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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The objection to the drawing is withdrawn.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

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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**, 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

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|-----------------------------------|---------------------------------------|---|-------------|
| 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 |
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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) | | | | |
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| 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.

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-

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. 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

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

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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

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

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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|-------------------------------|---|----------------------------------|
| 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 |
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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

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

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|-------------------------------|--------------------------------------|---|--|
| 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)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Examiner's Amendment/Comment |
| 2. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ | 6. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 7. <input type="checkbox"/> Other _____. |
| 4. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____. | |

/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

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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/
Primary Examiner, Art Unit 2642