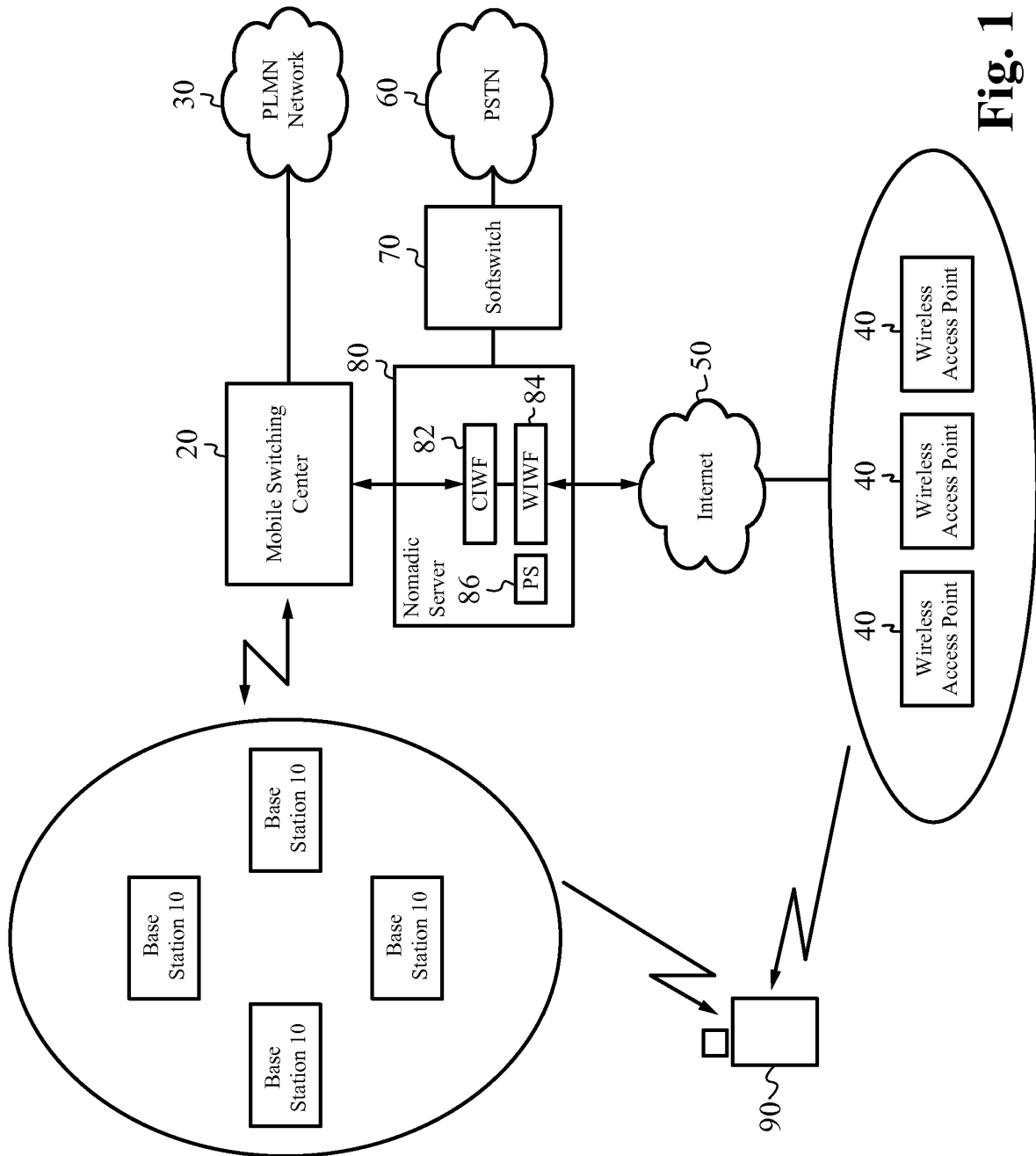


Fig. 1

Replacement Sheet

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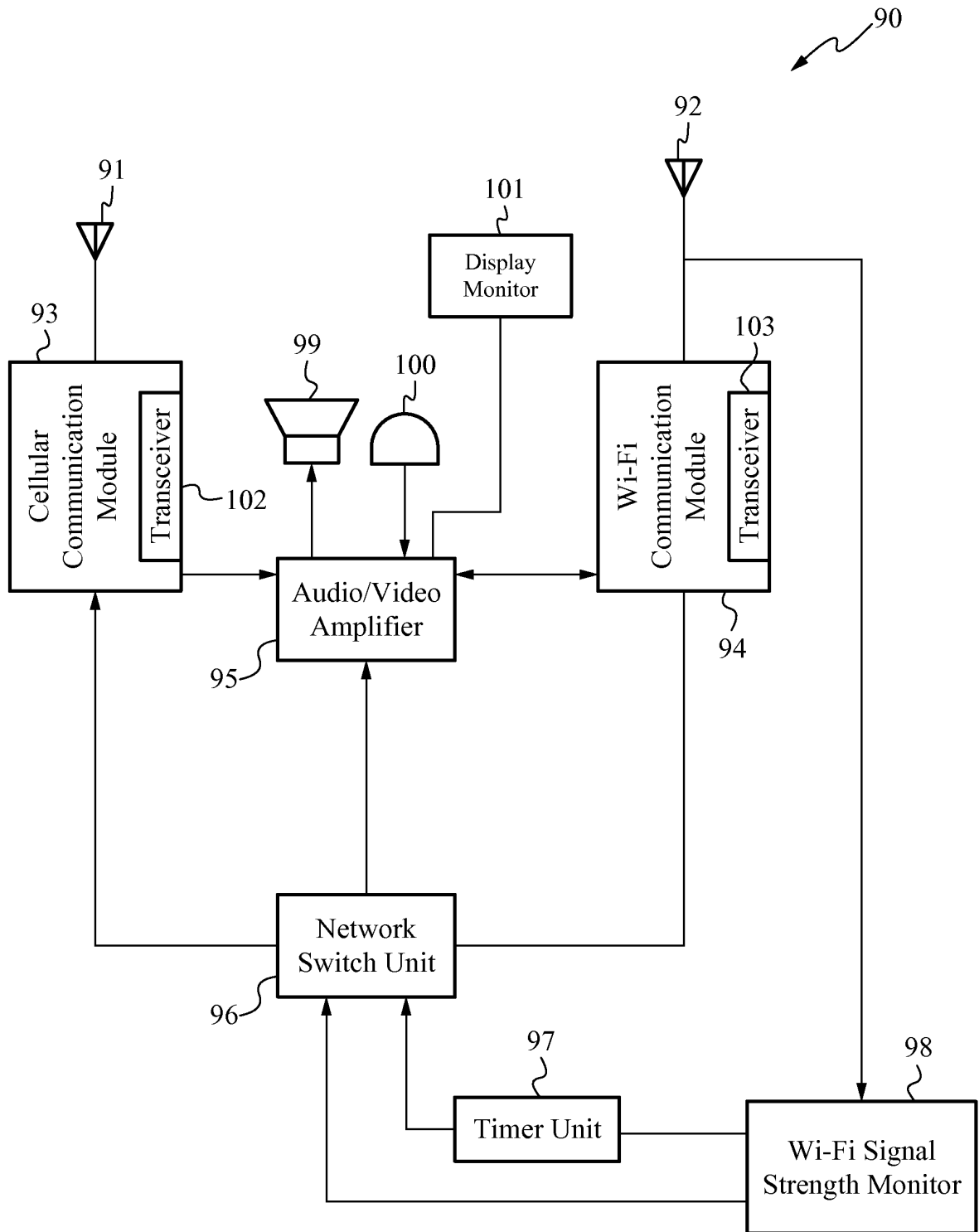


Fig. 2

New Sheet

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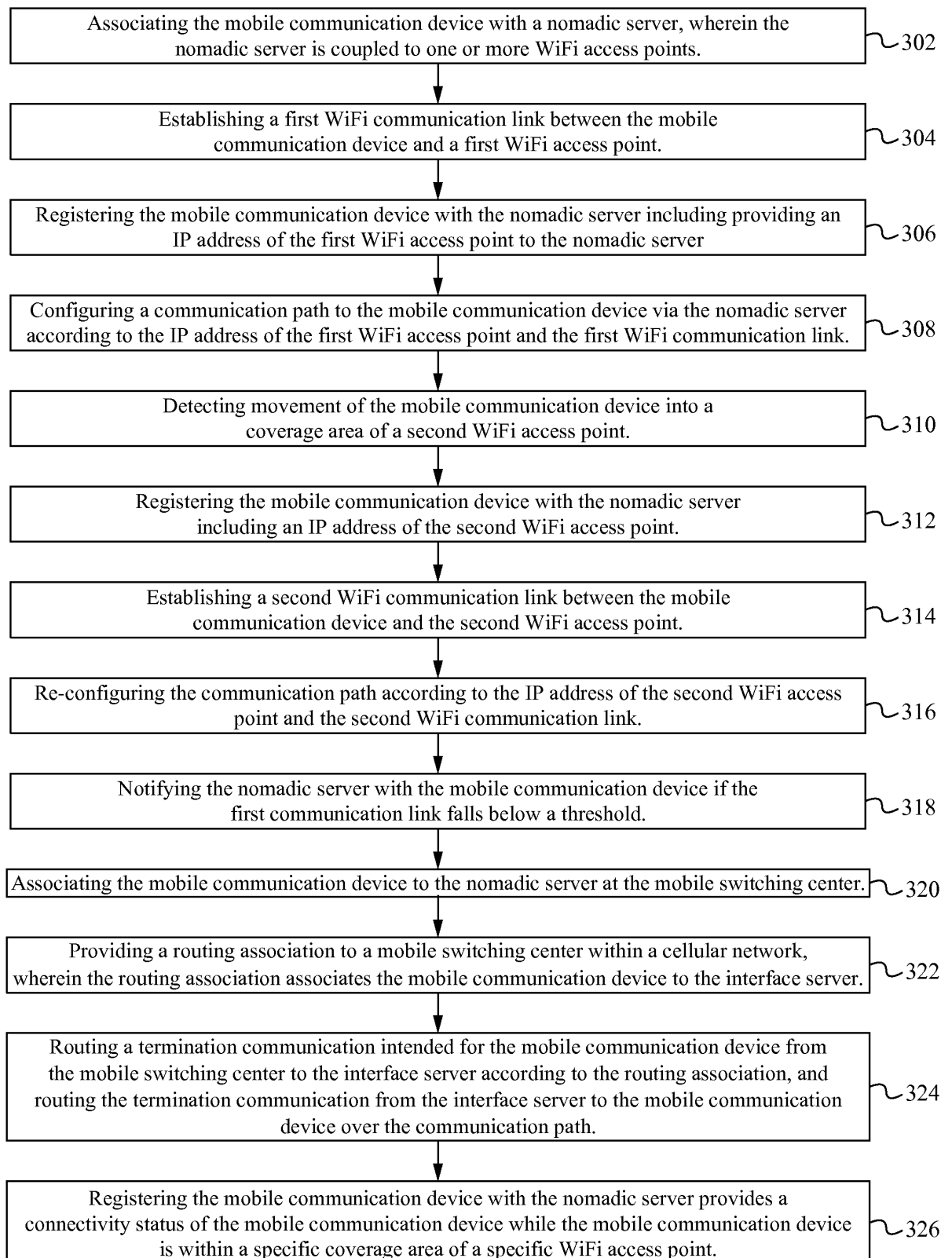


Fig. 3

New Sheet

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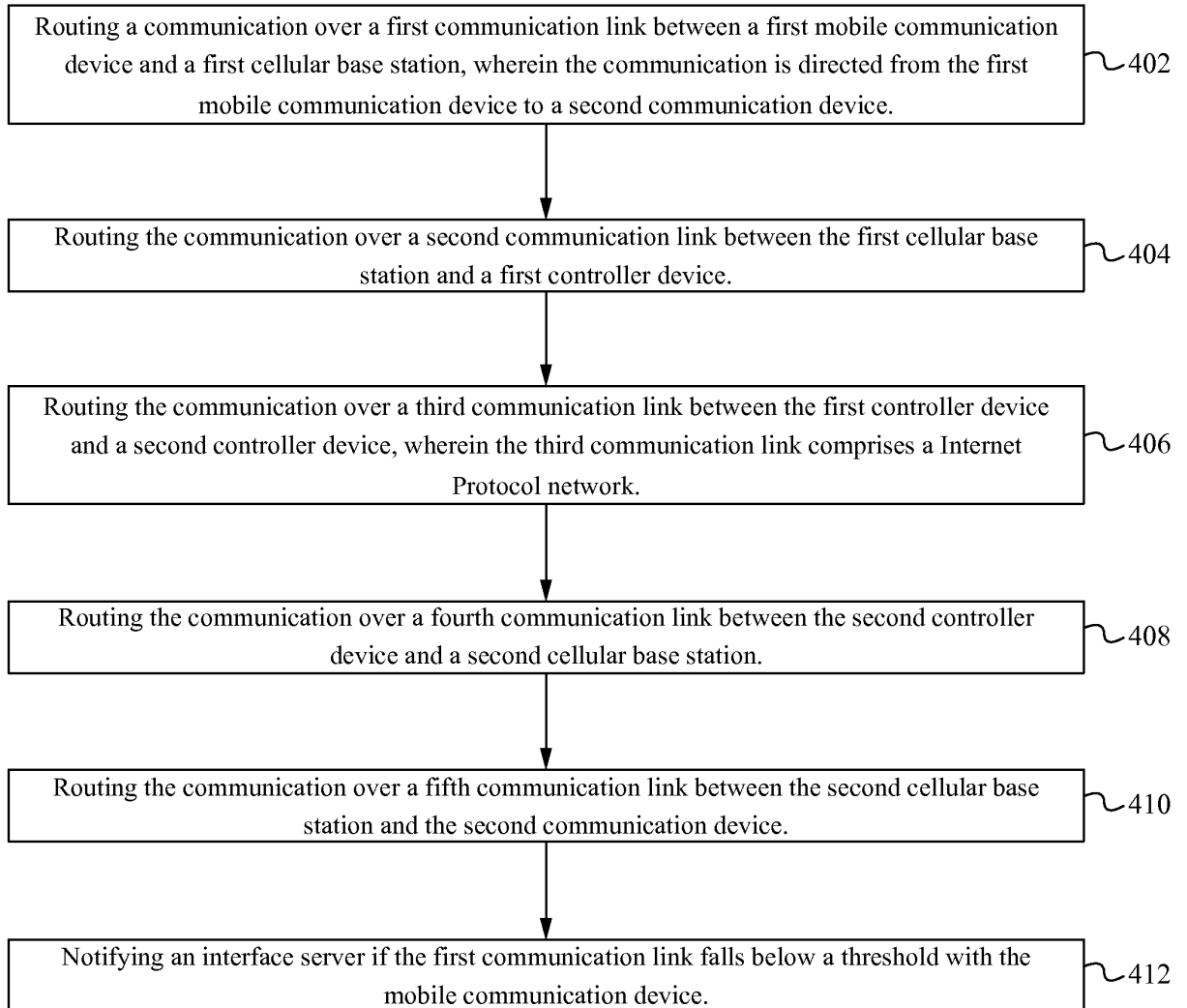


Fig. 4



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EXAMINER

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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.

DETAILED ACTION

Remarks

1. The present Office Action is based upon the Applicant's amendment filed on Dec. 06, 2012. **Claims 1-18 and 38** are now pending in the present application.

The objection to the drawing is withdrawn. The replacement-drawing sheet was received on Dec. 06, 2012 and acknowledged by the Examiner.

The "amendments to the specification" received on Dec. 06, 2012 is acknowledged by the Examiner.

Claim Objections

2. **Claims 1, 14 and 38** are objected to because of the following informalities:

i) On **lines 4, 8, 9, 12 and 14** of **claim 1**, delete "a.", "b.", "c.", "d.", and "e." before "establishing", "monitoring", "when", "notifying" and "re-directing"; (or replace them with --a)--, --b)--, --c)--, --d)--, and --e)--; Note: The claim(s) must be in one sentence form only);

ii) On **lines 4, 7, 10, 13, 17, 19, 21, and 24** of **claim 14**, delete "a.", "b.", "c.", "d.", "e.", "f.", "g." and "h." before "associating", "establishing", "registering", "configuring", "detecting", "registering", "establishing" and "re-configuring"; (or replace them with --a)--, --b)--, --c)--, --d)--, --e)--, --f)--, --g)--, and --h)-- ; Note: The claim(s) must be in one sentence form only);

iii) On **lines 3, 7, 9, 12 and 14** of **claim 38**, delete "a.", "b.", "c.", "d.", and "e." before "routing", "routing", "routing", "routing" and "routing"; (or replace them with --a)--, --b)--, --c)--, --d)--, and --e)--; Note: The claim(s) must be in one sentence form only);

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of 35 U.S.C. 112(a):

(a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), first paragraph:
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 38 is rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter (i.e. "wherein the first controller device and the second controller device are not directly coupled to the first cellular base station and the second cellular base station") which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for pre-AIA the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 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

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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 negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

A. **Claims 1-10, 12 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ibe et al. (US Patent # 8041360 B2)** (hereinafter Ibe) in view of **Belkin et al. (US Patent # 7398088 B2)** (hereinafter Belkin).

Consider **claim 1**, Ibe discloses a method of providing communications for a mobile communication device that roams between multiple different types of wireless networks, the method comprising:

- a. establishing a first communication link between the mobile communication device and an end destination device, wherein the first communication link includes a first wireless communication link between the mobile communication device and a first type of wireless network (FIG. 2, col. 3, lines 32-36, for a dual mode mobile device originates a call (the claimed first communication link includes a first wireless communication link) within a WLAN (the claimed first type of wireless network) to other party);
- b. monitoring a signal strength of the first wireless communication link (col. 3, lines 32-47, for monitoring signal quality by measuring SNR);

- c. when the signal strength drops below a predetermined threshold (col. 3, lines 32-47, for when the SNR reaches some threshold value d), notifying an interface server with the mobile communication device [and establishing a second communication link between the interface server and the end destination device] (col. 3, lines 48-51 for sending a HandoffRequest message to cellular proxy (claimed interface server), and FIG. 2, col. 3, line 55 to col. 4, line 12 for forwarding the call to mobile device over a new connection established via the cellular network);
- d. notifying the mobile communication device to terminate transmission over the first communication link (FIG. 2, col. 3 line 55 to col. 4 line 12 for commands the mobile station to switch its radio to the cellular network); and
- e. re-directing the [second] communication link from the interface server to the mobile communication device, thereby establishing a second wireless communication link between the mobile communication device and the second type of wireless network (FIG. 2, col. 3 line 55 to col. 4 line 12, for forwarding the call to mobile device over a new connection established via the cellular network;
Note: the second communication link is considered as the link where the call is connected through a radio link (the claimed second wireless communication link) through the cellular network).

However, lbe fails to disclose (when the signal strength drops below a predetermined threshold, notifying an interface server with the mobile communication device and] establishing a second communication link between the interface server and

the end destination device and) establishing a second communication link between the interface server and the end destination device.

In the same field of endeavor, Belkin discloses (when the signal strength drops below a predetermined threshold, notifying an interface server with the mobile communication device and) establishing a second communication link between the interface server and the end destination device (FIGS. 7-10, col.13, lines 32-44 for “When a handover situation becomes imminent..., the wireless communication unit 102 initiates a handover call... the handover call is routed via the network switching function 112 to *the network switching function 110*”; (note that “Generally if the signal quality level, e.g. signal to noise, or frame error rate or like assessment crosses some *threshold* it is determined that a handover is likely,” see col. 5 line67 to col. 6 line 3); col. col. 13 line 45 to col. 14 line 2 for the *message requests that the peer unit 714* (claimed the end destination device) *route it's voice bearer RTP* (Real Time Protocol) to *the RTP port associated with the handover call, e.g. WAN leg or UA4 836 of the network switching function 710* (claimed interface server) and the RTP that will be rerouted as a result of the message being forwarded to UA1 730 (of the network switching function 710) and then to the peer unit 714 is the RTP from or for the peer unit 714; and note to the link 1002 of FIG. 10 and col. 15 lines 2-6, the bearer 1002 within the LAN 106 is an RTP stream; Note: all of the description related to FIG. 7 to FIG. 10 about the handover process of the wireless communication from the WLAN 106 network to the cellular WAN 108 should be considered).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate rerouting voice or data bearer RTP from a network switching function to a peer unit through a new RTP port associated with a handover call (when wireless communication unit 102 initiates a handover call and if the signal quality level crosses some *threshold*) as taught by Belkin to the method of seamless roaming between wireless LAN and cellular network disclosed by Ibe for purpose of providing a new communication link between the wireless communication unit and its peer unit during the handover call.

Consider **claim 2**, Ibe as modified by Belkin discloses the claimed invention **as applied to claim 1 above**, and Ibe further discloses wherein the first type of wireless communication link comprises a IEEE 802.11 standard based communication link, and the first type of wireless network includes a IEEE 802.11 standard based network access point (FIG. 1 col. 3, lines 7-31, for WLAN connection and access point).

Consider **claim 3**, Ibe as modified by Belkin discloses the claimed invention **as applied to claim 2 above**, and Ibe further discloses wherein the second type of wireless network includes a wireless cellular network (FIG. 1, col. 3, line 55 to col. 4, line 12, for forwarding the call to mobile device over a new connection established via the cellular network).

Consider **claim 4**, Ibe as modified by Belkin discloses the claimed invention **as applied to claim 1 above**, and Ibe further discloses wherein establishing the first communication link includes routing through a voice over internet protocol network (FIG.

1, col. 2, lines 16-29 for the cellular proxy also provides the VoIP interface between the enterprise LAN and the PBX).

Consider **claim 5**, lbe as modified by Belkin discloses the claimed invention **as applied to claim 1 above**, and lbe further discloses wherein establishing the first communication link includes routing through a cellular network (FIG. 3, col. 4 lines 13-26 for the situation when the other party is located in the cellular carrier network).

Consider **claim 6**, lbe as modified by Belkin discloses the claimed invention **as applied to claim 1 above**, and lbe further discloses wherein establishing the second communication link includes routing through a VOIP network (FIGS. 1 and 2, with consideration of the teachings of: col. 2, lines 16-29 for the cellular proxy also provides the VoIP interface between the enterprise LAN and the PBX; and col. 3 line 55 to col. 4 line 12 for the situation when the other party is located in the PSTN; see also col. 5 lines 34-34 for "the bearer portion or actual voice and data is carried using VoIP (voice over IP) techniques and real time protocol (RTP)").

Consider **claim 7**, lbe as modified by Belkin discloses the claimed invention **as applied to claim 1 above**, and lbe further discloses wherein establishing the second communication link includes routing through a cellular network (FIG. 1, col. 3, line 55 to col. 4, line 12, for forwarding the call to mobile device over a new connection established via the cellular network).

Consider **claim 8**, lbe as modified by Belkin discloses the claimed invention **as applied to claim 1 above**, and lbe further discloses the method further comprising

providing a connectivity status by the mobile communication device to the interface server while the mobile communication device is within a first coverage area of the first type of wireless network (col. 3, lines 48-51 for when a mobile device experiences SNR measurement value of r , it sends a Handoff Request message to the Cellular Proxy via the TCP connection that exists between the two devices).

Consider **claim 9 as applied to claim 8 above**, and Belkin further discloses providing a routing association to a mobile switching center within the second type of wireless network, wherein the routing association associates the mobile communication device to the interface server (FIGS. 7-10, col. 13, lines 32-44 for the handover call is routed via the network switching function 112 to the network switching function 110).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate rerouting voice or data bearer RTP from a network switching function to a peer unit through a new RTP port associated with a handover call (when wireless communication unit 102 initiates a handover call and if the signal quality level crosses some *threshold*) as taught by Belkin to the method of seamless roaming between wireless LAN and cellular network disclosed by Ibe for purpose of providing a new communication link between the wireless communication unit and its peer unit during the handover call.

Consider **claim 10**, Ibe as modified by Belkin discloses the claimed invention **as applied to claim 9 above**, and Ibe further discloses routing a termination communication intended for the mobile communication device from the mobile switching

center to the interface server according to the routing association when the connectivity status is active, and routing the termination communication from the interface server to the mobile communication device over the first type of wireless network (col. 3, line 55 to col. 4, line 12, for the Cellular Proxy closing the TCP connection).

Consider **claim 12**, lbe as modified by Belkin discloses the claimed invention **as applied to claim 1 above**, and lbe further discloses registering the mobile communication device with a mobile switching center within the second type of wireless network when the signal strength drops below the predetermined threshold (col. 3, line 55 to col. 4, line 12 for forwarding the call to mobile device over a new connection (claimed registering) established via the cellular network with an inherent MSC; see also MSC in FIGS. 7-10 of Belkin).

Consider **claim 13**, lbe as modified by Belkin discloses the claimed invention **as applied to claim 12 above**, and lbe further discloses setting up the second communication link with the end destination device and forwarding the second communication link to the interface server (FIG. 1, col. 3, line 55 to col. 4, line 12, for forwarding the call to mobile device over a new connection established via the cellular network through Cellular Proxy).

B. **Claims 14 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Rue (US Patent Application Publication # 20030185172 A1)** in view of **Wang (US Patent Application Publication # 20040114559 A1)**.

Consider **claim 14**, Rue discloses a method of providing communications for a mobile communication device that roams between multiple IEEE 802.11 standard based coverage areas (FIGS. 1 and 3, par. [0010] for a mobile node moving between the WLAN areas), the method comprising:

- a. associating the mobile communication device with a nomadic server, wherein the nomadic server is coupled to one or more IEEE 802.11 standard based access points (FIG. 2, par. [0029] and [0030] for MAS 104 receiving access request from mobile node 101);
- b. establishing a first IEEE 802.11 standard based communication link between the mobile communication device and a first IEEE 802.11 standard based access point (par. [0029] for *performing communication* through the first access point 102 after receiving Access_Res and Association_Res);
- c. registering the mobile communication device with the nomadic server [including providing an IP address of the first IEEE 802.11 standard based access point to the nomadic server] (par. [0029] for MAS confirming the location move based on received Assocaion_Req and Access_Req);
- d. configuring a communication path to the mobile communication device via the nomadic server according to [the IP address of the first IEEE 802.11 standard based access point and] the first IEEE 802.11 standard based communication link (par. [0029] for MAS confirming the location move based on received Assocaion_Req, Access_Req, Access_Res and Association_Res; Note: it is inherently taught and well-known that the a communication link is set up based

on the identification of a mobile station and the identification of an access point (or mobile station));

e. detecting movement of the mobile communication device into a coverage area of a second IEEE 802.11 standard based access point (par. [0030] for when the mobile node moves to the second access point 103 and detecting the signal intensity of the first access point has been weakened);

f. registering the mobile communication device with the nomadic server [including an IP address of the second IEEE 802.11 standard based access point] (par. [0030] for sending Reassociation_Req and Handover_Req to MAS 104, and sending back Reassociation_Res to the mobile node 101 to notify that the handover has been completed);

g. establishing a second IEEE 802.11 standard based communication link between the mobile communication device and the second IEEE 802.11 standard based access point (par. [0030] for the mobile node 101 can *perform communication* through the second access point 103); and

h. re-configuring the communication path according to [the IP address of the second IEEE 802.11 standard based access point and] the second IEEE 802.11 standard based communication link (par. [0030] for the mobile node 101 can perform communication through the second access point 103; Note: it is inherently taught and well-known that the a communication link is set up based on the identification of a mobile station and the identification of an access point (or mobile station));

wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold (par. [0030] for the mobile node 101 concludes that the signal intensity of the first access point has been weakened and notifying MAS 104 by sending Reassociation_Req and Handover_Req).

However, Rue may fail to explicitly disclose providing an IP address of the first IEEE 802.11 standard based access point and an IP address of the second IEEE 802.11 standard based access point to the nomadic server.

In the same field of endeavor, Wang discloses providing an IP address of the first IEEE 802.11 standard based access point and an IP address of the second IEEE 802.11 standard based access point to the nomadic server (FIGS. 2, 4 and 5, par. [0044] and [0045] for an IP address of the sending access point (e.g. claimed second access point) and the IP address of the target access point (e.g. the first access point) with consideration of FA, HA or DHCP as the claimed nomadic server).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the IP addresses of access points as taught by Wang to registration with an access point (when a mobile stations moves the coverage area of one access point to a new access point) as disclosed by Rue for purpose of including the IP addresses of the access points during the accessing or registration process.

Consider **claim 18**, Rue as modified by Wang discloses the claimed invention **as applied to claim 14 above**, and Rue further discloses wherein registering the mobile communication device with the nomadic server provides a connectivity status of the

mobile communication device while the mobile communication device is within a specific coverage area of a specific IEEE 802.11 standard based access point (par. [0030] for when the mobile node moves to the second access point 103 and detecting the signal intensity of the first access point has been weakened, and sending Reassociation_Req and Handover_Req to MAS 104, and sending back Reassociation_Res to the mobile node 101 to notify that the handover has been completed).

C. **Claims 15-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Rue** in view of **Wang** and further in view of **Kallio (US Patent Application Publication # 20020147008 A1)**.

Consider **claim 15 as applied to claim 14 above**, Rue as modified by Wang discloses the claimed invention except disclosing associating the mobile communication device to the nomadic server at the mobile switching center.

In the same field of endeavor, Kallio discloses associating the mobile communication device to the nomadic server at the mobile switching center (FIG. 1, par. [0011] and [0015] for sending measurement reports to the WMC (the nomadic server) of the wireless LAN, where the handover algorithm generates a handover request to the Mobile Switching Center (MSC), via the Wireless Mobile Center (WMC) of the wireless LAN).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a Mobile Switching Center with a

Wireless Mobile Center for reporting a handover request as taught by Kallio to the mobile access server (MAS) for managing roaming or handover of a mobile device between different access points of WLAN network(s) as disclosed by Rue as modified by Wang for purpose of updating location of the mobile device at the MSC.

Consider **claim 16 as applied to claim 14 above**, Rue as modified by Wang discloses the claimed invention except providing a routing association to a mobile switching center within a cellular network, wherein the routing association associates the mobile communication device to the interface server.

In the same field of endeavor, Kallio discloses providing a routing association to a mobile switching center within a cellular network, wherein the routing association associates the mobile communication device to the interface server (FIG. 1, par. [0011] and [0015] for sending measurement reports to the WMC (the nomadic server) of the wireless LAN, where the handover algorithm generates a handover request to the Mobile Switching Center (MSC), via the Wireless Mobile Center (WMC) of the wireless LAN).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a Mobile Switching Center with a Wireless Mobile Center for reporting a handover request as taught by Kallio to the mobile access server (MAS) for managing roaming or handover of a mobile device between different access points of WLAN network(s) as disclosed by Rue as modified by Wang for purpose of updating location of the mobile device at the MSC.

Consider **claim 17 as applied to claim 16 above**, Kallio further discloses routing a communication, from an end destination device and intended for the mobile communication device, from the mobile switching center to the interface server according to the routing association, and routing the communication from the interface server to the mobile communication device over the communication path (it is inherently taught and well-known that an end communication device can communicate a call to the mobile device in WLAN network, where the call is routed through MSC to WMC and finally to the mobile station).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a Mobile Switching Center with a Wireless Mobile Center for reporting a handover request as taught by Kallio to the mobile access server (MAS) for managing roaming or handover of a mobile device between different access points of WLAN network(s) as disclosed by Rue as modified by Wang for purpose of updating location of the mobile device at the MSC.

D. **Claim 38** is rejected under 35 U.S.C. 103(a) as being unpatentable over **McCormick et al. (US Patent Application Publication # 20040203802 A1)** (hereinafter McCormick) in view of **Ibe** and further in view of **Kao (US Patent # 6175737 B1)**.

Consider **claim 38**, McCormick discloses a method of providing communications between mobile communication devices (FIGS. 1 and 2, par. [0018] and [0019] for call process between calling party 101 and calling party 101'), the method comprising:

- a. routing a communication over a first communication link between a first mobile communication device and a first cellular base station, wherein the communication is directed from the first mobile communication device to a second communication device (FIGS. 1 and 2, par. [0019] for connection between calling party 101 and base station 133 when calling party initiates a call for calling party 101');
- b. routing the communication over a second communication link between the first cellular base station and a first controller device (FIGS. 1 and 2, par. [0019] for the call route or connection between the base station 133 and RNC 132);
- c. routing the communication over a third communication link between the first controller device and a second controller device, wherein the third communication link comprises a Internet Protocol network (FIGS. 1 and 2, par. [0020] for if the routing of the call is over a Voice over IP connection, at step 208 inserting a parameter into the IP trunk routing message and the Gateway GPRS Support Node (GGSN) 106B extends the call connection to the IP Network 107, between RNC 132 and RNC 142);
- d. routing the communication over a fourth communication link between the second controller device and a second cellular base station (FIGS. 1 and 2, par. [0014], [0019] and [0020] for the link between RNC 142 and base station 144);
and
- e. routing the communication over a fifth communication link between the second cellular base station and the second communication device (FIGS. 1 and

2, par. [0019] and [0020] for completing the call, from base station 144 to the called party device 101').

McCormick further discloses the first communication link falls below a threshold (FIG. 1, par. [0015] and [0016] for the radio unit in the wireless subscriber device 101 re-tunes the transmitter-receiver equipment contained therein to use these designated radio frequencies and orthogonal coding. Once the communication connection is established, the control messages are typically transmitted to adjust transmitter power and change the transmission channel when required to handoff this wireless subscriber device 101 to an adjacent cell, when the subscriber moves from the present cell to one of the adjoining cells (i.e. the radio link 111 falls below a threshold)).

However, McCormick may fail to explicitly disclose wherein the mobile communication device notifies an interface server if the first communication link falls below a threshold.

In the same field of endeavor, Ibe discloses the mobile communication device notifies an interface server if the first communication link falls below a threshold (col. 3 lines 32-54 for when a mobile device moves closer to the edge of a cell (of a network), it monitors SNR. If the SNR drops to a threshold d, then the mobile device sends Handoff request message to a Cellular Proxy (claimed interface server) connected to cellular network).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate sending a Handoff Request message to a Cellular Proxy when a mobile device moves and determines the SNR drops to a

threshold level as taught by Ibe to the method of call routing when a device is handing off from one base station to an adjacent base station as disclosed by McCormick for purpose of requesting a handoff to an device for managing handoff and routing the calls.

However, McCormick as modified by Ibe may fail to disclose explicitly wherein the first controller device and the second controller device are not directly coupled to the first cellular base station and the second cellular base station.

In the same field of endeavor, Kao wherein the first controller device and the second controller device are not directly coupled to the first cellular base station and the second cellular base station (FIG. 10, col. 1, lines 23-49, for each of the base stations 7 connects directly or indirectly to the base station controller 8 (BSC) using either a wireline or a second wireless interface; thus every BSC can be indirectly (or directly) connects to its respective base stations).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate indirect connections between base stations (BS) and their base stations controllers (BSC) as taught by Kan to the base stations and base stations (BS) and their base station controllers (RNC) as disclosed by McCormick as modified by Ibe for purpose of controlling plurality base stations of base stations in direct or indirect connections by a BSC.

Allowable Subject Matter

5. **Claim 11** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments with respect to rejection under 35 U.S.C § 102(e) and claims 1-10, 12 and 13, see pages 11 to 13 of the Applicant's remarks, filed 12/06/2012, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of new prior arts as indicated above.

7. Applicant's arguments with respect to rejections under 35 USC § 103 and claims 14 have been fully considered but they are not persuasive.

In the bridging paragraph between pages 13 and 14 of the Applicant's remarks, Applicant argues, "Rue does not teach wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold." Examiner respectfully disagrees. As indicated in the current and previous office actions, par. [0030] of Rue discloses the claimed invention.

In the first full paragraph of page 14 of the Applicant's remarks, Applicant argues, "Concluding that a signal intensity has weakened' is not the same as determining if a signal has fallen below a threshold. Indeed, signals strengthen and weaken constantly due to numerous factors without ever crossing defined thresholds. Thus, even if Rue teaches concluding a signal has weakened, it still fails to teach the claimed 'threshold' determination." Examiner respectfully disagrees. Applicant should consider the whole

teachings of the paragraph 0030. A handoff process based on a signal quality is a well-known process for one skilled in the art. Paragraph [0030] clearly discloses: “If the mobile node moves to another access point, that is, a second access point, that is within the same one subnetwork, the mobile node 101 concludes that the signal intensity of the first access point has been weakened, and scans another new access point until it acquires a signal of the second access point 103. At step S209, the mobile node 101 transmits a reassociation request message (Reassociation_Req) to the second access point 103, and the second access point 103 transmits a handover request message (Handover_Req) to the mobile access server 104.” It is clearly well known to one skilled in the art that, generally, if the mobile moves to a second access point and requests for a handoff to the second access point (based on conclusion that the signal intensity of the first access point has been weakened and based on the received signal form the second access point), it means the signal intensity of the first access point crosses a threshold value.

In the same paragraph, Applicant further argues, “even if Rue did teach the use of a threshold, it would still fail to teach the claimed limitation because it does not teach that the mobile node 101 notifies the mobile access server 104 (i.e. the asserted nomadic server) if the signal weakens. Instead, Rue teaches that the mobile node simply ‘scans another new access point until it acquires a signal of the second access point 103.’ Scanning for an access point is not the same as notifying the mobile access server 104. For example, if the mobile node 101 is not able to find a new access point during its scan, there is nothing in Rue that teaches that the mobile access server 104

will ever be notified of the weakened signal detection. Thus, Rue cannot teach wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold.” Examiner respectfully traverses. It seems that Applicant does not consider the part, “the second access point 103 transmits a handover request message (Handover_Req) to the mobile access server” after the mobile node 101 transmits a reassociation request message (Reassociation_Req) to the second access point 103. This process can be considered and provides the same functionality as “the mobile communication device notifies the nomadic server if the first communication link falls below a threshold”.

On the bridging paragraph between pages 14 and 15 of the Applicant’s remarks, Applicant argues, “Even if the FA, HA or DHCP of Wang were equivalent to the nomadic server of the presently claimed invention, Wang would still fail to teach the above limitation because the inter-proxy messages (i.e. request and reply) are not to the nomadic server. Instead, they are messages between one or more access points 210,212, not to the FA, HA or DHCP. Indeed, the whole purpose of Wang is to provide IP configuration data of a node from the initial access point to other access points, not to the FA, HA or DHCP. [Wang, ¶ 0016] Therefore, neither the cited portion nor the remainder of Wang teaches providing an IP address of the first and second WiFi access points to the nomadic server.” Examiner respectfully disagrees for several reasons. First, the purpose of using the inter-proxy messages between access points to “make an intelligent decision as to whether to *register* the nodes with their *Home Agent(s) via Foreign Agents on behalf of the nodes*”, (see paragraph 0035). Paragraph 0035 further

discloses, “the first Foreign Agent 202 updates its visitor table to reflect the movement of the node 206. Similarly, the Home Agent's mobility binding table is updated to reflect the movement of the node 206 to the second Foreign Agent 204. Thus, the appropriate entry in the first Foreign Agent's visitor table and the Home Agent's mobility binding table may be deleted. A new entry is then entered in the Home Agent's mobility binding table and the second Foreign Agent's visitor table upon completion of registration of the mobile node with the Home Agent. Alternatively, the visitor table may be maintained and updated by the Access Point.” Therefore, the HA's mobility binding table and FAs' visitor tables must be updated based on the IP addresses of the node and the IP addresses of related AP.

Second, in response to Applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case Rue discloses MAS (claimed nomadic server) for confirming the location and movement of a mobile node by receiving/sending Association_Req, Access_Req, Access_Res and Association_Req (with consideration of that these messages are inherently associated with the identifications of the mobile node and the access point). The teachings of Rue is modified by the teachings of Wang for sending the IP addresses of the access points, which the mobile devices wishes to associated with, to an entity (i.e. MAS of Rue).

Applicant's arguments with regards to dependent claims 15-18 are based on the deficiency of the references to support the limitations of independent claim 14. The arguments are respectfully traversed for the same reason(s) as stated above for rejection of claim 14.

8. Applicant's arguments with respect to claim 38 have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALLAHYAR KASRAIAN whose telephone number is (571)270-1772. The examiner can normally be reached on Monday through Friday 8:00 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. 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.

/Allahyar Kasraian/
Examiner, Art Unit 2642

Notice of References Cited	Application/Control No. 13/240,776	Applicant(s)/Patent Under Reexamination GANESAN, VASUDEVAN	
	Examiner ALLAHYAR KASRAIAN	Art Unit 2642	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-7,398,088 B2	07-2008	Belkin et al.	455/439
*	B US-6,175,737 B1	01-2001	Kao, Chiiming	455/447
C	US-			
D	US-			
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

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
		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. 13240776	Applicant(s)/Patent Under Reexamination GANESAN, VASUDEVAN
	Examiner ALLAHYAR KASRAIAN	Art Unit 2642

✓	Rejected
=	Allowed

-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

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

CLAIM		DATE										
Final	Original	02/29/2012	10/27/2012	02/06/2013								
	1	✓	✓	✓								
	2	✓	✓	✓								
	3	✓	✓	✓								
	4	✓	✓	✓								
	5	✓	✓	✓								
	6	✓	✓	✓								
	7	✓	✓	✓								
	8	✓	✓	✓								
	9	✓	✓	✓								
	10	✓	✓	✓								
	11	✓	✓	○								
	12	✓	✓	✓								
	13	✓	✓	✓								
	14	✓	✓	✓								
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	36	-	-	-								

<i>Index of Claims</i> 	Application/Control No. 13240776	Applicant(s)/Patent Under Reexamination GANESAN, VASUDEVAN
	Examiner ALLAHYAR KASRAIAN	Art Unit 2642

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

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant		<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47			
CLAIM		DATE							
Final	Original	02/29/2012	10/27/2012	02/06/2013					
	37	-	-	-					
	38	✓	✓	✓					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	Group Art Unit: 2642
Vasudevan Ganesan	)	Examiner: Kasraian, Allahyar
Serial No.: 13/240,776)	
Filed: September 22, 2011	)	AMENDMENT AND RESPONSE TO
	)	OFFICE ACTION MAILED
	)	February 7, 2013
For: MOBILE TELEPHONE)	
VOIP/CELLULAR SEAMLESS	)	162 N. Wolfe Rd.
ROAMING SWITCHING	)	Sunnyvale, CA 94086
CONTROLLER	)	(408) 530-9700
_____	)	Customer No. 28960

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

AMENDMENT

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 7 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method of providing communications for a mobile communication device that roams between multiple different types of wireless networks, the method comprising:
 - a. establishing a first communication link between the mobile communication device and an end destination device, wherein the first communication link includes a first wireless communication link between the mobile communication device and a first type of wireless network;
 - b. monitoring a signal strength of the first wireless communication link;
 - c. when the signal strength drops below a predetermined threshold, notifying an interface server with the mobile communication device and establishing a second communication link between the interface server and the end destination device;
 - d. notifying the mobile communication device to terminate transmission over the first communication link; and
 - e. re-directing the second communication link from the interface server to the mobile communication device, thereby establishing a second wireless communication link between the mobile communication device and the second type of wireless network.

2. (previously presented) The method of claim 1 wherein the first type of wireless communication link comprises a IEEE 802.11 standard based communication link, and the first type of wireless network includes a IEEE 802.11 standard based network access point.

3. (original) The method of claim 2 wherein the second type of wireless network includes a wireless cellular network.

4. (previously presented) The method of claim 1 wherein establishing the first communication link includes routing through a voice over internet protocol network.

5. (original) The method of claim 1 wherein establishing the first communication link includes routing through a cellular network.
6. (previously presented) The method of claim 1 wherein establishing the second communication link includes routing through a voice over internet protocol network.
7. (original) The method of claim 1 wherein establishing the second communication link includes routing through a cellular network.
8. (original) The method of claim 1 further comprising providing a connectivity status by the mobile communication device to the interface server while the mobile communication device is within a first coverage area of the first type of wireless network.
9. (original) The method of claim 8 further comprising providing a routing association to a mobile switching center within the second type of wireless network, wherein the routing association associates the mobile communication device to the interface server.
10. (original) The method of claim 9 further comprising routing a termination communication intended for the mobile communication device from the mobile switching center to the interface server according to the routing association when the connectivity status is active, and routing the termination communication from the interface server to the mobile communication device over the first type of wireless network.
11. (previously presented) The method of claim 10 further comprising when the connectivity status is not provided to the interface server, the routing association is removed from the mobile switching center.
12. (original) The method of claim 1 further comprising registering the mobile communication device with a mobile switching center within the second type of wireless network when the signal strength drops below the predetermined threshold.

13. (original) The method of claim 12 further comprising setting up the second communication link with the end destination device and forwarding the second communication link to the interface server.

14. (currently amended) A method of providing communications for a mobile communication device that roams between multiple IEEE 802.11 standard based coverage areas, the method comprising:
 - a. associating the mobile communication device with a nomadic server, wherein the nomadic server is coupled to one or more IEEE 802.11 standard based access points;
 - b. establishing a first IEEE 802.11 standard based communication link between the mobile communication device and a first IEEE 802.11 standard based access point;
 - c. registering the mobile communication device with the nomadic server including providing an IP address of the first IEEE 802.11 standard based access point to the nomadic server;
 - d. configuring a communication path to the mobile communication device via the nomadic server according to the IP address of the first IEEE 802.11 standard based access point and the first IEEE 802.11 standard based communication link;
 - e. detecting movement of the mobile communication device into a coverage area of a second IEEE 802.11 standard based access point;
 - f. registering the mobile communication device with the nomadic server including an IP address of the second IEEE 802.11 standard based access point;
 - g. establishing a second IEEE 802.11 standard based communication link between the mobile communication device and the second IEEE 802.11 standard based access point; and
 - h. re-configuring the communication path according to the IP address of the second IEEE 802.11 standard based access point and the second IEEE 802.11 standard based communication link;

wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold.

15. (previously presented) The method of claim 14 further comprising associating the mobile communication device to the nomadic server at a mobile switching center.
16. (original) The method of claim 14 further comprising providing a routing association to a mobile switching center within a cellular network, wherein the routing association associates the mobile communication device to the interface server.
17. (previously presented) The method of claim 16 further comprising routing a communication, from an end destination device and intended for the mobile communication device, from the mobile switching center to the interface server according to the routing association, and routing the communication from the interface server to the mobile communication device over the communication path.
18. (original) The method of claim 14 wherein registering the mobile communication device with the nomadic server provides a connectivity status of the mobile communication device while the mobile communication device is within a specific coverage area of a specific WiFi access point.

Claims 19-37 (canceled).

38. (currently amended) A method of providing communications between mobile communication devices, the method comprising:
 - a: routing a communication over a first communication link between a first mobile communication device and a first cellular base station, wherein the communication is directed from the first mobile communication device to a second communication device;
 - b: routing the communication over a second communication link between the first cellular base station and a first controller device;
 - c: routing the communication over a third communication link between the first controller device and a second controller device, wherein the third communication link comprises an Internet Protocol network;
 - d: routing the communication over a fourth communication link between the second controller device and a second cellular base station; and

- e. routing the communication over a fifth communication link between the second cellular base station and the second communication device;

wherein the first mobile communication device notifies an interface server if the first communication link falls below a threshold and further wherein the first controller device and the second controller device are able to operate independent of a first cellular network including the first cellular base station and a second cellular network including the second cellular base station ~~not directly coupled to the first cellular base station and the second cellular base station.~~

REMARKS

The Applicant respectfully requests further examination and consideration of the claims in view of the above amendments and the arguments set forth fully below. Claims 1-18 and 38 were pending in this application. Within the Office Action, Claims 1-10, 12-18 and 38 have been rejected and Claim 11 has been objected to. By the above amendments, Claims 1, 14 and 38 have been amended. Accordingly, Claims 1-18 and 38 are now pending.

Amendments to the Claims

By the above amendments, Claim 38 has been amended to recite “wherein the first controller device and the second controller device are able to operate independent of a first cellular network including the first cellular base station and a second cellular network including the second cellular base station.” Support for this amendment can be found throughout the Present Specification which describes numerous operations of the server 80 with non-cellular networks such as a WIFI network, a PLMN and a PSTN (i.e. independent of a cellular network). Accordingly, no new matter has been added.

Objections to the Claims

Within the Office Action, Claims 1, 14 and 38 have been objected to due to informalities. By the above amendments, Claims 1, 14 and 38 have been amended to correct the indicated informalities. Accordingly, the objection should be withdrawn.

Rejections Under 35 U.S.C. § 112

Within the Office Action, Claim 38 has been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Specifically, it is asserted that the phrase “wherein the first controller device and the second controller device are not directly coupled to the first cellular base station and the second cellular base station” contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor had possession of the invention at the time the application was filed. By the above amendments, Claim 38 has been amended to remove the above phrase. Accordingly, the rejection should be withdrawn.

Rejections Under 35 U.S.C. § 103

Within the Office Action, Claims 1-10, 12 and 13 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 8,041,360 to Ibe et al. (hereinafter “Ibe”) in view of U.S. Patent No. 7,398,088 to Belkin et al. (hereinafter “Belkin”). The Applicant respectfully disagrees.

Ibe is directed to a method of seamless roaming between wireless local area networks and cellular carrier networks. Specifically, Ibe teaches enabling a user that originates a call in a WLAN and happens to go outside the range of the WLAN to automatically switch over to the cellular carrier network. [Ibe, Abstract] However, as recognized within the Office action, Ibe does not teach establishing a **second** communication link between the interface server and the end destination device. Instead, Ibe merely teaches that a second link is made between the cellular proxy (i.e. asserted interface server) and the mobile device, not between the cellular proxy and the end destination device.

Belkin is directed to a handover method and apparatus. Specifically, Belkin teaches obtaining call information corresponding to an ongoing call over a first network and ascertaining a handover number for use by one of the wireless communication units to originate a handover call via a second network, wherein the handover number terminates in the first network for use in facilitating the handover of the communication to the second network. [Belkin, Abstract] However, Belkin does not teach establishing a **second** communication link between the interface server and the end destination device. Instead, Belkin merely teaches establishing a second connection 302 between the mobile communication device 102 and the network switching function 710 (asserted interface server), not between the end destination device 714 and the network switching function 710.

Within the Office Action, it is asserted that the above limitation is taught in Belkin at col. 13, lines 32-44 by “when a handover situation becomes imminent ..., the wireless communication unit 102 initiates a handover call ... the handover call is routed via the network switching function 112 to the network switching function 710.” [Office Action, page 6] However, as described above, this citation merely indicates a second link is established between the asserted interface server and the mobile communication device, not the interface server and the end destination device (i.e. peer CU 714). It is also asserted within the Office Action that the above limitation is taught in Belkin at col. 13, line 45 to col. 14, line 2 by “the message requests that the

peer unit 713 route it's voice bearer RTP to the RTP port associated with the handover call, e.g. WAN leg or UA4 836 of the network switching function 710 and the RTP will be rerouted as a result of the message being forwarded to UA1 730." [Office Action, page 6] However, all that the above citation teaches is that the **single** connection between the peer CU 714 and the network switching function 710 is **rerouted** to the handover call port, not that a **second** connection is made between the peer CU 714 and the network switching function 710. Rerouting a connection is not the same as establishing a second connection. As a result, Belkin does not teach establishing a **second** communication link between the interface server and the end destination device.

Thus, because neither Ibe nor Belkin teach establishing a **second** communication link between the interface server and the end destination device, nor can their combination. Accordingly, the combination of Ibe and Belkin does not teach the presently claimed invention.

In contrast to the teachings of the combination of Ibe and Belkin, the presently claimed invention is directed to a system that provides seamless roaming for a mobile communication device between different types of wireless networks, such as WiFi and cellular networks for voice, data and video communication. Use of the system enables a combination of different types of wireless networks such as WiFi and cellular for providing access to the mobile communication device and makes use of the Voice over Internet (VOIP) networks for switching the calls whenever possible. Specifically, the system enables telephone communications that can be initiated using VOIP while within a VOIP access point, such as a WiFi hotspot, and enables telephone communications that can be initiated using a cellular network while within a cellular area and outside of a VOIP access point. As described above, the combination of Ibe and Belkin does not teach establishing a **second** communication link between the interface server and the end destination device.

The independent Claim 1 is directed to a method of providing communications for a mobile communication device that roams between multiple different types of wireless networks. The method comprises establishing a first communication link between the mobile communication device and an end destination device, wherein the first communication link includes a first wireless communication link between the mobile communication device and a first type of wireless network, monitoring a signal strength of the first wireless communication link, when the signal strength drops below a predetermined threshold, notifying an interface

server with the mobile communication device and establishing a second communication link between the interface server and the end destination device, notifying the mobile communication device to terminate transmission over the first communication link and re-directing the second communication link from the interface server to the mobile communication device, thereby establishing a second wireless communication link between the mobile communication device and the second type of wireless network. As described above, the combination of Ibe and Belkin does not teach establishing a **second** communication link between the interface server and the end destination device. For at least these reasons, the independent Claim 1 is allowable over Ibe, Belkin and their combination.

Claims 2-10, 12 and 13 are dependent upon the independent Claim 1. As discussed above, the independent Claim 1 is allowable over the combination of Ibe and Belkin. Accordingly, Claims 2-10, 12 and 13 are all also allowable as being dependent on an allowable base claim.

Within the Office Action, Claims 14 and 18 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Pub. No. 2003/0185172 to Rue et al. (hereinafter “Rue”) in view of U.S. Patent Pub. No. 2004/0114559 to Wang et al. (hereinafter “Wang”). The Applicants respectfully disagree.

Rue is directed to an apparatus and method for supporting mobility between subnetworks of mobile nodes in a wireless LAN. [Rue, Abstract] However, Rue does not teach wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold. Instead, Rue teaches nothing about a first communication link threshold, much less the mobile device notifying the nomadic server if the link falls below a threshold.

Within the previous Office Action, it is asserted that this limitation is taught in Rue at paragraph 0030 by “the mobile node 101 concludes that the signal intensity of the first access point has weakened,” the reassociation_req S209 and the handover_req S211. [Office Action, page 12] The Applicants respectfully disagree. “Concluding that a signal intensity has weakened” is not the same as determining if a signal has fallen below a threshold. Indeed, signals strengthen and weaken constantly due to numerous factors without ever crossing defined thresholds. Thus, even if Rue teaches concluding a signal has weakened, it still fails to teach the claimed “threshold” determination.

Additionally, even if Rue did teach the use of a threshold, it would still fail to teach the claimed limitation because it does not teach that the mobile node 101 notifies the mobile access server 104 (i.e. the asserted nomadic server) if the signal weakens. Instead, Rue teaches that the mobile node simply “scans another new access point until it acquires a signal of the second access point 103.” Scanning for an access point is not the same as notifying the mobile access server 104. For example, if the mobile node 101 is not able to find a new access point during its scan, there is nothing in Rue that teaches that the mobile access server 104 will ever be notified of the weakened signal detection.

Within the current Office Action, it is asserted that the transmission of the handover request message to the mobile access server after the mobile node transmits a reassociation request message to the second access point teaches the above limitation because it provides the same functionality as the claimed limitation. [Office Action, page 22] The Applicants respectfully disagree because the process of Rue does not provide the same functionality as the claimed notification process. The claimed limitation recites “wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold.” In other words, the notification is conditioned on the link falling below the threshold. In contrast, the “notification” or handoff request of Rue is conditioned on the mobile node finding a new access point. These different conditions result in different functioning by the mobile nodes. The presently claimed invention will always notify the server if the link falls below the threshold, whereas the mobile device of Rue only “notifies” the server if **both** the link falls below the threshold **and** a new access point is found. Thus, as described above, if no new node is found the presently claimed mobile device will still notify the server whereas the mobile device of Rue will not. That is not the same functionality. Thus, Rue does teach wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold.

Additionally, as recognized within the Office Action, Rue does not teach providing an IP address of the first and second WIFI access points to the nomadic server.

Wang is directed to inter-proxy communication protocol for mobile IP. Specifically, Wang teaches a first access point sends an inter-proxy request message to one or more additional access points that requests the IP configuration information for the node. [Wang, Abstract] However, Wang does not teach wherein the mobile communication device notifies the nomadic

server if the first communication link falls below a threshold. Further, Wang does not teach providing an IP address of the first and second WIFI access points to the nomadic server. Within the previous Office Action, it is asserted that Wang teaches the claimed providing at Figures 2, 4 and 5 and paragraphs 0044 and 0045 by teaching an IP address of the sending access point (e.g. claimed second access point) and the IP address of the target access point (e.g. the first access point) with consideration of FA, HA or DHCP as the claimed nomadic server. [Office Action, page 12] The Applicants respectfully disagree. Even if the FA, HA or DHCP of Wang were equivalent to the nomadic server of the presently claimed invention, Wang would still fail to teach the above limitation because the inter-proxy messages (i.e. request and reply) are not to the nomadic server. Instead, they are messages between one or more access points 210, 212, not to the FA, HA or DHCP. Indeed, the whole purpose of Wang is to provide IP configuration data of a node from the initial access point to other access points, not to the FA, HA or DHCP. [Wang, ¶ 0016] Therefore, neither the cited portion nor the remainder of Wang teaches providing an IP address of the first and second WIFI access points to the nomadic server.

Within the current Office Action, it is first asserted that the FA and HA of Wang update their visitor and binding tables to reflect movement of nodes and therefore, the tables must be updated based on the IP addresses of the node and the related access point. [Office Action, pages 22-23] The current Office Action then asserts that Wang is only cited for the purpose of teaching sending IP addresses of access points to an entity such as MAS (the asserted nomadic server of Rue). [Office Action, page 23] However, Wang does not teach that it is beneficial to send IP addresses of access points to anything (i.e. any entity), rather it only teaches that it is beneficial to send them in between access points 210, 212. Thus, if the destination of Wang's messages is removed from the combination, the combination becomes improper due to lack of motivation. To put it another way, simply because Wang teaches sending access points IP addresses to one type of entity does not mean it can be used to teach sending the IP addresses to all other types of entities (e.g. MAS of Rue). Such logic would mean that Wang combined with Rue would teach the sending of IP addresses to every type of entity taught in Rue simply because Wang teaches sending addresses to "something" and Rue teaches different "somethings". This clearly cannot be the case. As a result, 1) if the destination of other access points of Wang is included in the modification of Rue, Wang fails to teach sending the IP addresses to a nomadic server and 2) if the destination of other access points of Wang is replaced with "entities," then the combination of Rue and Wang is improper. In either case, the combination of Rue and Wang does not teach providing an IP address of the first and second WIFI access points to the nomadic server.

As described above, Rue and Wang both fail to teach providing an IP address of the first and second WIFI access points to the nomadic server and wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold. As a result, the combination of Rue and Wang does not teach the presently claimed invention.

In contrast to the teachings of Rue and Wang, the presently claimed invention is directed to a system that provides seamless roaming for a mobile communication device between different types of wireless networks, such as WIFI and cellular networks for voice, data and video communication. Use of the system enables a combination of different types of wireless networks such as WIFI and cellular for providing access to the mobile communication device and makes use of the Voice over Internet (VOIP) networks for switching the calls whenever possible. Specifically, the system enables telephone communications that can be initiated using VOIP while within a VOIP access point, such as a WIFI hotspot, and enables telephone communications that can be initiated using a cellular network while within a cellular area and outside of a VOIP access point. As described above, the combination of Rue and Wang does not teach providing an IP address of the first and second WIFI access points to the nomadic server or wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold.

The independent Claim 14 is directed to a method of providing communications for a mobile communication device that roams between multiple IEEE 802.11 standard based coverage areas. The method comprises associating the mobile communication device with a nomadic server, wherein the nomadic server is coupled to one or more IEEE 802.11 standard based access points, establishing a first IEEE 802.11 standard based communication link between the mobile communication device and a first IEEE 802.11 standard based access point, registering the mobile communication device with the nomadic server including providing an IP address of the first IEEE 802.11 standard based access point to the nomadic server, configuring a communication path to the mobile communication device via the nomadic server according to the IP address of the first IEEE 802.11 standard based access point and the first IEEE 802.11 standard based communication link, detecting movement of the mobile communication device into a coverage area of a second IEEE 802.11 standard based access point, registering the mobile communication device with the nomadic server including an IP address of the second IEEE 802.11 standard based access point, establishing a second IEEE 802.11 standard based communication link between the mobile communication device and the second IEEE 802.11

standard based access point and re-configuring the communication path according to the IP address of the second IEEE 802.11 standard based access point and the second IEEE 802.11 standard based communication link; wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold. As described above, the combination of Rue and Wang does not teach providing an IP address of the first and second IEEE 802.11 standard based access points to the nomadic server or wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold. For at least these reasons, the independent Claim 14 is allowable over Rue, Wang and their combination.

Claim 18 is dependent on the independent Claim 14. As discussed above, the independent Claim 14 is allowable over Rue, Wang and their combination. Accordingly, Claim 18 is also allowable as being dependent on an allowable base claim.

Within the Office Action, Claims 15-17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Rue and Wang in view of U.S. Patent Pub. No. 2002/0147008 to Kallio et al. (hereinafter “Kallio”). The Applicants respectfully disagree.

Claims 15-17 are dependent on the independent Claim 14. As discussed above, the independent Claim 14 is allowable over Rue, Wang and their combination. Accordingly, Claims 15-17 are all also allowable as being dependent on an allowable base claim.

Within the Office Action, Claim 38 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Pub. No. 2004/0203802 to McCormick et al. (hereinafter “McCormick”) in view of Ibe and further in view of U.S. Patent No. 6,175,737 to Kao et al. (hereinafter “Kao”). The Applicants respectfully disagree.

McCormick is directed to a process for optimizing speech coding as a function of end user device characteristics. [McCormick, Abstract] However, McCormick does not teach wherein the first controller device and the second controller device are able to operate independent of a first cellular network including the first cellular base station and a second cellular network including the second cellular base station. Instead, the RNCs 132, 142 (i.e. asserted controller devices) of McCormick both only operate as a part of the cellular networks 131, 141 as shown in Figure 1. Thus, McCormick does not teach the presently claimed invention.

As described above, Ibe is directed to a method of seamless roaming between wireless local area networks and cellular carrier networks. However, Ibe does not teach wherein the first controller device and the second controller device are able to operate independent of a first cellular network including the first cellular base station and a second cellular network including the second cellular base station. Instead, Ibe is only cited for the purpose of teaching the mobile communication device notifying an interface server if the first communication link falls below a threshold. Accordingly, Ibe does not teach the presently claimed invention.

Kao is directed to a method and apparatus for wireless communications for base station controllers. Specifically, Kao teaches a cellular communication system having a plurality of wireless in-band channels and a plurality of cells with a plurality of mobile stations in each cell. [Kao, Abstract] However, Kao does not teach wherein the first controller device and the second controller device are able to operate independent of a first cellular network including the first cellular base station and a second cellular network including the second cellular base station. Instead, the BSC 8 of Kao only operates as a part of the cellular communication system 9. [See Kao, col. 5, line 66 to col. 6, line 36 and Figure 1] Accordingly, Kao does not teach the presently claimed invention.

As described above, McCormick, Ibe and Kao all fail to teach wherein the first controller device and the second controller device are able to operate independent of a first cellular network including the first cellular base station and a second cellular network including the second cellular base station. As a result, the combination of McCormick, Ibe and Kao does not teach the presently claimed invention.

In contrast to the teachings of McCormick, Ibe and Kao, the presently claimed invention is directed to a system that provides seamless roaming for a mobile communication device between different types of wireless networks, such as WIFI and cellular networks for voice, data and video communication. Use of the system enables a combination of different types of wireless networks such as WIFI and cellular for providing access to the mobile communication device and makes use of the Voice over Internet (VOIP) networks for switching the calls whenever possible. Specifically, the system enables telephone communications that can be initiated using VOIP while within a VOIP access point, such as a WIFI hotspot, and enables telephone communications that can be initiated using a cellular network while within a cellular area and outside of a VOIP access point. As described above, the combination of McCormick, Ibe and Kao does not teach wherein the first controller device and the second controller device

are able to operate independent of a first cellular network including the first cellular base station and a second cellular network including the second cellular base station.

The independent Claim 38 is directed to a method of providing communications between mobile communication devices. The method comprises routing a communication over a first communication link between a first mobile communication device and a first cellular base station, wherein the communication is directed from the first mobile communication device to a second communication device, routing the communication over a second communication link between the first cellular base station and a first controller device, routing the communication over a third communication link between the first controller device and a second controller device, wherein the third communication link comprises a Internet Protocol network, routing the communication over a fourth communication link between the second controller device and a second cellular base station and routing the communication over a fifth communication link between the second cellular base station and the second communication device, wherein the first mobile communication device notifies an interface server if the first communication link falls below a threshold and further wherein the first controller device and the second controller device are able to operate independent of a first cellular network including the first cellular base station and a second cellular network including the second cellular base station. As described above, the combination of McCormick, Ibe and Kao does not teach wherein the first controller device and the second controller device are able to operate independent of a first cellular network including the first cellular base station and a second cellular network including the second cellular base station. For at least these reasons, the independent Claim 38 is allowable over McCormick, Ibe, Kao and their combination.

Allowable Subject Matter

Within the Office Action, it is asserted that Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten to be independent including any intervening claims. Claim 11 is dependent upon the independent Claim 1. As discussed above, the independent Claim 1 is allowable over the combination of Ibe and Belkin. Accordingly, Claim 11 is also allowable as being dependent on an allowable base claim.

CONCLUSION

Applicant respectfully submits that the claims are in a condition for allowance, and allowance at an early date would be appreciated. Should the Examiner have any questions or comments, they are encouraged to call the undersigned at (408) 530-9700 to discuss the same so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,
HAVERSTOCK & OWENS LLP

Dated: April 7, 2013

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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.

DETAILED ACTION

Remarks

1. The present Office Action is based upon the Applicant's amendment filed on April 07, 2013. **Claims 1-18 and 38** are now pending in the present application. **This Action is made FINAL.**
2. The objection to the drawing is withdrawn. The replacement-drawing sheet was received on April 07, 2013 and acknowledged by the Examiner.

Claim Rejections - 35 USC § 112

3. The following is a quotation of 35 U.S.C. 112(a):
(a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.
4. The following is a quotation of 35 U.S.C. 112 (pre-AIA), first paragraph:
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
 - A. **Claim 38** is rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter (i.e. "wherein the first controller device and the second controller device are able to operate independent of a first cellular network including the first cellular base station and a second cellular network including the second cellular base station") which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for pre-

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AIA the inventor(s), at the time the application was filed, had possession of the claimed invention.

Information Disclosure Statement

5. The information disclosure statement submitted on 05/01/2013 has been considered by the Examiner and made of record in the application file.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 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 negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

A. **Claims 1-10, 12 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ibe et al. (US Patent # 8041360 B2)** (hereinafter Ibe) in view of **Belkin et al. (US Patent # 7398088 B2)** (hereinafter Belkin).

Consider **claim 1**, Ibe discloses a method of providing communications for a mobile communication device that roams between multiple different types of wireless networks, the method comprising:

establishing a first communication link between the mobile communication device and an end destination device, wherein the first communication link includes a first wireless communication link between the mobile communication device and a first type of wireless network (FIG. 2, col. 3, lines 32-36, for a dual mode mobile device originates a call (the claimed first communication link includes a first wireless communication link) within a WLAN (the claimed first type of wireless network) to other party);

monitoring a signal strength of the first wireless communication link (col. 3, lines 32-47, for monitoring signal quality by measuring SNR);

when the signal strength drops below a predetermined threshold (col. 3, lines 32-47, for when the SNR reaches some threshold value d), notifying an interface server with the mobile communication device [and establishing a second communication link between the interface server and the end destination device] (col. 3, lines 48-51 for sending a HandoffRequest message to cellular proxy (claimed interface server), and FIG. 2, col. 3, line 55 to col. 4, line 12 for forwarding the call to mobile device over a new connection established via the cellular network);

notifying the mobile communication device to terminate transmission over the first communication link (FIG. 2, col. 3 line 55 to col. 4 line 12 for commands the mobile station to switch its radio to the cellular network); and

re-directing the [second] communication link from the interface server to the mobile communication device, thereby establishing a second wireless communication link between the mobile communication device and the second type of wireless network (FIG. 2, col. 3 line 55 to col. 4 line 12, for forwarding the call to mobile device over a

new connection established via the cellular network; Note: the second communication link is considered as the link where the call is connected through a radio link (the claimed second wireless communication link) through the cellular network).

However, Ibe fails to disclose (when the signal strength drops below a predetermined threshold, notifying an interface server with the mobile communication device and] establishing a second communication link between the interface server and the end destination device and) establishing a second communication link between the interface server and the end destination device.

In the same field of endeavor, Belkin discloses (when the signal strength drops below a predetermined threshold, notifying an interface server with the mobile communication device and) establishing a second communication link between the interface server and the end destination device (FIGS. 7-10, col.13, lines 32-44 for “When a handover situation becomes imminent..., the wireless communication unit 102 initiates a handover call... the handover call is routed via the network switching function 112 to *the network switching function 110*”; (note that “Generally if the signal quality level, e.g. signal to noise, or frame error rate or like assessment crosses some *threshold* it is determined that a handover is likely,” see col. 5 line67 to col. 6 line 3); col. 13 line 45 to col. 14 line 2 for the *message requests that the peer unit 714* (claimed the end destination device) *route it’s voice bearer RTP* (Real Time Protocol) to *the RTP port associated with the handover call, e.g. WAN leg or UA4 836 of the network switching function 710* (claimed interface server) and the RTP that will be rerouted as a result of the message being forwarded to UA1 730 (of the network switching function

710) and then to the peer unit 714 is the RTP from or for the peer unit 714; and note to the link 1002 of FIG. 10 and col. 15 lines 2-6, the bearer 1002 within the LAN 106 is an RTP stream; Note: all of the description related to FIG. 7 to FIG. 10 about the handover process of the wireless communication from the WLAN 106 network to the cellular WAN 108 should be considered).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate rerouting voice or data bearer RTP from a network switching function to a peer unit through a new RTP port associated with a handover call (when wireless communication unit 102 initiates a handover call and if the signal quality level crosses some *threshold*) as taught by Belkin to the method of seamless roaming between wireless LAN and cellular network disclosed by Ibe for purpose of providing a new communication link between the wireless communication unit and its peer unit during the handover call.

Consider **claim 2**, Ibe as modified by Belkin discloses the claimed invention **as applied to claim 1 above**, and Ibe further discloses wherein the first type of wireless communication link comprises a IEEE 802.11 standard based communication link, and the first type of wireless network includes a IEEE 802.11 standard based network access point (FIG. 1 col. 3, lines 7-31, for WLAN connection and access point).

Consider **claim 3**, Ibe as modified by Belkin discloses the claimed invention **as applied to claim 2 above**, and Ibe further discloses wherein the second type of wireless network includes a wireless cellular network (FIG. 1, col. 3, line 55 to col. 4,

line 12, for forwarding the call to mobile device over a new connection established via the cellular network).

Consider **claim 4**, lbe as modified by Belkin discloses the claimed invention **as applied to claim 1 above**, and lbe further discloses wherein establishing the first communication link includes routing through a ovice over internet protocol network (FIG. 1, col. 2, lines 16-29 for the cellular proxy also provides the VoIP interface between the enterprise LAN and the PBX).

Consider **claim 5**, lbe as modified by Belkin discloses the claimed invention **as applied to claim 1 above**, and lbe further discloses wherein establishing the first communication link includes routing through a cellular network (FIG. 3, col. 4 lines 13-26 for the situation when the other party is located in the cellular carrier network).

Consider **claim 6**, lbe as modified by Belkin discloses the claimed invention **as applied to claim 1 above**, and lbe further discloses wherein establishing the second communication link includes routing through a VOIP network (FIGS. 1 and 2, with consideration of the teachings of: col. 2, lines 16-29 for the cellular proxy also provides the VoIP interface between the enterprise LAN and the PBX; and col. 3 line 55 to col. 4 line 12 for the situation when the other party is located in the PSTN; see also col. 5 lines 34-34 for "the bearer portion or actual voice and data is carried using VoIP (voice over IP) techniques and real time protocol (RTP)").

Consider **claim 7**, lbe as modified by Belkin discloses the claimed invention **as applied to claim 1 above**, and lbe further discloses wherein establishing the second

communication link includes routing through a cellular network (FIG. 1, col. 3, line 55 to col. 4, line 12, for forwarding the call to mobile device over a new connection established via the cellular network).

Consider **claim 8**, lbe as modified by Belkin discloses the claimed invention **as applied to claim 1 above**, and lbe further discloses the method further comprising providing a connectivity status by the mobile communication device to the interface server while the mobile communication device is within a first coverage area of the first type of wireless network (col. 3, lines 48-51 for when a mobile device experiences SNR measurement value of r , it sends a Handoff Request message to the Cellular Proxy via the TCP connection that exists between the two devices).

Consider **claim 9 as applied to claim 8 above**, and Belkin further discloses providing a routing association to a mobile switching center within the second type of wireless network, wherein the routing association associates the mobile communication device to the interface server (FIGS. 7-10, col. 13, lines 32-44 for the handover call is routed via the network switching function 112 to the network switching function 110).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate rerouting voice or data bearer RTP from a network switching function to a peer unit through a new RTP port associated with a handover call (when wireless communication unit 102 initiates a handover call and if the signal quality level crosses some *threshold*) as taught by Belkin to the method of seamless roaming between wireless LAN and cellular network disclosed by lbe for

purpose of providing a new communication link between the wireless communication unit and its peer unit during the handover call.

Consider **claim 10**, lbe as modified by Belkin discloses the claimed invention **as applied to claim 9 above**, and lbe further discloses routing a termination communication intended for the mobile communication device from the mobile switching center to the interface server according to the routing association when the connectivity status is active, and routing the termination communication from the interface server to the mobile communication device over the first type of wireless network (col. 3, line 55 to col. 4, line 12, for the Cellular Proxy closing the TCP connection).

Consider **claim 12**, lbe as modified by Belkin discloses the claimed invention **as applied to claim 1 above**, and lbe further discloses registering the mobile communication device with a mobile switching center within the second type of wireless network when the signal strength drops below the predetermined threshold (col. 3, line 55 to col. 4, line 12 for forwarding the call to mobile device over a new connection (claimed registering) established via the cellular network with an inherent MSC; see also MSC in FIGS. 7-10 of Belkin).

Consider **claim 13**, lbe as modified by Belkin discloses the claimed invention **as applied to claim 12 above**, and lbe further discloses setting up the second communication link with the end destination device and forwarding the second communication link to the interface server (FIG. 1, col. 3, line 55 to col. 4, line 12, for

forwarding the call to mobile device over a new connection established via the cellular network through Cellular Proxy).

B. **Claims 14 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Rue (US Patent Application Publication # 20030185172 A1)** in view of **Wang (US Patent Application Publication # 20040114559 A1)**.

Consider **claim 14**, Rue discloses a method of providing communications for a mobile communication device that roams between multiple IEEE 802.11 standard based coverage areas (FIGS. 1 and 3, par. [0010] for a mobile node moving between the WLAN areas), the method comprising:

associating the mobile communication device with a nomadic server, wherein the nomadic server is coupled to one or more IEEE 802.11 standard based access points (FIG. 2, par. [0029] and [0030] for MAS 104 receiving access request from mobile node 101);

establishing a first IEEE 802.11 standard based communication link between the mobile communication device and a first IEEE 802.11 standard based access point (par. [0029] for *performing communication* through the first access point 102 after receiving Access_Res and Association_Res);

registering the mobile communication device with the nomadic server [including providing an IP address of the first IEEE 802.11 standard based access point to the nomadic server] (par. [0029] for MAS confirming the location move based on received Assocaion_Req and Access_Req);

configuring a communication path to the mobile communication device via the nomadic server according to [the IP address of the first IEEE 802.11 standard based access point and] the first IEEE 802.11 standard based communication link (par. [0029] for MAS confirming the location move based on received Associaion_Req, Access_Req, Access_Res and Association_Res; Note: it is inherently taught and well-known that the a communication link is set up based on the identification of a mobile station and the identification of an access point (or mobile station));

detecting movement of the mobile communication device into a coverage area of a second IEEE 802.11 standard based access point (par. [0030] for when the mobile node moves to the second access point 103 and detecting the signal intensity of the first access point has been weakened);

registering the mobile communication device with the nomadic server [including an IP address of the second IEEE 802.11 standard based access point] (par. [0030] for sending Reassociation_Req and Handover_Req to MAS 104, and sending back Reassociation_Res to the mobile node 101 to notify that the handover has been completed);

establishing a second IEEE 802.11 standard based communication link between the mobile communication device and the second IEEE 802.11 standard based access point (par. [0030] for the mobile node 101 can *perform communication* through the second access point 103); and

re-configuring the communication path according to [the IP address of the second IEEE 802.11 standard based access point and] the second IEEE 802.11

standard based communication link (par. [0030] for the mobile node 101 can perform communication through the second access point 103; Note: it is inherently taught and well-known that the a communication link is set up based on the identification of a mobile station and the identification of an access point (or mobile station));

wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold (par. [0030] for the mobile node 101 concludes that the signal intensity of the first access point has been weakened and notifying MAS 104 by sending Reassociation_Req and Handover_Req).

However, Rue may fail to explicitly disclose providing an IP address of the first IEEE 802.11 standard based access point and an IP address of the second IEEE 802.11 standard based access point to the nomadic server.

In the same field of endeavor, Wang discloses providing an IP address of the first IEEE 802.11 standard based access point and an IP address of the second IEEE 802.11 standard based access point to the nomadic server (FIGS. 2, 4 and 5, par. [0044] and [0045] for an IP address of the sending access point (e.g. claimed second access point) and the IP address of the target access point (e.g. the first access point) with consideration of FA, HA or DHCP as the claimed nomadic server).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the IP addresses of access points as taught by Wang to registration with an access point (when a mobile stations moves the coverage area of one access point to a new access point) as disclosed by Rue for purpose of

including the IP addresses of the access points during the accessing or registration process.

Consider **claim 18**, Rue as modified by Wang discloses the claimed invention **as applied to claim 14 above**, and Rue further discloses wherein registering the mobile communication device with the nomadic server provides a connectivity status of the mobile communication device while the mobile communication device is within a specific coverage area of a specific IEEE 802.11 standard based access point (par. [0030] for when the mobile node moves to the second access point 103 and detecting the signal intensity of the first access point has been weakened, and sending Reassociation_Req and Handover_Req to MAS 104, and sending back Reassociation_Res to the mobile node 101 to notify that the handover has been completed).

C. **Claims 15-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Rue** in view of **Wang** and further in view of **Kallio (US Patent Application Publication # 20020147008 A1)**.

Consider **claim 15 as applied to claim 14 above**, Rue as modified by Wang discloses the claimed invention except disclosing associating the mobile communication device to the nomadic server at the mobile switching center.

In the same field of endeavor, Kallio discloses associating the mobile communication device to the nomadic server at the mobile switching center (FIG. 1, par. [0011] and [0015] for sending measurement reports to the WMC (the nomadic server) of

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the wireless LAN, where the handover algorithm generates a handover request to the Mobile Switching Center (MSC), via the Wireless Mobile Center (WMC) of the wireless LAN).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a Mobile Switching Center with a Wireless Mobile Center for reporting a handover request as taught by Kallio to the mobile access server (MAS) for managing roaming or handover of a mobile device between different access points of WLAN network(s) as disclosed by Rue as modified by Wang for purpose of updating location of the mobile device at the MSC.

Consider **claim 16 as applied to claim 14 above**, Rue as modified by Wang discloses the claimed invention except providing a routing association to a mobile switching center within a cellular network, wherein the routing association associates the mobile communication device to the interface server.

In the same field of endeavor, Kallio discloses providing a routing association to a mobile switching center within a cellular network, wherein the routing association associates the mobile communication device to the interface server (FIG. 1, par. [0011] and [0015] for sending measurement reports to the WMC (the nomadic server) of the wireless LAN, where the handover algorithm generates a handover request to the Mobile Switching Center (MSC), via the Wireless Mobile Center (WMC) of the wireless LAN).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a Mobile Switching Center with a

Wireless Mobile Center for reporting a handover request as taught by Kallio to the mobile access server (MAS) for managing roaming or handover of a mobile device between different access points of WLAN network(s) as disclosed by Rue as modified by Wang for purpose of updating location of the mobile device at the MSC.

Consider **claim 17 as applied to claim 16 above**, Kallio further discloses routing a communication, from an end destination device and intended for the mobile communication device, from the mobile switching center to the interface server according to the routing association, and routing the communication from the interface server to the mobile communication device over the communication path (it is inherently taught and well-known that an end communication device can communicate a call to the mobile device in WLAN network, where the call is routed through MSC to WMC and finally to the mobile station).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a Mobile Switching Center with a Wireless Mobile Center for reporting a handover request as taught by Kallio to the mobile access server (MAS) for managing roaming or handover of a mobile device between different access points of WLAN network(s) as disclosed by Rue as modified by Wang for purpose of updating location of the mobile device at the MSC.

D. **Claim 38** is rejected under 35 U.S.C. 103(a) as being unpatentable over **McCormick et al. (US Patent Application Publication # 20040203802 A1)**

(hereinafter McCormick) in view of **Ibe** and further in view of **Kao (US Patent # 6175737 B1)**.

Consider **claim 38**, McCormick discloses a method of providing communications between mobile communication devices (FIGS. 1 and 2, par. [0018] and [0019] for call process between calling party 101 and calling party 101'), the method comprising:

routing a communication over a first communication link between a first mobile communication device and a first cellular base station, wherein the communication is directed from the first mobile communication device to a second communication device (FIGS. 1 and 2, par. [0019] for connection between calling party 101 and base station 133 when calling party initiates a call for calling party 101');

routing the communication over a second communication link between the first cellular base station and a first controller device (FIGS. 1 and 2, par. [0019] for the call route or connection between the base station 133 and RNC 132);

routing the communication over a third communication link between the first controller device and a second controller device, wherein the third communication link comprises a Internet Protocol network (FIGS. 1 and 2, par. [0020] for if the routing of the call is over a Voice over IP connection, at step 208 inserting a parameter into the IP trunk routing message and the Gateway GPRS Support Node (GGSN) 106B extends the call connection to the IP Network 107, between RNC 132 and RNC 142);

routing the communication over a fourth communication link between the second controller device and a second cellular base station (FIGS. 1 and 2, par. [0014], [0019] and [0020] for the link between RNC 142 and base station 144); and

routing the communication over a fifth communication link between the second cellular base station and the second communication device (FIGS. 1 and 2, par. [0019] and [0020] for completing the call, from base station 144 to the called party device 101').

McCormick further discloses the first communication link falls below a threshold (FIG. 1, par. [0015] and [0016] for the radio unit in the wireless subscriber device 101 re-tunes the transmitter-receiver equipment contained therein to use these designated radio frequencies and orthogonal coding. Once the communication connection is established, the control messages are typically transmitted to adjust transmitter power and change the transmission channel when required to handoff this wireless subscriber device 101 to an adjacent cell, when the subscriber moves from the present cell to one of the adjoining cells (i.e. the radio link 111 falls below a threshold)).

However, McCormick may fail to explicitly disclose wherein the mobile communication device notifies an interface server if the first communication link falls below a threshold.

In the same field of endeavor, Ibe discloses the mobile communication device notifies an interface server if the first communication link falls below a threshold (col. 3 lines 32-54 for when a mobile device moves closer to the edge of a cell (of a network), it monitors SNR. If the SNR drops to a threshold d , then the mobile device sends Handoff request message to a Cellular Proxy (claimed interface server) connected to cellular network).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate sending a Handoff Request message to

a Cellular Proxy when a mobile device moves and determines the SNR drops to a threshold level as taught by Ibe to the method of call routing when a device is handing off from one base station to an adjacent base station as disclosed by McCormick for purpose of requesting a handoff to an device for managing handoff and routing the calls.

However, McCormick as modified by Ibe may fail to disclose explicitly wherein the first controller device and the second controller device are able to operate independent of a first cellular network including the first cellular base station and a second cellular network including the second cellular base station.

In the same field of endeavor, Granberg discloses wherein the first controller device and the second controller device are able to operate independent of a first cellular network including the first cellular base station and a second cellular network including the second cellular base station (FIG. 1, col. 5, lines 1-17, a central control point 11 is coupled to multiple Mobile Switching Centers (MSCs) 14. These *MSCs 14 may be provided in different mobile communication networks operated by different network operators*. Thus the each of MSC is independent from a certain cellular network).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate Mobile Switching Centers that can provide different mobile communication networks operated by different network operators in as taught by Granberg to the base stations and base stations (BS) and

their base station controllers (RNC) as disclosed by McCormick as modified by Ibe for purpose of sharing a MSC between different operators.

Allowable Subject Matter

7. **Claim 11** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed 04/07/2013 have been fully considered but they are not persuasive.

On the third paragraph of page 8 of the Applicant's remarks, Applicant argues, "Belkin does not teach establishing a **second** communication link between the interface server and the **end destination device**. Instead, Belkin merely teaches establishing a second connection 302 between the mobile communication device 102 and the network switching function 710 (asserted interface server), not between the end destination device 714 and the network switching function 710." Examiner respectfully disagrees. As indicated in the current and previous office actions, Belkin discloses the claimed limitations in FIGS. 7-10 col. 13 line 45 to col. 14 line 2 for the *message requests that **the peer unit 714** (claimed the end destination device) *route its voice bearer RTP* (Real Time Protocol) to *the RTP port associated with the handover call, e.g. WAN leg or UA4 836 of **the network switching function 710** (claimed interface server) and *the RTP that will be rerouted as a result of the message being forwarded to UA1 730 (of the***

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network switching function 710) **and then to the peer unit 714 is the RTP from or for the peer unit 714**, and also in FIG. 10 and col. 15 lines 2-6, **the link the link 1002** within the LAN 106 is an RTP stream.

On the bridging paragraph between pages 8 and 9 of the Applicant's remarks, Applicant argues, "this citation merely indicates a second link is established between the asserted interface server and the mobile communication device, not the interface server and the end destination device (i.e. peer CU 714). It is also asserted within the Office Action that the above limitation is taught in Belkin at col. 13, line 45 to col. 14, line 2 by "the message requests that the peer unit 713 route it's voice bearer RTP to the RTP port associated with the handover call, e.g. WAN leg or UA4 836 of the network switching function 710 and the RTP will be rerouted as a result of the message being forwarded to UA1 730." [Office Action, page 6] However, all that the above citation teaches is that the single connection between the peer CU 714 and the network switching function 710 is rerouted to the handover call port, not that a second connection is made between the peer CU 714 and the network switching function 710. Rerouting a connection is not the same as establishing a second connection. As a result, Belkin does not teach establishing a second communication link between the interface server and the end destination device." Examiner respectfully disagrees. Applicant does not consider the teachings of Belkin (as cited in the previous and current office actions) regarding the *message requests that **the peer unit 714*** (claimed the end destination device) *route it's voice bearer RTP* (Real Time Protocol) to *the RTP port associated with the handover call, e.g. WAN leg or UA4 836 of **the network switching***

function 710 (claimed interface server) and *the RTP that will be rerouted as a result of the message being forwarded to UA1 730* (of the network switching function 710) **and then to the peer unit 714 is the RTP from or for the peer unit 714**, and also in FIG. 10 and col. 15 lines 2-6, **the link the link 1002** within the LAN 106 is an RTP stream.

Applicant's arguments with regards to dependent claims 2-10, 12 and 13 are based on the deficiency of the references to support the limitations of independent claim 1. The arguments are respectfully traversed for the same reason(s) as stated above for rejection of claim 1.

9. Applicant's arguments with respect to rejections under 35 USC § 103 and claim 14 has been fully considered but they are not persuasive.

In the third full paragraph between pages 10 of the Applicant's remarks, Applicant argues, "Rue does not teach wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold." Examiner respectfully disagrees. As indicated in the current and previous office actions, par. [0030] of Rue discloses the claimed invention.

In the last paragraph of page 10 of the Applicant's remarks, Applicant argues, "Concluding that a signal intensity has weakened' is not the same as determining if a signal has fallen below a threshold. Indeed, signals strengthen and weaken constantly due to numerous factors without ever crossing defined thresholds. Thus, even if Rue teaches concluding a signal has weakened, it still fails to teach the claimed 'threshold' determination." Examiner respectfully disagrees. Applicant should consider the whole teachings of the paragraph 0030. A handoff process based on a signal quality is a well-

known process for one skilled in the art. Paragraph [0030] clearly discloses: “If the mobile node moves to another access point, that is, a second access point, that is within the same one subnetwork, the mobile node 101 concludes that the signal intensity of the first access point has been weakened, and scans another new access point until it acquires a signal of the second access point 103. At step S209, the mobile node 101 transmits a reassociation request message (Reassociation_Req) to the second access point 103, and the second access point 103 transmits a handover request message (Handover_Req) to the mobile access server 104.” It is clearly well known to one skilled in the art that, generally, if the mobile moves to a second access point and requests for a handoff to the second access point (based on conclusion that the signal intensity of the first access point has been weakened and based on the received signal form the second access point), it means the signal intensity of the first access point crosses a threshold value.

In the first paragraph of page 11 of the Applicant’s remarks, Applicant further argues, “even if Rue did teach the use of a threshold, it would still fail to teach the claimed limitation because it does not teach that the mobile node 101 notifies the mobile access server 104 (i.e. the asserted nomadic server) if the signal weakens. Instead, Rue teaches that the mobile node simply ‘scans another new access point until it acquires a signal of the second access point 103.’ Scanning for an access point is not the same as notifying the mobile access server 104. For example, if the mobile node 101 is not able to find a new access point during its scan, there is nothing in Rue that teaches that the mobile access server 104 will ever be notified of the weakened signal

detection. Thus, Rue cannot teach wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold.” Examiner respectfully traverses. It seems that Applicant does not consider the part, “the second access point 103 transmits a handover request message (Handover_Req) to the mobile access server” after the mobile node 101 transmits a reassociation request message (Reassociation_Req) to the second access point 103. This process can be considered and provides the same functionality as “the mobile communication device notifies the nomadic server if the first communication link falls below a threshold”.

On the second paragraph of page 11 of the Applicant’s remarks, Applicant argues, “Within the current Office Action, it is asserted that the transmission of the handover request message to the mobile access server after the mobile node transmits a reassociation request message to the second access point teaches the above limitation because it provides the same functionality as the claimed limitation...The Applicants respectfully disagree because the process of Rue does not provide the same functionality as the claimed notification process. The claimed limitation recites ‘wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold.’ In other words, the notification is conditioned on the link falling below the threshold. In contrast, the ‘notification’ or handoff request of Rue is conditioned on the mobile node finding a new access point. These different conditions result in different functioning by the mobile nodes. *The presently claimed invention will always notify the server if the link falls below the threshold, whereas the mobile device of Rue on12 ‘notifies’ the server if both **the link falls below the threshold** and a new*

access point is found. Thus, as described above, if no new node is found the presently claimed mobile device will still notify the server whereas the mobile device of Rue will not. That is not the same functionality. Thus, Rue does teach wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold.” (Emphasis added by Examiner). Examiner respectfully disagrees. First, there is nothing in the claim to disclose “always notify the server if the link falls below the threshold”. Second, it seems that Applicant admits that Rue discloses *the mobile device of Rue on 12 ‘notifies’ the server **the link falls below the threshold** (and a new access point is found)*. Third, Applicant should note to the limitation, “detecting movement of the mobile communication device into a coverage area of a second IEEE 802.11 standard based access point” which would result in the limitation “wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold.” Therefore, the purpose of notifying a server when a mobile device detects the communication link is weak (or below a threshold value) is to hand off the mobile device to another base station or access point. Therefore, both the claimed limitations and the teachings of Rue have the same functionality.

On the bridging paragraph between pages 11 and 12 of the Applicant’s remarks, Applicant argues, “Even if the FA, HA or DHCP of Wang were equivalent to the nomadic server of the presently claimed invention, Wang would still fail to teach the above limitation because the inter-proxy messages (i.e. request and reply) are not to the nomadic server. Instead, they are messages between one or more access points 210,212, not to the FA, HA or DHCP. Indeed, the whole purpose of Wang is to provide

IP configuration data of a node from the initial access point to other access points, not to the FA, HA or DHCP. [Wang, ¶ 0016] Therefore, neither the cited portion nor the remainder of Wang teaches providing an IP address of the first and second WiFi access points to the nomadic server.” Examiner respectfully disagrees for several reasons. First, the purpose of using the inter-proxy messages between access points to “make an intelligent decision as to whether to *register* the nodes with their *Home Agent(s) via Foreign Agents on behalf of the nodes*”, (see paragraph 0035). Paragraph 0035 further discloses, “the first Foreign Agent 202 updates its visitor table to reflect the movement of the node 206. Similarly, the Home Agent's mobility binding table is updated to reflect the movement of the node 206 to the second Foreign Agent 204. Thus, the appropriate entry in the first Foreign Agent's visitor table and the Home Agent's mobility binding table may be deleted. A new entry is then entered in the Home Agent's mobility binding table and the second Foreign Agent's visitor table upon completion of registration of the mobile node with the Home Agent. Alternatively, the visitor table may be maintained and updated by the Access Point.” Therefore, the HA's mobility binding table and FAs' visitor tables must be updated based on the IP addresses of the node and the IP addresses of related AP's.

Second, in response to Applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case Rue discloses MAS (claimed nomadic server) for confirming the

location and movement of a mobile node by receiving/sending Association_Req, Access_Req, Access_Res and Association_Req (with consideration of that these messages are inherently associated with the identifications of the mobile node and the access point). The teachings of Rue is modified by the teachings of Wang for sending the IP addresses of the access points, which the mobile devices wishes to associated with, to an entity (i.e. MAS of Rue).

On the last paragraph of page 12 of the Applicant's remarks, Applicant argues, "Within the current Office Action, it is first asserted that the FA and HA of Wang update their visitor and binding tables to reflect movement of nodes and therefore, the tables must be updated based on the IP addresses of the node and the related access point. [Office Action, pages 22-23] The current Office Action then asserts that Wang is only cited for the purpose of teaching sending IP addresses of access points to an entity such as MAS (the asserted nomadic server of Rue). [Office Action, page 23] However, Wang does not teach that it is beneficial to send IP addresses of access points to anything (i.e. any entity), rather it only teaches that it is beneficial to send them in between access points 210, 212. Thus, if the destination of Wang's messages is removed from the combination, the combination becomes improper due to lack of motivation. To put it another way, simply because Wang teaches sending access points IP addresses to one type of entity does not mean it can be used to teach sending the IP addresses to all other types of entities (e.g. MAS of Rue). Such logic would mean that Wang combined with Rue would teach the sending of IP addresses to every type of entity taught in Rue simply because Wang teaches sending addresses to "something"

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and Rue teaches different "somethings". This clearly cannot be the case. As a result, 1) if the destination of other access points of Wang is included in the modification of Rue, Wang fails to teach sending the IP addresses to a nomadic server and 2) if the destination of other access points of Wang is replaced with "entities," then the combination of Rue and Wang is improper. In either case, the combination of Rue and Wang does not teach providing an IP address of the first and second WIFI access points to the nomadic server." Examiner respectfully traverses. Applicant still has not considered "the HA's mobility binding table and FAs' visitor tables must be updated based on the IP addresses of the node and the IP addresses of related AP's," but still insisting the beneficial of sending the IP addresses between access points 210, 212. Paragraph [0034] of Wang discloses, "A node typically obtains a MAC address associated with *an intended destination IP address* by sending an ARP request to the Foreign Agent via the Access Point. Second, a node may attempt to *send an actual IP data packet via the Foreign Agent*. Thus, in this instance, *if the node's IP address* does not belong to the local subnet, the receipt of the data packet by the Access Point triggers the sending of a control packet (i.e., registration request packet) by the Access Point. Third, *an access point may receive a DHCP reply designated to the node*, and *the Access Point can save the node's IP address obtained from the DHCP reply in its client table for future reference.*" Therefore, the cited parts of Wang clearly discloses sending and receiving IP addresses to HA, FA and DHCP (alone or in combination) of Wang were equivalent to the nomadic server of the claimed invention. As indicated the motivation is to use the IP addresses of access points as taught by Wang to registration

with an access point (when a mobile stations moves the coverage area of one access point to a new access point) as disclosed by Rue for purpose of including the IP addresses of the access points during the accessing or registration process.

Applicant's arguments with regards to dependent claims 15-18 are based on the deficiency of the references to support the limitations of independent claim 14. The arguments are respectfully traversed for the same reason(s) as stated above for rejection of claim 14.

10. Applicant's arguments with respect to claim 38 have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

On the bridging paragraph between pages 15 and 16 of the Applicant remarks, Applicant asserts, "the presently claimed invention is directed to a system that provides seamless roaming for a mobile communication device between different types of wireless networks, such as WIFI and cellular networks for voice, data and video communication. Use of the system enables a combination of different types of wireless networks such as WIFI and cellular for providing access to the mobile communication device and makes use of the Voice over Internet (VOIP) networks for switching the calls whenever possible. Specifically, the system enables telephone communications that can be initiated using VOIP while within a VOIP access point, such as a WIFI hotspot, and enables telephone communications that can be initiated using a cellular network while within a cellular area and outside of a VOIP access point." However, there is nothing in the Applicant's description to provide support for the new limitation that one

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ordinary skilled in the art can conclude, "*the first controller device and the second controller device are able to operate independent of a first cellular network including the first cellular base station and a second cellular network including the second cellular base station*".

11. Applicant(s) is reminded that the Examiner is entitled to give the broadest reasonable interpretation to the language of the claim. The Examiner is not limited to Applicant's definition, which is not specifically set forth in the claims, *In re Tanaka et al.* 193 USPQ 139, (CCPA) 1977.

12. The references made herein are done so for the convenience of the Applicant. They are not meant to be limiting and should be considered as a whole.

Conclusion

13. 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

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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.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALLAHYAR KASRAIAN whose telephone number is (571)270-1772. The examiner can normally be reached on Monday through Friday 8:00 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. 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.

/Allahyar Kasraian/
Primary Examiner, Art Unit 2642

Notice of References Cited	Application/Control No. 13/240,776	Applicant(s)/Patent Under Reexamination GANESAN, VASUDEVAN	
	Examiner ALLAHYAR KASRAIAN	Art Unit 2642	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-6,195,543 B1	02-2001	Granberg, Christer	455/407
	B US-			
	C US-			
	D US-			
	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				
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NON-PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
		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.

Receipt date: 05/01/2013

13240776 - GAU: 2642

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Filed

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	13240776
	Filing Date	2011-09-22
	First Named Inventor	Vasudevan Ganesan
	Art Unit	2642
	Examiner Name	Kasraian, Allahyar
	Attorney Docket Number	HAVA-00401

U.S.PATENTS							Remove	
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13240776	13240776 - GAU: 2642
	Filing Date		2011-09-22	
	First Named Inventor	Vasudevan Ganesan		
	Art Unit	2642		
	Examiner Name	Kasraian, Allahyar		
	Attorney Docket Number	HAVA-00401		

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EXAMINER SIGNATURE

Examiner Signature	/Allahyar Kasraian/	Date Considered	06/17/2013
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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

Index of Claims 	Application/Control No. 13240776	Applicant(s)/Patent Under Reexamination GANESAN, VASUDEVAN
	Examiner ALLAHYAR KASRAIAN	Art Unit 2642

✓	Rejected
=	Allowed

-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

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

CLAIM		DATE							
Final	Original	02/29/2012	10/27/2012	02/06/2013	06/17/2013				
	1	✓	✓	✓	✓				
	2	✓	✓	✓	✓				
	3	✓	✓	✓	✓				
	4	✓	✓	✓	✓				
	5	✓	✓	✓	✓				
	6	✓	✓	✓	✓				
	7	✓	✓	✓	✓				
	8	✓	✓	✓	✓				
	9	✓	✓	✓	✓				
	10	✓	✓	✓	○				
	11	✓	✓	○					
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<i>Index of Claims</i> 	Application/Control No. 13240776	Applicant(s)/Patent Under Reexamination GANESAN, VASUDEVAN
	Examiner ALLAHYAR KASRAIAN	Art Unit 2642

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

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant		<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47			
CLAIM		DATE							
Final	Original	02/29/2012	10/27/2012	02/06/2013	06/17/2013				
	37	-	-	-	-				
	38	✓	✓	✓	✓				

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	Group Art Unit: 2642
Vasudevan Ganesan	)	Examiner: Kasraian, Allahyar
Serial No.: 13/240,776)	
Filed: September 22, 2011	)	AMENDMENT AND RESPONSE TO
	)	OFFICE ACTION MAILED
	)	June 27, 2013
For: MOBILE TELEPHONE)	
VOIP/CELLULAR SEAMLESS)	162 N. Wolfe Rd.
ROAMING SWITCHING)	Sunnyvale, CA 94086
CONTROLLER)	(408) 530-9700
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AMENDMENT

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 7 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method of providing communications for a mobile communication device that roams between multiple different types of wireless networks, the method comprising:
 - establishing a first communication link between the mobile communication device and an end destination device, wherein the first communication link includes a first wireless communication link between the mobile communication device and a first type of wireless network;
 - monitoring a signal strength of the first wireless communication link;
 - when the signal strength drops below a predetermined threshold, notifying an interface server with the mobile communication device and establishing a second communication link between the interface server and the end destination device without disrupting the first communication link;
 - notifying the mobile communication device to terminate transmission over the first communication link; and
 - re-directing the second communication link from the interface server to the mobile communication device, thereby establishing a second wireless communication link between the mobile communication device and the second type of wireless network.

2. (previously presented) The method of claim 1 wherein the first type of wireless communication link comprises a IEEE 802.11 standard based communication link, and the first type of wireless network includes a IEEE 802.11 standard based network access point.

3. (original) The method of claim 2 wherein the second type of wireless network includes a wireless cellular network.

4. (previously presented) The method of claim 1 wherein establishing the first communication link includes routing through a voice over internet protocol network.

5. (original) The method of claim 1 wherein establishing the first communication link includes routing through a cellular network.
6. (previously presented) The method of claim 1 wherein establishing the second communication link includes routing through a voice over internet protocol network.
7. (original) The method of claim 1 wherein establishing the second communication link includes routing through a cellular network.
8. (original) The method of claim 1 further comprising providing a connectivity status by the mobile communication device to the interface server while the mobile communication device is within a first coverage area of the first type of wireless network.
9. (original) The method of claim 8 further comprising providing a routing association to a mobile switching center within the second type of wireless network, wherein the routing association associates the mobile communication device to the interface server.
10. (original) The method of claim 9 further comprising routing a termination communication intended for the mobile communication device from the mobile switching center to the interface server according to the routing association when the connectivity status is active, and routing the termination communication from the interface server to the mobile communication device over the first type of wireless network.
11. (previously presented) The method of claim 10 further comprising when the connectivity status is not provided to the interface server, the routing association is removed from the mobile switching center.
12. (original) The method of claim 1 further comprising registering the mobile communication device with a mobile switching center within the second type of wireless network when the signal strength drops below the predetermined threshold.

13. (original) The method of claim 12 further comprising setting up the second communication link with the end destination device and forwarding the second communication link to the interface server.

14. (currently amended) A method of providing communications for a mobile communication device that roams between multiple IEEE 802.11 standard based coverage areas, the method comprising:
 - associating the mobile communication device with a nomadic server, wherein the nomadic server is coupled to one or more IEEE 802.11 standard based access points;
 - establishing a first IEEE 802.11 standard based communication link between the mobile communication device and a first IEEE 802.11 standard based access point;
 - registering the mobile communication device with the nomadic server including providing an IP address of the first IEEE 802.11 standard based access point to the nomadic server;
 - configuring a communication path to the mobile communication device via the nomadic server according to the IP address of the first IEEE 802.11 standard based access point and the first IEEE 802.11 standard based communication link;
 - detecting movement of the mobile communication device into a coverage area of a second IEEE 802.11 standard based access point;
 - registering the mobile communication device with the nomadic server including an IP address of the second IEEE 802.11 standard based access point;
 - establishing a second IEEE 802.11 standard based communication link between the mobile communication device and the second IEEE 802.11 standard based access point; and
 - re-configuring the communication path according to the IP address of the second IEEE 802.11 standard based access point and the second IEEE 802.11 standard based communication link;wherein the mobile communication device always attempts to notify ~~notifies~~ the nomadic server if the first communication link falls below a threshold.

15. (previously presented) The method of claim 14 further comprising associating the mobile communication device to the nomadic server at a mobile switching center.
16. (original) The method of claim 14 further comprising providing a routing association to a mobile switching center within a cellular network, wherein the routing association associates the mobile communication device to the interface server.
17. (previously presented) The method of claim 16 further comprising routing a communication, from an end destination device and intended for the mobile communication device, from the mobile switching center to the interface server according to the routing association, and routing the communication from the interface server to the mobile communication device over the communication path.
18. (original) The method of claim 14 wherein registering the mobile communication device with the nomadic server provides a connectivity status of the mobile communication device while the mobile communication device is within a specific coverage area of a specific WiFi access point.

Claims 19-37 (canceled).

38. (currently amended) A method of providing communications between mobile communication devices, the method comprising:
 - routing a communication over a first communication link between a first mobile communication device and a first cellular base station, wherein the communication is directed from the first mobile communication device to a second communication device;
 - routing the communication over a second communication link between the first cellular base station and a first controller device;
 - routing the communication over a third communication link between the first controller device and a second controller device, wherein the third communication link comprises an Internet Protocol network;
 - routing the communication over a fourth communication link between the second controller device and a second cellular base station; and

routing the communication over a fifth communication link between the second cellular base station and the second communication device;
wherein the first mobile communication device notifies an interface server if the first communication link falls below a threshold and further wherein the first and fifth communication links are over cellular networks and the second, third and fourth communication links are over non-cellular networks ~~the first controller device and the second controller device are able to operate independent of a first cellular network including the first cellular base station and a second cellular network including the second cellular base station.~~

REMARKS

The Applicant respectfully requests further examination and consideration of the claims in view of the above amendments and the arguments set forth fully below. Claims 1-18 and 38 were pending in this application. Within the Office Action, Claims 1-10, 12-18 and 38 have been rejected and Claim 11 has been objected to. By the above amendments, Claims 1, 14 and 38 have been amended. Accordingly, Claims 1-18 and 38 are now pending.

Support for Amendments

By the above amendments, Claim 38 has been amended to recite “wherein the first and fifth communication links are over cellular networks and the second, third and fourth communication links are over non-cellular networks.” Support for this amendment is found within the Present Specification at least at page 21, lines 7-13. Claim 1 has been amended to recite “without disrupting the first communication link,” which is supported throughout the Present Specification including the original claims which describe the creation of the second link without any disruption of the first link such that it must be subsequently terminated. Claim 14 has been amended to recite “always attempts to notify,” which is also supported throughout the Present Specification and the original claims which describe notifying if the signal is less than the threshold. Accordingly, no new matter has been added.

Rejections Under 35 U.S.C. § 112

Within the Office Action, Claim 38 has been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Specifically, it is asserted that the phrase “wherein the first controller device and the second controller device are able to operate independent of a first cellular network including the first cellular base station and a second cellular network including the second cellular base station” contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor had possession of the invention at the time the application was filed. The Applicants respectfully disagree. Nonetheless in order to further prosecution, the above limitation has been removed from Claim 38. Accordingly, the rejection should be withdrawn.

Response to Arguments

Within the Office Action, it is reasserted that Belkin teaches establishing a **second** communication link **between the interface server and the end destination device**. Specifically, it appears to be explained that it is interpreted that Belkin teaches the limitation by its rerouting of the voice bearer RTP of the asserted end destination device 714 to the asserted interface server 710. In other words, the link 1002 thereby formed between the peer CU 714 and the network switching function 740 is the claimed second communication link between the end destination device and interface server. [Office Action, pages 19-21] The Applicants respectfully disagree.

Specifically, because this asserted second link 1002 is actually just a rerouting of the first link 120, it is not a separate or second link, as claimed. Indeed, in order to emphasize this difference the Claims have been amended to recite “establishing a second communication link between the interface server and the end destination device without disrupting the first communication link.” Neither Ibe nor Belkin teach to form such a second link while a first link between the mobile devices is not disrupted. Instead, Ibe does not teach forming a second link at all and Belkin disrupts the first link in order to create its “second link.” Thus, the combination of Ibe and Belkin does not teach establishing a **second** communication link **between the interface server and the end destination device without disrupting the first communication link**.

Within the Office Action regarding Claim 14, it is asserted that 10 “there is nothing in the claim to disclose ‘always notify the server if the link falls below a threshold,’” 2) “it seems that Applicant admits that Rue discloses the mobile device of Rue on 12 ‘notifies’ the server [when] the link falls below the threshold (and a new access point is found), and 3) because Claim 14 further recites detecting movement of the mobile device into the coverage area of a second access point, “the purpose of notifying a server when a mobile device detects the communication link is weak (or below a threshold value) is to hand off the mobile device to another base station or access point” such that the Rue has the same functionality. [Office Action, page 24] The Applicants respectfully disagree.

First, by the above amendments Claim 14 has been amended to recite “wherein the mobile communication device always attempts to notify the nomadic server if the first communication link falls below a threshold.” Thus, there is no longer anything in the claim to disclose always notifying the server, and this always attempting is in contrast with Rue that does not attempt if no second access point is found. Second, Applicants do not admit that Rue notifies

the server when the link falls below the threshold (and a new access point is found) as the argument was premised with the disclaimer “even if Rue did teach the use of a threshold.” Third, even if the presently claimed invention and Rue had the same “purpose” in their server notification, it would not change the fact that Rue does not “notify” anything unless a second access point is found (even if signal weakness is detected), whereas the presently claimed invention always attempts to notify the nomadic server if the first communication link falls below a threshold. Thus, Rue does not teach wherein the mobile communication device always attempts to notify the nomadic server if the first communication link falls below a threshold.

Rejections Under 35 U.S.C. § 103

Within the Office Action, Claims 1-10, 12 and 13 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 8,041,360 to Ibe et al. (hereinafter “Ibe”) in view of U.S. Patent No. 7,398,088 to Belkin et al. (hereinafter “Belkin”). The Applicant respectfully disagrees.

Ibe is directed to a method of seamless roaming between wireless local area networks and cellular carrier networks. Specifically, Ibe teaches enabling a user that originates a call in a WLAN and happens to go outside the range of the WLAN to automatically switch over to the cellular carrier network. [Ibe, Abstract] However, as recognized within the Office action, Ibe does not teach establishing a **second** communication link between the interface server and the end destination device without disrupting the first communication link. Instead, Ibe merely teaches that a second link is made between the cellular proxy (i.e. asserted interface server) and the mobile device, not between the cellular proxy and the end destination device.

Belkin is directed to a handover method and apparatus. Specifically, Belkin teaches obtaining call information corresponding to an ongoing call over a first network and ascertaining a handover number for use by one of the wireless communication units to originate a handover call via a second network, wherein the handover number terminates in the first network for use in facilitating the handover of the communication to the second network. [Belkin, Abstract] However, Belkin does not teach establishing a **second** communication link between the interface server and the end destination device without disrupting the first communication link. Instead, Belkin merely teaches establishing a second connection 302 between the mobile communication device 102 and the network switching function 710 (asserted interface server), not between the end destination device 714 and the network switching function 710.

Within the Office Action, it is asserted that the above limitation is taught in Belkin at col. 13, lines 32-44 by “when a handover situation becomes imminent ..., the wireless communication unit 102 initiates a handover call ... the handover call is routed via the network switching function 112 to the network switching function 710.” [Office Action, page 6] However, as described above, this citation merely indicates a second link is established between the asserted interface server and the mobile communication device, not the interface server and the end destination device (i.e. peer CU 714). It is also asserted within the Office Action that the above limitation is taught in Belkin at col. 13, line 45 to col. 14, line 2 by “the message requests that the peer unit 713 route it’s voice bearer RTP to the RTP port associated with the handover call, e.g. WAN leg or UA4 836 of the network switching function 710 and the RTP will be rerouted as a result of the message being forwarded to UA1 730.” [Office Action, page 6] However, all that the above citation teaches is that the **single** connection between the peer CU 714 and the network switching function 710 is **rerouted** to the handover call port, not that a **second** connection is made between the peer CU 714 and the network switching function 710. Rerouting a connection is not the same as establishing a second connection. As a result, Belkin does not teach establishing a **second** communication link between the interface server and the end destination device without disrupting the first communication link.

Thus, because neither Ibe nor Belkin teach establishing a **second** communication link between the interface server and the end destination device without disrupting the first communication link, nor can their combination. Accordingly, the combination of Ibe and Belkin does not teach the presently claimed invention.

In contrast to the teachings of the combination of Ibe and Belkin, the presently claimed invention is directed to a system that provides seamless roaming for a mobile communication device between different types of wireless networks, such as WiFi and cellular networks for voice, data and video communication. Use of the system enables a combination of different types of wireless networks such as WiFi and cellular for providing access to the mobile communication device and makes use of the Voice over Internet (VOIP) networks for switching the calls whenever possible. Specifically, the system enables telephone communications that can be initiated using VOIP while within a VOIP access point, such as a WiFi hotspot, and enables telephone communications that can be initiated using a cellular network while within a cellular area and outside of a VOIP access point. As described above, the combination of Ibe and Belkin

does not teach establishing a **second** communication link between the interface server and the end destination device without disrupting the first communication link.

The independent Claim 1 is directed to a method of providing communications for a mobile communication device that roams between multiple different types of wireless networks. The method comprises establishing a first communication link between the mobile communication device and an end destination device, wherein the first communication link includes a first wireless communication link between the mobile communication device and a first type of wireless network, monitoring a signal strength of the first wireless communication link, when the signal strength drops below a predetermined threshold, notifying an interface server with the mobile communication device and establishing a second communication link between the interface server and the end destination device without disrupting the first communication link, notifying the mobile communication device to terminate transmission over the first communication link and re-directing the second communication link from the interface server to the mobile communication device, thereby establishing a second wireless communication link between the mobile communication device and the second type of wireless network. As described above, the combination of Ibe and Belkin does not teach establishing a **second** communication link between the interface server and the end destination device without disrupting the first communication link. For at least these reasons, the independent Claim 1 is allowable over Ibe, Belkin and their combination.

Claims 2-10, 12 and 13 are dependent upon the independent Claim 1. As discussed above, the independent Claim 1 is allowable over the combination of Ibe and Belkin. Accordingly, Claims 2-10, 12 and 13 are all also allowable as being dependent on an allowable base claim.

Within the Office Action, Claims 14 and 18 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Pub. No. 2003/0185172 to Rue et al. (hereinafter "Rue") in view of U.S. Patent Pub. No. 2004/0114559 to Wang et al. (hereinafter "Wang"). The Applicants respectfully disagree.

Rue is directed to an apparatus and method for supporting mobility between subnetworks of mobile nodes in a wireless LAN. [Rue, Abstract] However, Rue does not teach wherein the mobile communication device always attempts to notify the nomadic server if the first communication link falls below a threshold. Instead, Rue teaches nothing about a first

communication link threshold, much less the mobile device notifying the nomadic server if the link falls below a threshold.

Within the Office Action, it is asserted that this limitation is taught in Rue at paragraph 0030 by “the mobile node 101 concludes that the signal intensity of the first access point has weakened,” the reassociation_req S209 and the handover_req S211. [Office Action, page 12] The Applicants respectfully disagree. “Concluding that a signal intensity has weakened” is not the same as determining if a signal has fallen below a threshold. Indeed, signals strengthen and weaken constantly due to numerous factors without ever crossing defined thresholds. Thus, even if Rue teaches concluding a signal has weakened, it still fails to teach the claimed “threshold” determination.

Additionally, even if Rue did teach the use of a threshold, it would still fail to teach the claimed limitation because it does not teach that the mobile node 101 notifies the mobile access server 104 (i.e. the asserted nomadic server) if the signal weakens. Instead, Rue teaches that the mobile node simply “scans another new access point until it acquires a signal of the second access point 103.” Scanning for an access point is not the same as notifying the mobile access server 104. For example, if the mobile node 101 is not able to find a new access point during its scan, there is nothing in Rue that teaches that the mobile access server 104 will ever be notified of the weakened signal detection.

Within the Office Action, it is asserted that the transmission of the handover request message to the mobile access server after the mobile node transmits a reassociation request message to the second access point teaches the above limitation because it provides the same functionality as the claimed limitation. [Office Action, page 22] The Applicants respectfully disagree because the process of Rue does not provide the same functionality as the claimed notification process. The claimed limitation recites “wherein the mobile communication device always attempts to notify the nomadic server if the first communication link falls below a threshold.” In other words, the notification is conditioned on the link falling below the threshold. In contrast, the “notification” or handoff request of Rue is conditioned on the mobile node finding a new access point. These different conditions result in different functioning by the mobile nodes. The presently claimed invention will always notify the server if the link falls below the threshold, whereas the mobile device of Rue only “notifies” the server if **both** the link falls below the threshold **and** a new access point is found. Thus, as described above, if no new node is found the presently claimed mobile device will still notify the server whereas the mobile

device of Rue will not. That is not the same functionality. Thus, Rue does teach wherein the mobile communication device always attempts to notify the nomadic server if the first communication link falls below a threshold.

Additionally, as recognized within the Office Action, Rue does not teach providing an IP address of the first and second WIFI access points to the nomadic server.

Wang is directed to inter-proxy communication protocol for mobile IP. Specifically, Wang teaches a first access point sends an inter-proxy request message to one or more additional access points that requests the IP configuration information for the node. [Wang, Abstract] However, Wang does not teach wherein the mobile communication device always attempts to notify the nomadic server if the first communication link falls below a threshold.

As described above, Rue and Wang both fail to teach wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold. As a result, the combination of Rue and Wang does not teach the presently claimed invention.

In contrast to the teachings of Rue and Wang, the presently claimed invention is directed to a system that provides seamless roaming for a mobile communication device between different types of wireless networks, such as WIFI and cellular networks for voice, data and video communication. Use of the system enables a combination of different types of wireless networks such as WIFI and cellular for providing access to the mobile communication device and makes use of the Voice over Internet (VOIP) networks for switching the calls whenever possible. Specifically, the system enables telephone communications that can be initiated using VOIP while within a VOIP access point, such as a WIFI hotspot, and enables telephone communications that can be initiated using a cellular network while within a cellular area and outside of a VOIP access point. As described above, the combination of Rue and Wang does not teach wherein the mobile communication device always attempts to notify the nomadic server if the first communication link falls below a threshold.

The independent Claim 14 is directed to a method of providing communications for a mobile communication device that roams between multiple IEEE 802.11 standard based coverage areas. The method comprises associating the mobile communication device with a nomadic server, wherein the nomadic server is coupled to one or more IEEE 802.11 standard based access points, establishing a first IEEE 802.11 standard based communication link between the mobile communication device and a first IEEE 802.11 standard based access point, registering the mobile communication device with the nomadic server including providing an IP address of the first IEEE 802.11 standard based access point to the nomadic server, configuring a

communication path to the mobile communication device via the nomadic server according to the IP address of the first IEEE 802.11 standard based access point and the first IEEE 802.11 standard based communication link, detecting movement of the mobile communication device into a coverage area of a second IEEE 802.11 standard based access point, registering the mobile communication device with the nomadic server including an IP address of the second IEEE 802.11 standard based access point, establishing a second IEEE 802.11 standard based communication link between the mobile communication device and the second IEEE 802.11 standard based access point and re-configuring the communication path according to the IP address of the second IEEE 802.11 standard based access point and the second IEEE 802.11 standard based communication link, wherein the mobile communication device always attempts to notify the nomadic server if the first communication link falls below a threshold. As described above, the combination of Rue and Wang does not teach wherein the mobile communication device always attempts to notify the nomadic server if the first communication link falls below a threshold. For at least these reasons, the independent Claim 14 is allowable over Rue, Wang and their combination.

Claim 18 is dependent on the independent Claim 14. As discussed above, the independent Claim 14 is allowable over Rue, Wang and their combination. Accordingly, Claim 18 is also allowable as being dependent on an allowable base claim.

Within the Office Action, Claims 15-17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Rue and Wang in view of U.S. Patent Pub. No. 2002/0147008 to Kallio et al. (hereinafter “Kallio”). The Applicants respectfully disagree.

Claims 15-17 are dependent on the independent Claim 14. As discussed above, the independent Claim 14 is allowable over Rue, Wang and their combination. Accordingly, Claims 15-17 are all also allowable as being dependent on an allowable base claim.

Within the Office Action, Claim 38 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Pub. No. 2004/0203802 to McCormick et al. (hereinafter “McCormick”) in view of Ibe and further in view of U.S. Patent No. 6,195,543 to Granberg et al. (hereinafter “Granberg”). The Applicants respectfully disagree.

McCormick is directed to a process for optimizing speech coding as a function of end user device characteristics. [McCormick, Abstract] However, McCormick does not teach the first and fifth communication links are over cellular networks and the second, third and fourth

communication links are over non-cellular networks. Instead, the second and fourth communication links of McCormick are over the cellular networks 131 and 141 between the base stations 133, 144 and the RNCs 132, 142 (i.e. asserted controller devices) as shown in Figure 1. Thus, McCormick does not teach the presently claimed invention.

As described above, Ibe is directed to a method of seamless roaming between wireless local area networks and cellular carrier networks. However, Ibe does not teach wherein the first and fifth communication links are over cellular networks and the second, third and fourth communication links are over non-cellular networks. Instead, Ibe is only cited for the purpose of teaching the mobile communication device notifying an interface server if the first communication link falls below a threshold. Accordingly, Ibe does not teach the presently claimed invention.

Granberg is directed to a control point administers an Advice of Charge (AoC) service provided to mobile subscribers. Specifically, Granberg teaches that the control point determines one or more AoC parameters for the call and sends them to a switching node currently serving the mobile station, wherein the mobile station receives the AoC parameters from the serving switching node and determines a prospective cost associated with the call and displays that cost to the mobile subscriber. [Granberg, Abstract] However, Granberg does not teach wherein the first and fifth communication links are over cellular networks and the second, third and fourth communication links are over non-cellular networks. Instead, Granberg is only cited for the purpose of teaching wherein the first controller device and the second controller device are able to operate independent of a first cellular network including the first cellular base station and a second cellular network including the second cellular base station. Accordingly, Granberg does not teach the presently claimed invention.

As described above, McCormick, Ibe and Granberg all fail to teach wherein the first and fifth communication links are over cellular networks and the second, third and fourth communication links are over non-cellular networks As a result, the combination of McCormick, Ibe and Granberg does not teach the presently claimed invention.

In contrast to the teachings of McCormick, Ibe and Granberg, the presently claimed invention is directed to a system that provides seamless roaming for a mobile communication device between different types of wireless networks, such as WIFI and cellular networks for voice, data and video communication. Use of the system enables a combination of different types of wireless networks such as WIFI and cellular for providing access to the mobile communication device and makes use of the Voice over Internet (VOIP) networks for switching

the calls whenever possible. Specifically, the system enables telephone communications that can be initiated using VOIP while within a VOIP access point, such as a WIFI hotspot, and enables telephone communications that can be initiated using a cellular network while within a cellular area and outside of a VOIP access point. As described above, the combination of McCormick, Ibe and Granberg does not teach wherein the first and fifth communication links are over cellular networks and the second, third and fourth communication links are over non-cellular networks.

The independent Claim 38 is directed to a method of providing communications between mobile communication devices. The method comprises routing a communication over a first communication link between a first mobile communication device and a first cellular base station, wherein the communication is directed from the first mobile communication device to a second communication device, routing the communication over a second communication link between the first cellular base station and a first controller device, routing the communication over a third communication link between the first controller device and a second controller device, wherein the third communication link comprises a Internet Protocol network, routing the communication over a fourth communication link between the second controller device and a second cellular base station and routing the communication over a fifth communication link between the second cellular base station and the second communication device, wherein the first mobile communication device notifies an interface server if the first communication link falls below a threshold and further wherein the first and fifth communication links are over cellular networks and the second, third and fourth communication links are over non-cellular networks. As described above, the combination of McCormick, Ibe and Granberg does not teach wherein the first and fifth communication links are over cellular networks and the second, third and fourth communication links are over non-cellular networks. For at least these reasons, the independent Claim 38 is allowable over McCormick, Ibe, Granberg and their combination.

Allowable Subject Matter

Within the Office Action, it is asserted that Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten to be independent including any intervening claims. Claim 11 is dependent upon the independent Claim 1. As discussed above, the independent Claim 1 is allowable over the combination of Ibe and Belkin. Accordingly, Claim 11 is also allowable as being dependent on an allowable base claim.

CONCLUSION

Applicant respectfully submits that the claims are in a condition for allowance, and allowance at an early date would be appreciated. Should the Examiner have any questions or comments, they are encouraged to call the undersigned at (408) 530-9700 to discuss the same so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,
HAVERSTOCK & OWENS LLP

Dated: August 23, 2013

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EXAMINER

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11/15/2013

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.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions.

Continued Examination Under 37 CFR 1.114

2. 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 September 17, 2013 has been entered.

Remarks

3. The present Office Action is based upon the Applicant's amendment filed on August 23, 2013. **Claims 1-18 and 38** are now pending in the present application.

Claim Rejections - 35 USC § 103

4. 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 negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

A. **Claims 14 and 18** are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over **Rue (US Patent Application Publication # 20030185172 A1)** in view of **Wang (US Patent Application Publication # 20040114559 A1)** and further in view of **Muszynski (US Patent # 6009328)**.

Consider **claim 14**, Rue discloses a method of providing communications for a mobile communication device that roams between multiple IEEE 802.11 standard based coverage areas (FIGS. 1 and 3, par. [0010] for a mobile node moving between the WLAN areas), the method comprising:

associating the mobile communication device with a nomadic server, wherein the nomadic server is coupled to one or more IEEE 802.11 standard based access points (FIG. 2, par. [0029] and [0030] for MAS 104 receiving access request from mobile node 101);

establishing a first IEEE 802.11 standard based communication link between the mobile communication device and a first IEEE 802.11 standard based access point

(par. [0029] for *performing communication* through the first access point 102 after receiving Access_Res and Association_Res);

registering the mobile communication device with the nomadic server [including providing an IP address of the first IEEE 802.11 standard based access point to the nomadic server] (par. [0029] for MAS confirming the location move based on received Assocaion_Req and Access_Req);

configuring a communication path to the mobile communication device via the nomadic server according to [the IP address of the first IEEE 802.11 standard based access point and] the first IEEE 802.11 standard based communication link (par. [0029] for MAS confirming the location move based on received Assocaion_Req, Access_Req, Access_Res and Association_Res; Note: it is inherently taught and well-known that the a communication link is set up based on the identification of a mobile station and the identification of an access point (or mobile station));

detecting movement of the mobile communication device into a coverage area of a second IEEE 802.11 standard based access point (par. [0030] for when the mobile node moves to the second access point 103 and detecting the signal intensity of the first access point has been weakened);

registering the mobile communication device with the nomadic server [including an IP address of the second IEEE 802.11 standard based access point] (par. [0030] for sending Reassociation_Req and Handover_Req to MAS 104, and sending back Reassociation_Res to the mobile node 101 to notify that the handover has been completed);

establishing a second IEEE 802.11 standard based communication link between the mobile communication device and the second IEEE 802.11 standard based access point (par. [0030] for the mobile node 101 can *perform communication* through the second access point 103); and

re-configuring the communication path according to [the IP address of the second IEEE 802.11 standard based access point and] the second IEEE 802.11 standard based communication link (par. [0030] for the mobile node 101 can perform communication through the second access point 103; Note: it is inherently taught and well-known that the a communication link is set up based on the identification of a mobile station and the identification of an access point (or mobile station));

wherein the mobile communication device notifies the nomadic server if the first communication link falls below a threshold (par. [0030] for the mobile node 101 concludes that the signal intensity of the first access point has been weakened and notifying MAS 104 by sending Reassociation_Req and Handover_Req).

However, Rue may fail to explicitly disclose providing an IP address of the first IEEE 802.11 standard based access point and an IP address of the second IEEE 802.11 standard based access point to the nomadic server.

In the same field of endeavor, Wang discloses providing an IP address of the first IEEE 802.11 standard based access point and an IP address of the second IEEE 802.11 standard based access point to the nomadic server (FIGS. 2, 4 and 5, par. [0044] and [0045] for an IP address of the sending access point (e.g. claimed second

access point) and the IP address of the target access point (e.g. the first access point with consideration of FA, HA or DHCP as the claimed nomadic server).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the IP addresses of access points as taught by Wang to registration with an access point (when a mobile station moves the coverage area of one access point to a new access point) as disclosed by Rue for purpose of including the IP addresses of the access points during the accessing or registration process.

However, Rue as modified by Wang fails to explicitly disclose wherein the mobile communication device always attempts to notify the nomadic server if the first communication link falls below a threshold.

In the same field of endeavor, Muszynski discloses wherein the mobile communication device always attempts to notify the nomadic server if the first communication link falls below a threshold (FIG. 1, col. 10 lines 6-8 for MS 30 will inform MSC 14 (considered as claimed nomadic server or to include the nomadic server) via a pilot signal quality measurement report that the signal coming from BS 24 has weakened below a predetermined threshold).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate informing a controller when a mobile station determines a received signal coming from a serving base station has weakened below a predetermined threshold as taught by Muszynski to the system including a mobile node which concludes that the signal intensity of an access point has been

weakened as disclosed by Rue as modified by Wang for purpose of informing the controller about the received signal quality received from a serving base station when the signal quality is below a predetermined threshold.

Consider **claim 18**, Rue as modified by Wang as modified by Muszynski discloses the claimed invention **as applied to claim 14 above**, and Rue further discloses wherein registering the mobile communication device with the nomadic server provides a connectivity status of the mobile communication device while the mobile communication device is within a specific coverage area of a specific IEEE 802.11 standard based access point (par. [0030] for when the mobile node moves to the second access point 103 and detecting the signal intensity of the first access point has been weakened, and sending Reassociation_Req and Handover_Req to MAS 104, and sending back Reassociation_Res to the mobile node 101 to notify that the handover has been completed).

B. **Claims 15-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Rue** in view of **Wang** in view of **Muszynski** and further in view of **Kallio (US Patent Application Publication # 20020147008 A1)**.

Consider **claim 15 as applied to claim 14 above**, Rue as modified by Wang as modified by Muszynski discloses the claimed invention except disclosing associating the mobile communication device to the nomadic server at the mobile switching center.

In the same field of endeavor, Kallio discloses associating the mobile communication device to the nomadic server at the mobile switching center (FIG. 1, par.

[0011] and [0015] for sending measurement reports to the WMC (the nomadic server) of the wireless LAN, where the handover algorithm generates a handover request to the Mobile Switching Center (MSC), via the Wireless Mobile Center (WMC) of the wireless LAN).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a Mobile Switching Center with a Wireless Mobile Center for reporting a handover request as taught by Kallio to the mobile access server (MAS) for managing roaming or handover of a mobile device between different access points of WLAN network(s) as disclosed by Rue as modified by Wang as modified by Muszynski for purpose of updating location of the mobile device at the MSC.

Consider **claim 16 as applied to claim 14 above**, Rue as modified by Wang as modified by Muszynski discloses the claimed invention except providing a routing association to a mobile switching center within a cellular network, wherein the routing association associates the mobile communication device to the interface server.

In the same field of endeavor, Kallio discloses providing a routing association to a mobile switching center within a cellular network, wherein the routing association associates the mobile communication device to the interface server (FIG. 1, par. [0011] and [0015] for sending measurement reports to the WMC (the nomadic server) of the wireless LAN, where the handover algorithm generates a handover request to the Mobile Switching Center (MSC), via the Wireless Mobile Center (WMC) of the wireless LAN).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a Mobile Switching Center with a Wireless Mobile Center for reporting a handover request as taught by Kallio to the mobile access server (MAS) for managing roaming or handover of a mobile device between different access points of WLAN network(s) as disclosed by Rue as modified by Wang as modified by Muszynski for purpose of updating location of the mobile device at the MSC.

Consider **claim 17 as applied to claim 16 above**, Kallio further discloses routing a communication, from an end destination device and intended for the mobile communication device, from the mobile switching center to the interface server according to the routing association, and routing the communication from the interface server to the mobile communication device over the communication path (it is inherently taught and well-known that an end communication device can communicate a call to the mobile device in WLAN network, where the call is routed through MSC to WMC and finally to the mobile station).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a Mobile Switching Center with a Wireless Mobile Center for reporting a handover request as taught by Kallio to the mobile access server (MAS) for managing roaming or handover of a mobile device between different access points of WLAN network(s) as disclosed by Rue as modified by Wang as modified by Muszynski for purpose of updating location of the mobile device at the MSC.

C. **Claim 38** is rejected under 35 U.S.C. 103(a) as being unpatentable over **McCormick et al. (US Patent Application Publication # 20040203802 A1)** (hereinafter McCormick) in view of **Ibe** and further in view of **Scheinert et al. (US Patent Application Publication # 20040204097 A1)** (hereinafter Scheinert).

Consider **claim 38**, McCormick discloses a method of providing communications between mobile communication devices (FIGS. 1 and 2, par. [0018] and [0019] for call process between calling party 101 and calling party 101'), the method comprising:

routing a communication over a first communication link between a first mobile communication device and a first cellular base station, wherein the communication is directed from the first mobile communication device to a second communication device (FIGS. 1 and 2, par. [0019] for connection between calling party 101 and base station 133 when calling party initiates a call for calling party 101');

routing the communication over a second communication link between the first cellular base station and a first controller device (FIGS. 1 and 2, par. [0019] for the call route or connection between the base station 133 and RNC 132);

routing the communication over a third communication link between the first controller device and a second controller device, wherein the third communication link comprises a Internet Protocol network (FIGS. 1 and 2, par. [0020] for if the routing of the call is over a Voice over IP connection, at step 208 inserting a parameter into the IP trunk routing message and the Gateway GPRS Support Node (GGSN) 106B extends the call connection to the IP Network 107, between RNC 132 and RNC 142);

routing the communication over a fourth communication link between the second controller device and a second cellular base station (FIGS. 1 and 2, par. [0014], [0019] and [0020] for the link between RNC 142 and base station 144); and

routing the communication over a fifth communication link between the second cellular base station and the second communication device (FIGS. 1 and 2, par. [0019] and [0020] for completing the call, from base station 144 to the called party device 101').

McCormick further discloses the first communication link falls below a threshold (FIG. 1, par. [0015] and [0016] for the radio unit in the wireless subscriber device 101 re-tunes the transmitter-receiver equipment contained therein to use these designated radio frequencies and orthogonal coding. Once the communication connection is established, the control messages are typically transmitted to adjust transmitter power and change the transmission channel when required to handoff this wireless subscriber device 101 to an adjacent cell, when the subscriber moves from the present cell to one of the adjoining cells (i.e. the radio link 111 falls below a threshold)).

However, McCormick may fail to explicitly disclose wherein the mobile communication device notifies an interface server if the first communication link falls below a threshold.

In the same field of endeavor, Ibe discloses the mobile communication device notifies an interface server if the first communication link falls below a threshold (col. 3 lines 32-54 for when a mobile device moves closer to the edge of a cell (of a network), it monitors SNR. If the SNR drops to a threshold d , then the mobile device sends Handoff

request message to a Cellular Proxy (claimed interface server) connected to cellular network).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate sending a Handoff Request message to a Cellular Proxy when a mobile device moves and determines the SNR drops to a threshold level as taught by Ibe to the method of call routing when a device is handing off from one base station to an adjacent base station as disclosed by McCormick for purpose of requesting a handoff to an device for managing handoff and routing the calls.

Although McCormick discloses the first and fifth communication links are over cellular networks (FIGS. 1 and 2, par. [0019] for connection between calling party 101 and base station 133 when calling party initiates a call for calling party 101', par. [0019] and [0020] for completing the call, from base station 144 to the called party device 101'), and

the third communication link is over non-cellular networks (FIGS. 1 and 2, par. [0020] for if the routing of the call is over a Voice over IP connection, at step 208 inserting a parameter into the IP trunk routing message and the Gateway GPRS Support Node (GGSN) 106B extends the call connection to the IP Network 107, between RNC 132 and RNC 142), McCormick as modified by Ibe fails to disclose wherein the second and fourth communication links are over non-cellular networks.

In the same field of endeavor, Scheinert discloses wherein the second and fourth communication links are over non-cellular networks (FIG. 5, par. 0028 for Internet based

network 40 with Internet connection 42 for connecting of Internet base station IBS 42 with IBSC 48, and par. 0029 for IBS 42 communicate with one or more mobile stations 24 over a standard air interface, and replacing the conventional; thus the second and fourth links are non-cellular network when the calling party 101 and calling party 101' are located in the same or different Internet based network 40).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate Internet based network Internet base stations connected via Internet links to Internet base station controllers as taught by Scheinert to the cellular communication network as disclosed by McCormick as modified by Ibe for purpose of conveying wireless traffic between a mobile station and a conventional wireless network via the Internet.

Allowable Subject Matter

5. **Claims 1-13** are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter:

Independent **claim 1**, are allowable in view of Applicant's amendments and arguments as filed on 08/23/2013.

Therefore, **claims 1-13** are considered novel and non-obvious and are therefore allowed.

Response to Arguments

7. Applicant's arguments with respect to **claims 14-18 and 38** have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALLAHYAR KASRAIAN whose telephone number is (571)270-1772. The examiner can normally be reached on Monday through Friday 8:00 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. 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.

Application/Control Number: 13/240,776
Art Unit: 2642

Page 15

/Allahyar Kasraian/
Primary Examiner, Art Unit 2642

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	Group Art Unit: 2642
Vasudevan Ganesan	)	Examiner: Kasraian, Allahyar
Serial No.: 13/240,776)	
Filed: September 22, 2011	)	AMENDMENT AND RESPONSE TO
	)	OFFICE ACTION MAILED
	)	May 12, 2014
For: MOBILE TELEPHONE)	
VOIP/CELLULAR SEAMLESS	)	162 N. Wolfe Rd.
ROAMING SWITCHING	)	Sunnyvale, CA 94086
CONTROLLER	)	(408) 530-9700
_____	)	Customer No. 28960

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

AMENDMENT

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 5 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (previously presented) A method of providing communications for a mobile communication device that roams between multiple different types of wireless networks, the method comprising:
 - establishing a first communication link between the mobile communication device and an end destination device, wherein the first communication link includes a first wireless communication link between the mobile communication device and a first type of wireless network;
 - monitoring a signal strength of the first wireless communication link;
 - when the signal strength drops below a predetermined threshold, notifying an interface server with the mobile communication device and establishing a second communication link between the interface server and the end destination device without disrupting the first communication link;
 - notifying the mobile communication device to terminate transmission over the first communication link; and
 - re-directing the second communication link from the interface server to the mobile communication device, thereby establishing a second wireless communication link between the mobile communication device and the second type of wireless network.

2. (previously presented) The method of claim 1 wherein the first type of wireless communication link comprises a IEEE 802.11 standard based communication link, and the first type of wireless network includes a IEEE 802.11 standard based network access point.

3. (original) The method of claim 2 wherein the second type of wireless network includes a wireless cellular network.

4. (previously presented) The method of claim 1 wherein establishing the first communication link includes routing through a voice over internet protocol network.

5. (original) The method of claim 1 wherein establishing the first communication link includes routing through a cellular network.
6. (previously presented) The method of claim 1 wherein establishing the second communication link includes routing through a voice over internet protocol network.
7. (original) The method of claim 1 wherein establishing the second communication link includes routing through a cellular network.
8. (original) The method of claim 1 further comprising providing a connectivity status by the mobile communication device to the interface server while the mobile communication device is within a first coverage area of the first type of wireless network.
9. (original) The method of claim 8 further comprising providing a routing association to a mobile switching center within the second type of wireless network, wherein the routing association associates the mobile communication device to the interface server.
10. (original) The method of claim 9 further comprising routing a termination communication intended for the mobile communication device from the mobile switching center to the interface server according to the routing association when the connectivity status is active, and routing the termination communication from the interface server to the mobile communication device over the first type of wireless network.
11. (previously presented) The method of claim 10 further comprising when the connectivity status is not provided to the interface server, the routing association is removed from the mobile switching center.
12. (original) The method of claim 1 further comprising registering the mobile communication device with a mobile switching center within the second type of wireless network when the signal strength drops below the predetermined threshold.

13. (original) The method of claim 12 further comprising setting up the second communication link with the end destination device and forwarding the second communication link to the interface server.

Claims 14-38 (canceled)

REMARKS

The Applicant respectfully requests further examination and consideration of the claims in view of the above amendments and the arguments set forth fully below. Claims 1-18 and 38 were pending in this application. Within the Office Action, Claims 14-18 and 38 have been rejected and Claims 1-13 have been allowed. By the above amendments, Claims 14-18 and 38 have been canceled. Accordingly, Claims 1-13 are now pending

Rejections Under 35 U.S.C. § 103

Within the Office Action, Claims 14 and 18 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Pub. No. 2003/0185172 to Rue et al. (hereinafter “Rue”) in view of U.S. Patent Pub. No. 2004/0114559 to Wang et al. (hereinafter “Wang”) and further in view of U.S. Patent No. 6,009,328 to Muszynski (hereinafter “Muszynski”). The Applicants respectfully disagree. However, in order to further the prosecution of the present application, Claims 14 and 18 have been canceled by the above amendments.

Within the Office Action, Claims 15-17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Rue, Wang, Muszynski in view of U.S. Patent Pub. No. 2002/0147008 to Kallio et al. (hereinafter “Kallio”). The Applicants respectfully disagree. However, in order to further the prosecution of the present application, Claims 15-17 have been canceled by the above amendments.

Within the Office Action, Claim 38 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Pub. No. 2004/0203802 to McCormick et al. (hereinafter “McCormick”) in view of Ibe and further in view of U.S. Patent Pub. No. 20040204097 to Scheinert et al. (hereinafter “Scheinert”). The Applicants respectfully disagree. However, in order to further the prosecution of the present application, Claim 38 has been canceled by the above amendments.

Allowable Subject Matter

Within the Office Action, Claims 1-13 have been allowed.

PATENT
Attorney Docket No.: HAVA-00401

Applicant respectfully submits that the claims are in a condition for allowance, and allowance at an early date would be appreciated. Should the Examiner have any questions or comments, they are encouraged to call the undersigned at (408) 530-9700 to discuss the same so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,
HAVERSTOCK & OWENS LLP

Dated: July 3, 2014

By: /Jonathan O. Owens/
Jonathan O. Owens
Reg. No.: 37,902
Attorneys for Applicants



UNITED STATES PATENT AND TRADEMARK OFFICE

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NOTICE OF ALLOWANCE AND FEE(S) DUE

28960 7590 07/10/2014
HAVERSTOCK & OWENS LLP
162 N WOLFE ROAD
SUNNYVALE, CA 94086

EXAMINER

KASRAIAN, ALLAHYAR

ART UNIT PAPER NUMBER

2642

DATE MAILED: 07/10/2014

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
13/240,776 09/22/2011 Vasudevan Ganesan HAVA-00401 7797

TITLE OF INVENTION: MOBILE TELEPHONE VOIP/CELLULAR SEAMLESS ROAMING SWITCHING CONTROLLER

Table with 7 columns: 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 10/10/2014

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.

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

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

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

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

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

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
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 P.O. Box 1450
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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)

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HAVERSTOCK & OWENS LLP
 162 N WOLFE ROAD
 SUNNYVALE, CA 94086

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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.
13/240,776	09/22/2011	Vasudevan Ganesan	HAVA-00401	7797

TITLE OF INVENTION: MOBILE TELEPHONE VOIP/CELLULAR SEAMLESS ROAMING SWITCHING CONTROLLER

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	10/10/2014

EXAMINER	ART UNIT	CLASS-SUBCLASS
KASRAIAN, ALLAHYAR	2642	455-432100

<p>1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).</p> <p><input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.</p> <p><input type="checkbox"/> "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.</p>	<p>2. For printing on the patent front page, list</p> <p>(1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____</p> <p>(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. 2 _____</p> <p>3 _____</p>
---	---

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

<p>4a. The following fee(s) are submitted:</p> <p><input type="checkbox"/> Issue Fee</p> <p><input type="checkbox"/> Publication Fee (No small entity discount permitted)</p> <p><input type="checkbox"/> Advance Order - # of Copies _____</p>	<p>4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)</p> <p><input type="checkbox"/> A check is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p> <p><input type="checkbox"/> 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).</p>
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5. **Change in Entity Status** (from status indicated above)

Applicant certifying micro entity status. See 37 CFR 1.29

Applicant asserting small entity status. See 37 CFR 1.27

Applicant changing to regular undiscounted fee status.

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.

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.

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. _____



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13/240,776 09/22/2011 Vasudevan Ganesan HAVA-00401 7797

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SUNNYVALE, CA 94086

EXAMINER

KASRAIAN, ALLAHYAR

ART UNIT PAPER NUMBER

2642

DATE MAILED: 07/10/2014

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

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

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

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

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

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

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

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

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 13/240,776	Applicant(s) GANESAN, VASUDEVAN	
	Examiner ALLAHYAR KASRAIAN	Art Unit 2642	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 07/03/2014.
 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 1-13. 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)

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material 4. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Examiner's Amendment/Comment 6. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 7. <input type="checkbox"/> Other _____. |
|--|--|

/ALLAHYAR KASRAIAN/
Primary Examiner, Art Unit 2642

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application is being examined under the pre-AIA first to invent provisions.

Remarks

The present Office Action is based upon the Applicant's amendment filed on 07/03/2014. **Claims 1-13** are now pending in the present application.

Allowable Subject Matter

Claims 1-13 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Independent **claim 1**, are allowable in view of Applicant's amendments and arguments as filed on 08/23/2013.

Therefore, **claims 1-13** are considered novel and non-obvious and are therefore allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALLAHYAR KASRAIAN whose telephone number is (571)270-1772. The examiner can normally be reached on Monday through Friday 8:00 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. The fax phone

Art Unit: 2642

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.

/ALLAHYAR KASRAIAN/
Primary Examiner, Art Unit 2642



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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/240,776	11/11/2014	8886181	HAVA-00401	7797

28960 7590 10/22/2014

HAVERSTOCK & OWENS LLP
162 N WOLFE ROAD
SUNNYVALE, CA 94086

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 4 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):

Vasudevan Ganesan, Cupertino, CA;

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.