

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

T-MOBILE USA, INC.,
Petitioner,

v.

VOIP-PAL.COM, INC.,
Patent Owner.

Case No. IPR2023-00638
U.S. Patent No. 8,630,234

**PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. §312 AND 37 C.F.R. §42.104**

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LIST OF EXHIBITS

Exhibit No.	Description
1001	U.S. Patent No. 8,630,234 (‘234 Patent)
1002	File History of U.S. Patent No. 8,630,234
1003	Declaration of Dr. Vijay Madiseti
1004	Curriculum vitae of Dr. Vijay Madiseti
1005	U.S. Patent No. 7,668,159 (“Buckley”)
1006	U.S. Patent No. 7,995,565
1007	U.S. Patent No. 6,954,654 (“Ejzak”)
1008	U.S. Patent App. Pub. No. 2009/0047922
1009	U.S. Patent No. 8,731,163 (“Bates”)
1010	RFC 3261, <i>available at</i> https://datatracker.ietf.org/doc/html/rfc3261
1011	U.S. Patent No. 7,245,609
1012	Claim Construction Order (Dkt. No. 67) in Case No. 6:21-cv-00668-ADA (W.D. Tex.)
1013	Joint Claim Construction Statement (Dkt. No. 59) in Case No. 3:22-CV-03202 (N.D. Cal)
1014	U.S. Patent Pub. No. 2008/0167039
1015	U.S. Patent Pub. No. 2002/0102973
1016	U.S. Patent No. 8,542,815
1017	Exhibit 2016 in <i>Apple, Inc. v. VoIP-Pal.com, Inc.</i> , IPR 2016-01201 (P.T.A.B. Feb. 10, 2017)
1018	Email with attachment from Counsel for Patent Owner Regarding Claim Construction, dated March 2, 2022
1019	“Convergence Technologies for 3G Networks IP, UMTS, EGPRS and ATM”, by Jeffery Bannister et al, Wiley, England (2004)

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Exhibit No.	Description
1020	IETF RFC 3986, <i>available at</i> https://datatracker.ietf.org/doc/html/rfc3986
1021	IETF RFC 2543, <i>available at</i> https://datatracker.ietf.org/doc/html/rfc2543
1022	U.S. Patent No. 7,283,507
1023	Excerpts from Microsoft Computer Dictionary, 5 th ed. (2002)
1024	Excerpts from Wireless Encyclopedia, Althos Publishing (2007)
1025	International Patent Publication No. WO 01/89145 A2
1026	Excerpt from the File History of U.S. Patent No. 10,880,721 – “Roaming – Wikipedia” (submitted along with IDS on September 24, 2013)

TABLE OF ABBREVIATIONS

Term	Abbreviation
Application Server	AS
Circuit-Switched	CS
Domain Name System	DNS
E.164 Number Mapping	ENUM
Internet Protocol	IP
IP Multimedia Routing Number	MRN
IP Multimedia Subsystem	IMS
Packet-Switched	PS
Person of Ordinary Skill in the Art	POSITA
Public Safety Answering Point	PSAP
Public Switched Telephone Network	PSTN
Session Initiation Protocol	SIP
Uniform Resource Indicators	URI
User Equipment	UE
Voice-over-IP	VoIP
wireless Local Area Network	WLAN

I. INTRODUCTION

T-Mobile USA, Inc. (“T-Mobile” or “Petitioner”) requests *inter partes* review of claims 1-3, 6, 10-11, 19-22, 24-25, and 28-29 (“Challenged Claims”) of U.S. Patent No. 8,630,234 (EX1001, the “’234 Patent”).

For the reasons set forth below, which are identical to the petition filed by Meta Platforms, Inc. in *Meta Platforms, Inc. v. VoIP-Pal, Inc.*, IPR2022-01231 the challenged claims should be found unpatentable and canceled. T-Mobile further requests joinder with the proceeding in IPR2022-01231, instituted on January 31, 2023, pursuant to 35 U.S.C. § 315(c) and 37 C.F.R. § 42.122(b), and for the reasons set forth below and in the concurrently-filed Motion for Joinder.

II. MANDATORY NOTICES

A. The Real Parties-In-Interest

Petitioner identifies the following real parties-in-interest: T-Mobile USA, Inc. and T-Mobile US, Inc.

B. Related Matters

VoIP-Pal.com (“Patent Owner” or “VoIP-Pal”) is asserting the ’234 Patent and related U.S. Patent 10,880,721 (“’721 Patent”) against Petitioner in Case No. 6:21-cv-00674 (W.D. Tex.) (the “Litigation”). Both patents are also asserted in other pending litigations:

- *VoIP-Pal v. Google*, No. 3:22-cv-03199 (N.D. Cal.)
- *VoIP-Pal v. Amazon*, No. 6-21-cv-00668 (W.D. Tex.)

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- *VoIP-Pal v. Verizon*, No. 6-21-cv-00672 (W.D. Tex.)
- *VoIP-Pal v. Meta Platforms*, No. 3-22-cv-03202 (N.D. Cal.)
- *VoIP-Pal v. Samsung*, No. 6-21-cv-01246 (W.D. Tex.)
- *VoIP-Pal v. Huawei*, No. 6-21-cv-01247 (W.D. Tex.)
- *Verizon v. VoIP-Pal*, No. 3-21-cv-05275 (N.D. Cal.)
- *Twitter v. VoIP-Pal*, No. 3-21-cv-09773 (N.D. Cal.)

Both patents were also asserted in completed litigations:

- *VoIP-Pal v. Apple*, No. 6-21-cv-00670 (W.D. Tex.)
- *Apple v. VoIP-Pal*, No. 3:21-cv-05110 (N.D. Cal.)
- *VoIP-Pal v. AT&T*, No. 6-21-cv-00671 (W.D. Tex.)
- *AT&T v. VoIP-Pal*, No. 3-21-cv-05078 (N.D. Cal.)

Petitioner is simultaneously filing one other petition challenging different '234 Patent claims and two other petitions challenging the '721 Patent.

Certain claims of the '234 Patent are subject to a petition for IPR in *Meta Platforms, Inc. v. VoIP-Pal.com, Inc.*, No. IPR2022-01231 (P.T.A.B.) (pending); *Meta Platforms, Inc. v. VoIP-Pal.com, Inc.*, No. IPR2022-01232 (P.T.A.B.) (pending); *Google LLC v. VoIP-Pal.com, Inc.*, No. IPR2022-01072 (P.T.A.B.) (institution denied); *Google LLC v. VoIP-Pal.com, Inc.*, No. IPR2022-01073 (P.T.A.B.) (institution denied); *Amazon.com, Inc. v. VoIP-Pal.com, Inc.*, No. IPR2022-01178 (P.T.A.B.) (institution denied); *Amazon.com, Inc. v. VoIP-Pal.com,*

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Inc., No. IPR2022-01179 (P.T.A.B.) (institution denied); *Samsung Electronics Co., Ltd. v. VoIP-Pal.com, Inc.*, No. IPR2022-01390 (P.T.A.B.) (pending); *Samsung Electronics Co., Ltd. v. VoIP-Pal.com, Inc.*, No. IPR2022-01391 (P.T.A.B.) (pending).

Certain claims of the related '721 Patent are subject to a petition for IPR in *Meta Platforms, Inc. v. VoIP-Pal.com, Inc.*, No. IPR2022-01234 (P.T.A.B.) (pending); *Meta Platforms, Inc. v. VoIP-Pal.com, Inc.*, No. IPR2022-01235 (P.T.A.B.) (pending); *Google LLC v. VoIP-Pal.com, Inc.*, No. IPR2022-01074 (P.T.A.B.) (institution denied); *Google LLC v. VoIP-Pal.com, Inc.*, No. IPR2022-01075 (P.T.A.B.) (institution denied); *Amazon.com, Inc. v. VoIP-Pal.com, Inc.*, No. IPR2022-01180 (P.T.A.B.) (institution denied); *Amazon.com, Inc. v. VoIP-Pal.com, Inc.*, No. IPR2022-01181 (P.T.A.B.) (institution denied); *Samsung Electronics Co., Ltd. v. VoIP-Pal.com, Inc.*, No. IPR2022-01392 (P.T.A.B.) (pending); *Samsung Electronics Co., Ltd. v. VoIP-Pal.com, Inc.*, No. IPR2022-01393 (P.T.A.B.) (pending).

To Petitioner's knowledge, there are no other judicial or administrative matters that would affect or be affected by a decision here.

C. Counsel and Service Information

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D. 37 C.F.R. §42.8(b)(4): Service Information

Petitioner concurrently submits a Power of Attorney, 37 C.F.R. §42.10(b), and consents to electronic service to TMobile-VOIP@perkinscoie.com.

III. PAYMENT OF FEES UNDER 37 C.F.R. §42.103

Review of 14 claims is requested. The undersigned authorizes the Office to charge to Deposit Account No. 50-0665 the 37 C.F.R. §42.15(a)(1) fee and any additional fees due for this Petition.

IV. CERTIFICATION OF GROUNDS FOR STANDING

Petitioner certifies under Rule 42.104(a) that the '234 Patent is available for IPR and that Petitioner is not barred or estopped from requesting IPR of the Challenged Claims on the grounds herein. Petitioner certifies: (1) Petitioner does not own the '234 Patent; (2) Petitioner (or any real party-in-interest) has not filed a civil action challenging the validity of any '234 Patent claim; (3) Petitioner files this Petition within one month of institution of the trial Petitioner seeks to join under 37

C.F.R. §§ 42.122, 42.222; (4) estoppel provisions of 35 U.S.C. §315(e)(1) do not prohibit this IPR; and (5) this Petition is filed after the '234 Patent was granted.

V. OVERVIEW OF CHALLENGE AND RELIEF REQUESTED

A. Prior-Art References

1. **U.S. Patent No. 7,668,159 (“Buckley”) (EX1005)**, filed on August 3, 2007 and granted on February 23, 2010, is prior-art under at least pre-AIA 35 U.S.C. §102(e).

2. **U.S. Patent No. 8,731,163 (“Bates”) (EX1009)**, filed on May 9, 2007 and granted on May 20, 2014, is prior-art under at least pre-AIA 35 U.S.C. §102(e).

B. Relief Requested

Petitioner requests cancellation of the Challenged Claims as follows:

Ground	Claims	Proposed Statutory Rejection
I	1-3, 6, 10-11, 19-22, 25, and 28-29	Obvious under §103 over Buckley
II	1-3, 6, 10-11, 19-22, 24-25, and 28-29	Obvious under §103 over Buckley in view of Bates

VI. NO DISCRETIONARY DENIAL

Institution is appropriate under the six-factor test set forth in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11, at 3 (PTAB Mar. 20, 2020), as further clarified by Director Vidal’s June 21, 2022 interim procedure for discretionary denials (the “Memorandum”) (available at

https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf).

Turning to the *fourth* and dispositive factor here (overlap between issues), Petitioner stipulates that, if the IPRs are instituted, Petitioner will not pursue the grounds raised, or that reasonably could have been raised, in these proceedings. *Sotera*, IPR2020-01019, Paper 12, at 18-19. There is therefore no overlap with arguments made in the district court proceedings. This stipulation “mitigates concerns of potentially conflicting decisions and duplicative efforts between the district court and the PTAB,” and the Director has clarified that the PTAB will not discretionarily deny institution where, as here, Petitioner has made a *Sotera* stipulation. Memorandum, 7-8.

Discretionary denial under the *Fintiv* factors is therefore not appropriate. However, turning briefly to the additional factors for the sake of completeness, for the *first factor* (stay), Petitioner is requesting institution on all asserted claims in the related action and timely sought leave to join the Meta proceedings within one month of institution. The relevant facts therefore favor a stay. *See Fintiv*, IPR2020-00019, Paper 15 at 12 (PTAB May 13, 2020) (informative); *HP v. Neodron*, IPR2020-00459, Paper 17 at 35-36 (PTAB Sept. 14, 2020).

The *second* (proximity of trial dates) and *third* (investment in parallel proceedings) factors are at least neutral. While the Texas court set a tentative trial

date of July 17, 2023 for the *Amazon* trial, no date has been set for Petitioner's trial. Indeed, the court has indicated that it will hold trials in order of case number, meaning that both the *Amazon* and *Verizon* trials will need to occur before it will be Petitioner's turn. Petitioner has also committed that it will not raise any invalidity arguments that could have been raised in these proceedings, such that the district court action will have no impact on the grounds under review here.

While the *fifth factor* (parties) may weigh slightly in favor of denial because the parties are the same as one of the pending district court actions, under the "holistic view" of whether integrity of the system and efficiency are best served, the factors here indicate that institution is proper. *Samsung Elecs. Co. v. Dynamics*, IPR2020-00505, Paper 11 at 15 (PTAB Aug. 12, 2020).

The *sixth* factor (other circumstances) also weighs in favor of institution because of the strength of the petition, which has already been confirmed through institution of the Meta proceedings: "[T]he PTAB will not rely on the *Fintiv* factors to discretionarily deny institution ... where a petition presents compelling evidence of unpatentability." Memorandum, 2; *see also Thryv, Inc. v. Click-To-Call Techs.*, 140 S. Ct. 1367, 1374 (2020).

VII. THE '234 PATENT

The '234 Patent issued on January 14, 2014, from U.S. Application No. 13/056,277, filed on January 27, 2011. It claims priority to Provisional Application No. 61/129,898 (filed on July 28, 2008) and PCT Application No. PCT/CA2009/001062 (filed on July 28, 2009).

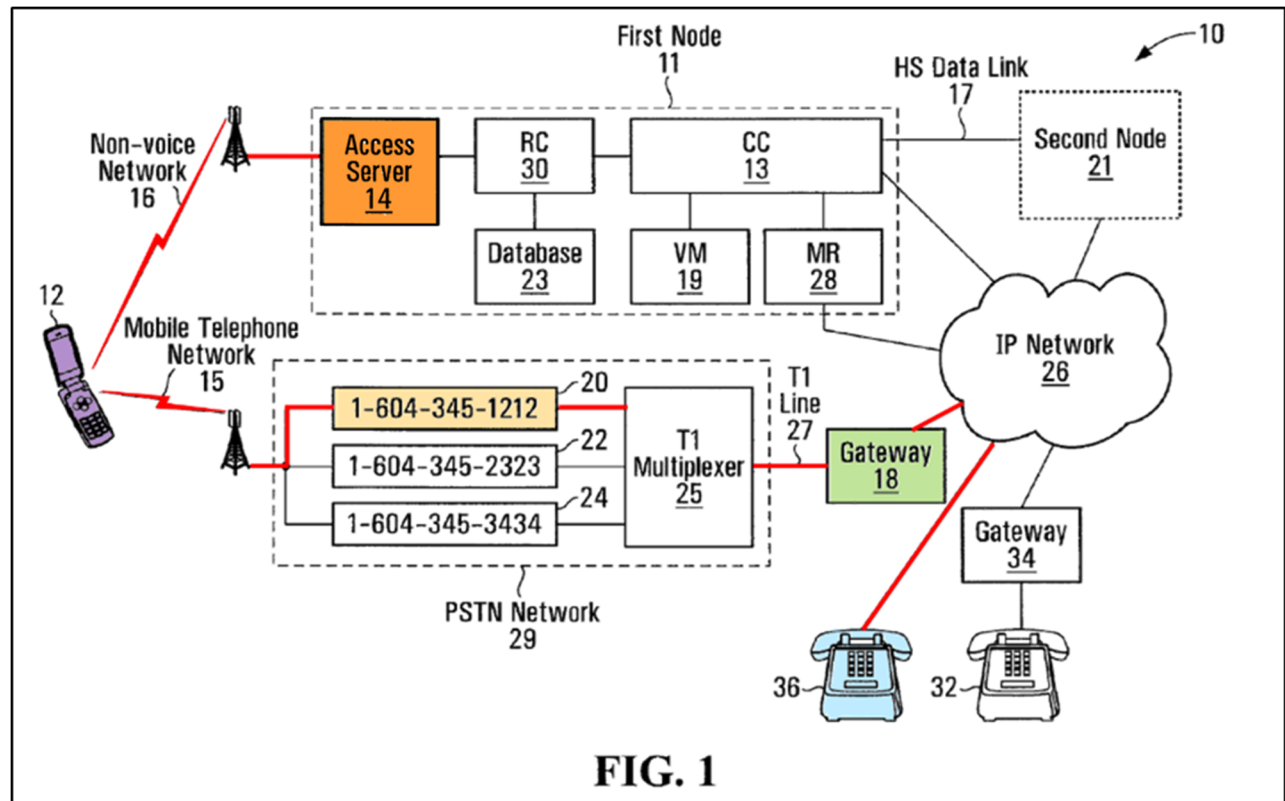
A. Technology Summary

Traditional Public Switched Telephone Networks (PSTNs) route telephone calls over circuit-switched telephone (aka “voice”) networks.¹ *See* EX1007, 1:19-22. The '234 Patent uses a sequence of messages sent over a “non-voice” network (such as a packet-switched Internet Protocol (IP) network) to route PSTN voice calls over an IP network (aka Voice-over-IP or VoIP). EX1001, 8:33-39, 9:6-13.

¹ Such networks are known as “circuit-switched” because they can involve a particular, dedicated circuit connection to transmit data (in the form of electrical signals) between the caller and callee. This stands in contrast to “packet-switched” networks (such as the Internet) that break data into smaller packets that are separately routed over network connections to the recipient, which reassembles the packets once they are received. *See* EX1003 ¶40.

The '234 Patent's call routing process begins when a mobile telephone (purple² element 12 in Figure 1 below) sends an "access code request message" to an access server (orange element 14) belonging to a telecommunications service provider (such as AT&T). EX1001, 11:44-48. The access code request message includes the intended callee's identifier, such as a telephone number, and the caller's "location identifier." *Id.* 11:59-62, 12:13-15. Based on that information in the access code request message, the access server responds with an "access code" in an "access code reply message." *Id.* 12:55-59. The "access code" is a temporary number, such as a local telephone number, used to route the call. *Id.* 12:63-66.

² Color in the diagrams in this petition are annotations added by Petitioner for illustration. All emphasis in this petition is added, unless indicated otherwise.

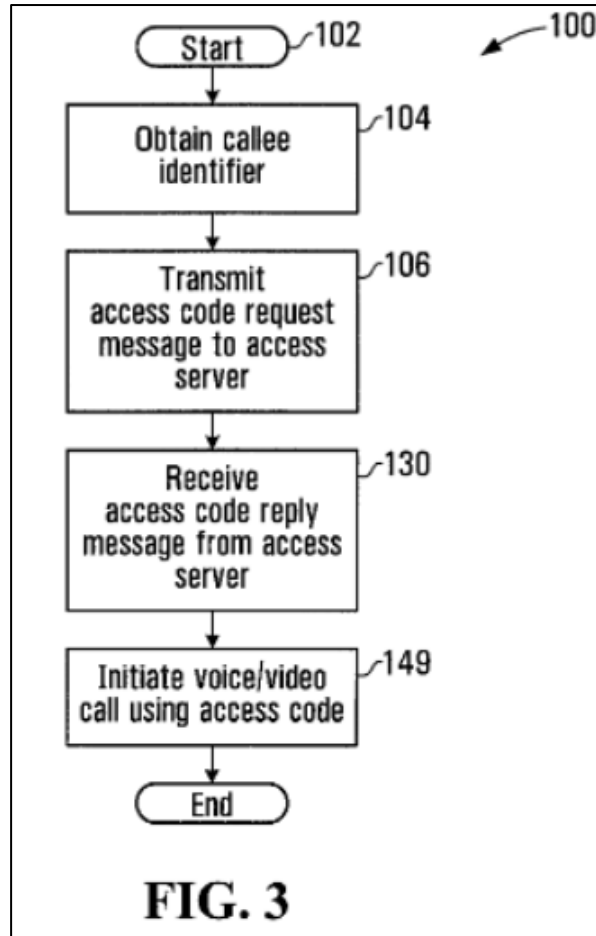


In Figure 1, the “access code” is the temporary telephone number in yellow-highlighted element 20 (*i.e.*, 1-604-345-1212). This temporary number is used to route the call within the phone’s home network towards a gateway (green element 18). The gateway bridges the PSTN (element 29) to an IP Network (element 26), so that calls originating or terminating on the PSTN (element 29) can be routed over IP network (element 26) to a callee’s IP phone (blue element 36). *Id.* 13:40-47. As was well-known in the art, IP networks such as the Internet do not apply long-distance or roaming charges, so routing a call over such networks in the manner described above avoids such charges. *See, e.g.*, EX1011 (prior art), 1:7-19 (“By moving voice

traffic to IP networks, companies may reduce or eliminate certain toll charges associated with transporting calls over [PSTN]”).

The access server (element 14) may receive the access code request message “over a non-voice network, such as an internet using WiFi or GPRS technology for example” EX1001, 11:51-52. The mobile telephone’s location identifier (which is included in the access code request message) may be “an IP address of the mobile telephone [] in a wireless IP network, such as the non-voice network...” *Id.* 12:19-22. The server’s access code reply message, which includes the temporary number (access code), may be returned over the non-voice, IP network (element 16). The mobile telephone may then use the access code to initiate a call on the voice network (element 15) that is then routed over the IP Network (element 26).

The purported invention is summarized in Figure 3, which depicts the process from the telephone’s perspective as found, e.g., in claim 1:



The '234 Patent also contains symmetric claims from the access server's perspective, e.g., in claim 30.

B. Person of Ordinary Skill in the Art

A POSITA at the time of the '234 Patent would have had a Bachelor's degree in Computer Science or Electrical Engineering, or an equivalent field, and approximately two years of experience with networks. Additional education might compensate for less experience, and vice-versa. EX1003, ¶¶45-47.

VIII. CLAIM CONSTRUCTION

A. Agreed constructions

This Petition applies the parties' agreed constructions in the Litigation for the following terms governed by 35 U.S.C. § 112 ¶ 6:

Claim Term	Agreed Construction
“means for receiving, from a user of the mobile telephone, a callee identifier” (claim 11)	<u>Function</u> : receiving, from a user of the mobile telephone, a callee identifier <u>Structure</u> : a dialing input, which is a key pad, a voice recognition unit, or a parameter memory with prestored callee identifiers
“means for transmitting an access code request message to an access server” (claim 11)	<u>Function</u> : transmitting an access code request message to an access server <u>Structure</u> : a network interface
“means for receiving an access code reply message from the access server in response to said access code request message”	<u>Function</u> : receiving an access code reply message from the access server in response to said access code request message

(claim 11)	<u>Structure</u> : a network interface
“means for receiving from the mobile telephone said access code request message” (claim 19)	<u>Function</u> : receiving from the mobile telephone said access code request message <u>Structure</u> : a network interface
“means for transmitting said access code reply message including said access code to the mobile telephone” (claim 19)	<u>Function</u> : transmitting said access code reply message including said access code to the mobile telephone <u>Structure</u> : a network interface

B. “local call” (Claims 1, 11, 20)

Petitioner has contended that a “local call” is a “call within the PSTN local calling area of the mobile telephone.” EX1013. Patent Owner has contended this term should be construed as “a call that is made in a geographical area associated with the caller’s device.” *Id.* The W.D.Tex. court construed the term to mean “[a] call treated as ‘local’ (for example, as opposed to long distance) by a service provider. Not limited to PSTN.” EX1012, 2. The asserted grounds satisfy all of these constructions, as explained below, and therefore the Board need not construe this term.

C. “means for initiating a call using said access code to identify the callee” (Claim 11)

The Board should construe this term as performing the function of “initiating a call using said access code to identify the callee” and incorporating the structure of “a network interface, including switched line channels in a public switched telephone network (PSTN).” EX1001, 13:29-39; EX1003 ¶¶50-52. A court in W.D. Tex. adopted Patent Owner’s previously proposed construction, which differs in that it incorporates the structure of a “[m]obile wireless device 12 having a microprocessor 52 programmed to implement the algorithm illustrated in FIG. 3, which includes block 149 labeled ‘Initiate voice/video call using access code.’ The wireless device 12 includes I/O port(s) 56 capable of acting as an interface to external networks (70, 72, 15, 16). See FIG. 2.” *Id.*; EX1012, 3. The asserted grounds satisfy both constructions, as explained below.

D. “means for communicating with said routing controller to obtain from said routing controller said access code” (Claim 19)

The Board should construe this term as performing the function of “communicating with said routing controller to obtain from said routing controller said access code” and as incorporating the structure of “an input/output port that transmits the access code request message, as received from the mobile telephone, to the routing controller and receives, from the routing controller, the access code reply message.” EX1001, 14:30-43, 14:48-54; EX1003 ¶55. Patent Owner has

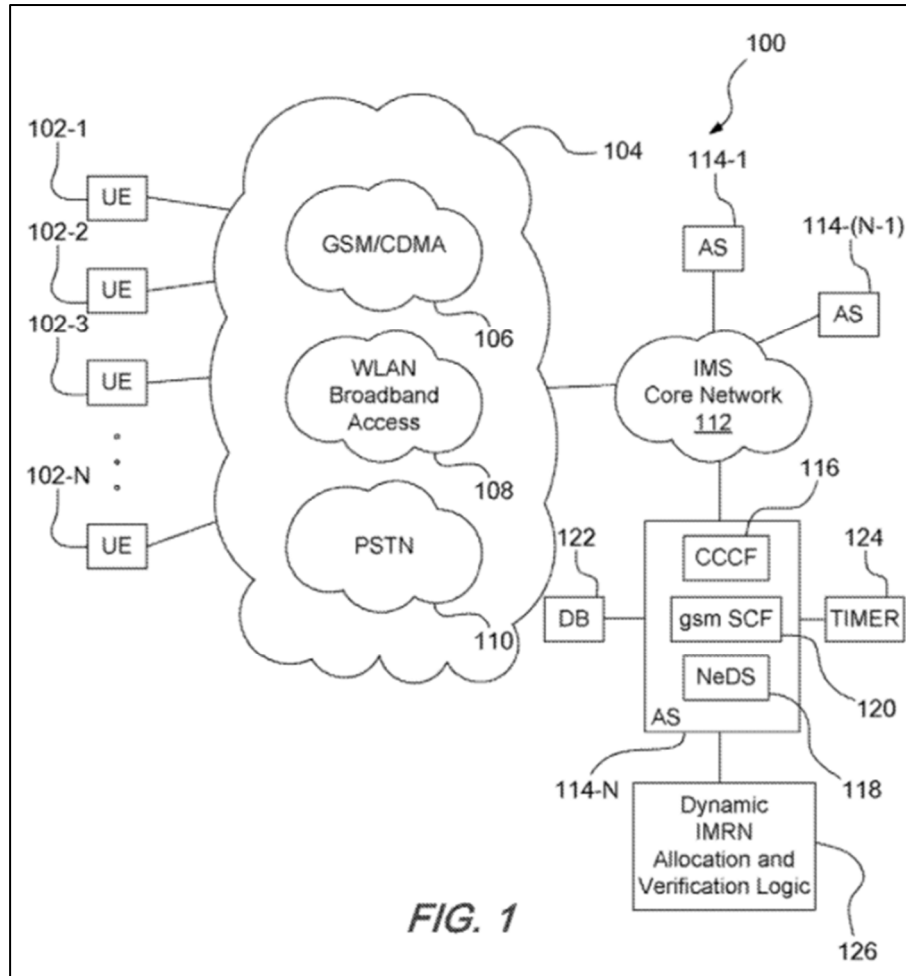
contended the term should instead be construed to incorporate the structure of “[a]n I/O port of an access server and/or an I/O port of a routing controller.” EX1018. The asserted grounds satisfy both constructions, as explained below.

Petitioner does not contend that any other claim terms require construction for purposes of resolving the issues raised in this Petition.

IX. PRIOR ART OVERVIEW

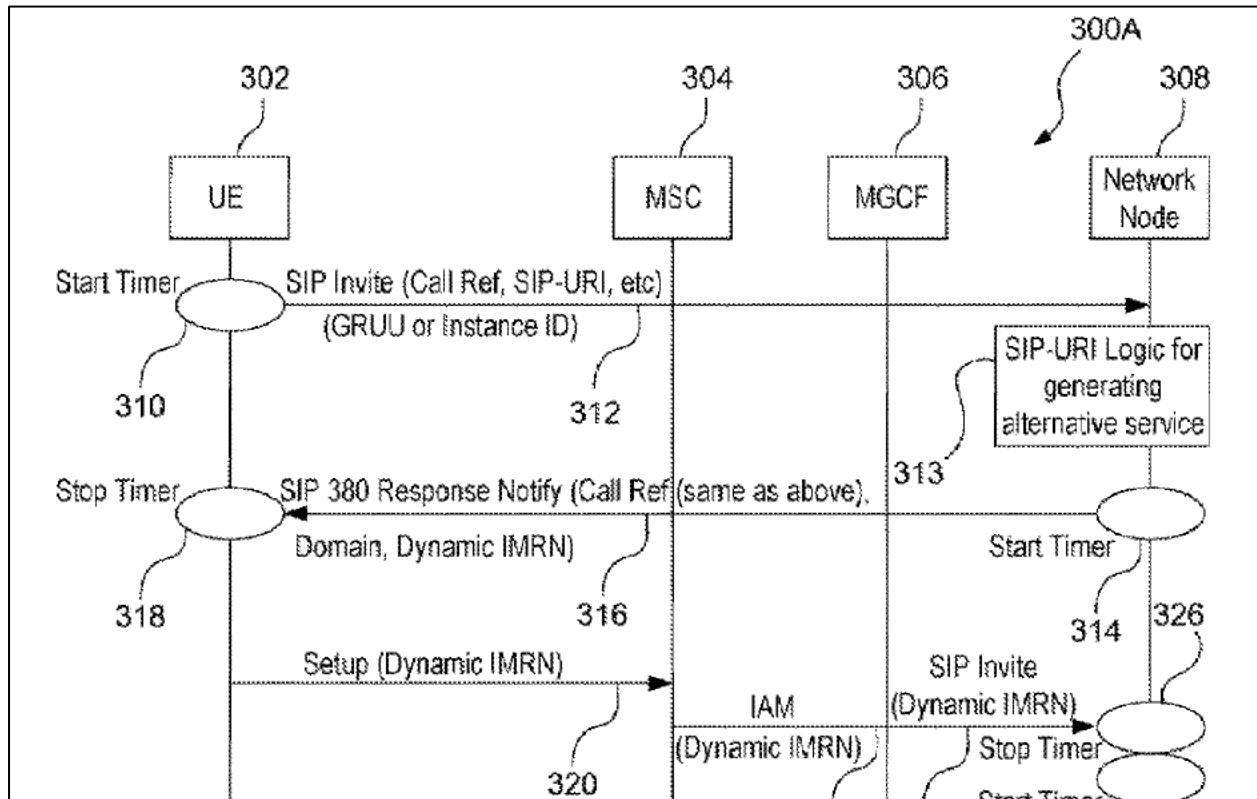
A. Buckley

Buckley teaches routing PSTN calls over packet-switched networks. *See* EX1005, Abstract. Figure 1 in Buckley depicts example components that may be involved, including: mobile phones (*i.e.* User Equipment (UE) (element 102)); Circuit-Switched (CS) networks (*e.g.* PSTN (element 110)); and Packet-Switched (PS) networks (*e.g.* wireless Local Area Network (WLAN) Broadband Access (element 108) and Internet protocol Multimedia Subsystem (IMS) Core Network (element 112)). *Id.*, 3:19-65.



Buckley's Application Server (AS) (elements 114-1 through 114-N) uses well-known Session Initiation Protocol (SIP) messaging (access code request and reply messages) to assign a temporary IP Multimedia Routing Number (IMRN) (access code) that allows CS-originated calls to be routed over IMS (IP) networks. *Id.* For example, Figure 3A (excerpted below) depicts this process at a high level, which begins when the calling mobile phone (UE, element 302) sends a SIP Invite message (element 312) to the home AS (network node 308). *Id.*, 6:55-63. The AS selects a temporary IMRN from a pool and sends it back to the mobile telephone

(UE) in a SIP Response message (element 316). *Id.*, 4:31-40, 7:29-42. The UE then uses the IMRN to initiate a call (element 320) that an AS routes to the callee. *Id.*, 4:15-40, 7:47-64. The SIP messaging includes caller and callee Uniform Resource Indicators (URI) that identify location. *Id.*, 2:62-3:12, 5:18-58, Figures 3A, 3B.

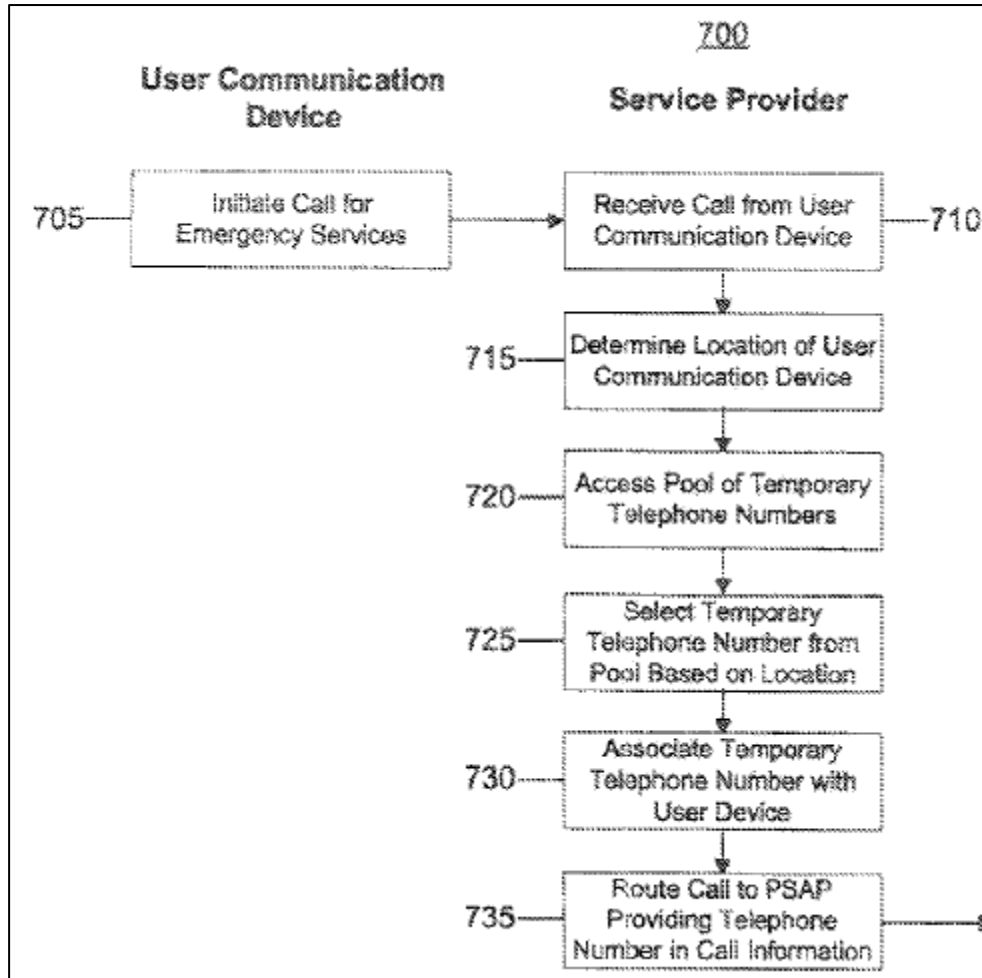


B. Bates

Bates “relates to identifying and assigning correct location information to callers in a communications system.” EX1009, 1:12-13. As background, Bates involves routing calls to the appropriate Public Safety Answering Point (PSAP) (*i.e.*, emergency services, such as 9-1-1). *Id.* 1:17-26, 3:39-57. Like Buckley, the call routing occurs across a network environment that includes “circuit-switched voice

network[s] [such as the PSTN,] and packet-switched data networks [that] may include networks based on the Internet protocol (IP).” *Id.*, 6:32-38; EX1005, 1:21-28. Bates teaches how to improve such call routing decisions by selecting a temporary number for the call from a pool of temporary numbers, where the selection is based on a user device’s location. EX1009, Abstract, 12:25-31, Fig.7.

Notably, the context in which Bates’s process for selecting a temporary number applies is directly related to Buckley’s procedure for setting up calls. Bates’s Figure 7 (excerpted below), for example, depicts a process highly analogous to that depicted in the portion of Figure 3A from Buckley excerpted above (and analogous portions of Buckley’s Figure 3B). As shown below, in Bates, a mobile telephone (a “User Communication Device,” corresponding to Buckley’s UE 302) initiates a call by sending an access code request message (element 705 below) to a Service Provider’s node (corresponding to Buckley’s AS network node 308). Based on the location of the caller’s mobile telephone, Bates teaches a process for selecting a temporary number from a pool of numbers that enable a local call to be made (elements 715-725 below, applicable to element 313 in Buckley’s Figure 3A above, as well as element 204 in Buckley’s Figure 2).



X. SPECIFIC GROUNDS FOR PETITION

A. Ground I: Claims 1-3, 6, 10-11, 19-22, 25, and 28-29 Are Rendered Obvious by Buckley.

1. Claim 1

a. Element 1[preamble]: “A method of roaming with a mobile telephone, the method comprising:”

Buckley teaches roaming with a mobile telephone. EX1003 ¶¶63-66. Buckley teaches methods for UEs (User Equipment), in particular “mobile communication device[s] (e.g. cellular phones ...),” that are “untethered,” “capable of operating in multiple modes,” and “can transition from one mode of

communications to another mode of communications without loss of continuity.” EX1005, 3:25-40. A POSITA would have understood that an “untethered” UE performing such transitions would commonly be roaming across different geographic locations, and that Buckley’s methods would be applied during such roaming. EX1001, 1:16-19; EX1015, [0029]; EX1003 ¶64.

Further, Buckley was specifically designed for use across different “wireless technologies such as Global System for Mobile Communications (GSM) networks and Code Division Multiple Access (CDMA) networks”, which were typically operated by different service providers. EX1005, 3:41-53; EX1002, 1962; EX1003 ¶65. In fact, Buckley “envisaged that the teachings hereof may be extended to *any* 3rd Generation Partnership Project (3GPP)-compliant cellular network,” and such networks and 3GPP standards were well-understood to provide for roaming by being in another mobile telephone service provider’s network and not the mobile telephone’s home network. EX1005, 3:41-53; EX1003 ¶65. Indeed, Buckley teaches performing its methods in situations where UEs had to “register” with new networks, where the AS was “required” to provide “inter-operator” functions for UEs to communicate over different service operator networks, and where UEs would communicate with servers in the user’s “*home* IMS network.” EX1005, Fig. 2 (element 202), 2:34-47, 4:1-6, 4:22-25, 8:22-47. A POSITA would have understood that such steps occur when the UE was roaming in another mobile telephone service

provider's network and not in the mobile telephone's home network, as recited in the preamble. EX1003 ¶66.

b. Element 1[a]: “receiving, from a user of the mobile telephone, a callee identifier associated with the callee”

Buckley teaches this element. *See* EX1003 ¶¶67-68. Buckley teaches that a “called party” (callee) can be “identified with a Uniform Resource Indicator (URI)” (callee identifier, which is associated with the callee). EX1005, 1:51-53. The “user of the UE device” (user of the mobile telephone) “either enters the URI via a suitable interface ... or selects it from a list stored in the UE.” EX1005, 5:22-25.

c. Element 1[b]

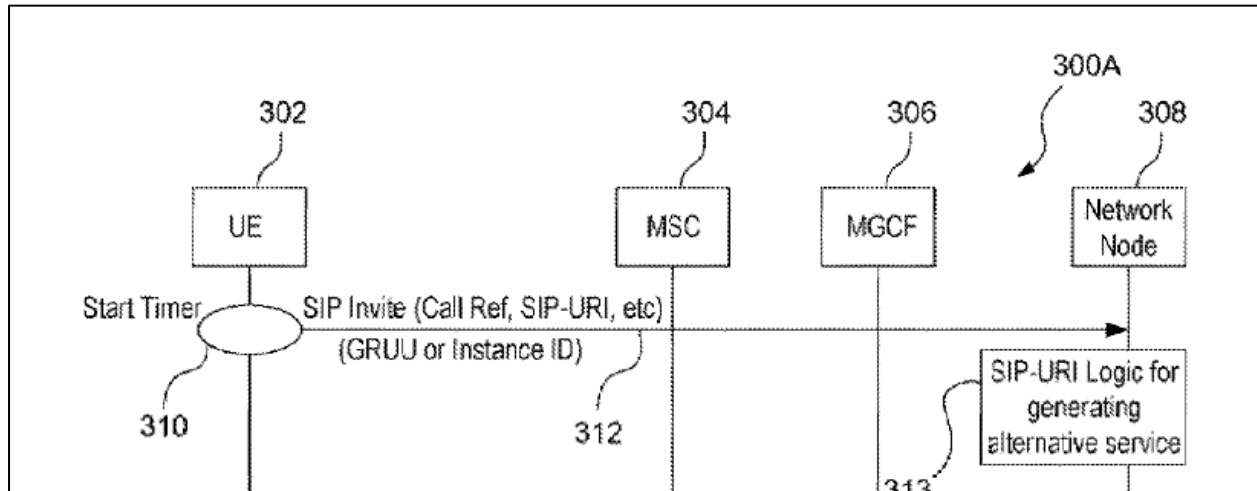
Buckley teaches this element. *See* EX1003 ¶¶69-78.

i. “transmitting an access code request message to an access server to seek an access code from a pool of access codes...”

As shown, for example, in Figure 3A (cropped in relevant part below),³ Buckley teaches that when a UE (mobile phone) 302 initiates a call, it transmits an SIP Invite (access code request) message 312 to a network node 308 called an Application Server (AS) (access server). EX1003 ¶70; EX1005, 6:58-63 (“A

³ References herein to Buckley Figure 3A also include the analogous portions of Figure 3B “wherein certain intermediary nodes in a home network 350 are exemplified.” EX1005, 8:22-26.

Wireless UE device 302 ... is operable to generate a SIP Invite message 312 towards an application server (AS) node 308 in response to detecting that a SIP call is being initiated from UE device 302.”).



The SIP Invite message (access code request message) invites (*i.e.*, requests) the AS to provide an IP multimedia routing number (IMRN) (access code, as explained below), which the AS selects from a pool of IMRNs (access codes). EX1005, 8:54-61 (“[W]hen the UE device detects that it needs to invoke CS call origination, it may produce and send a SIP Invite message.... [T]he SIP Invite message is set to indicate that the call needs to be set up over CS.”); *id.*, 4:34-37 (AS node capable of “configuring and managing *a pool of IP multimedia routing numbers (IMRNs)* from which a select IMRN may be dynamically-allocated or otherwise selected for purposes of SIP call routing....”).

The IMRN identifies, for example, a telephone number known as an E.164 number. EX1005, 4:47 (“E.164 numbers [] are operable as IMRNs”), 4:63-67 (“E.

164 is indicative of the International Telecommunications Union (ITU) telephone numbering plan....”). The IMRN telephone numbers are access codes because they provide access to call the callee. EX1003 ¶71; EX1001, 2:44 (“The access code may include a telephone number.”). For example, the IMRN is required for the UE to have access to a communication channel set up as a CS-network call. EX1003 ¶71; EX1005, 9:61-63 (“[T]he UE shall use the IMRN ... as the E.164 number to set up a CS call”). Moreover, the IMRN telephone number is a code of digits used by the mobile telephone in place of the original callee identifier (*i.e.* the URI) to connect to the AS node so that the AS node can complete the call to the callee’s original URI; indeed, that is the AS node’s purpose in providing the IMRN. EX1005, 6:38-40 (“[T]he UE sets up a call using the IMRN that terminates on the AS node. The IMRN is then interrogated against the record to retrieve the called party’s URI”).

- ii. “... wherein each access code in said pool of access codes identifies a respective telephone number or Internet Protocol (IP) network address that enables a local call to be made to call the callee identified by the callee identifier, ...”

Buckley’s selected IMRN “terminate[s] on the AS node” which is “disposed in the user’s *home* IMS network” *Id.*, 4:46-47; 7:29-34. The IMRN thus enables a local call, because routing a call through the “home” node, both to select the appropriate IMRN and then to facilitate a circuit-switched (CS) call using that IMRN, has inherent locality benefits over routing a call through some other, non-

home node. *Id.*, 6:44-54 (teaching “message flow between the UE device *and the home IMS network’s AS node*” such that “the UE device and its *home IMS AS node [are] operable to facilitate CS-originated SIP calls*”), 8:22-47; EX1003 ¶76. A POSITA would recognize that Buckley’s IMRN enables a local call because a benefit of including location information (such as the caller’s SIP URI and P-Preferred ID discussed below in sub-element (iii)) in both the SIP Invite message and the IMRN selection process was that the AS node could facilitate making a local call based on such information in order to, for example, avoid needless long distance and roaming charges. *See* EX1014, Abstract, [0036]; EX1001, 1:20-28; EX1003 ¶77. Indeed, a POSITA would recognize that enabling such a local call is one of the benefits of “mapp[ing]” the IMRN to “*all* [of] the received SIP call information,” as Buckley teaches, and not ignoring the location information included in the SIP invite message. *See* EX1005, 6:2-3; EX1003 ¶77. At a minimum, a POSITA would therefore at least have found it obvious that the selected IMRN would enable a local call to be made to achieve these benefits. EX1003 ¶77. A POSITA would also have found it obvious to do so using the location information that Buckley expressly required in an IMRN selection process that it teaches. EX1003 ¶77.

Each IMRN in Buckley’s pool of IMRNs is stored on the user’s home AS node, and thus “*each*” of Buckley’s IMRNs (access codes) in that pool enables a local call (as discussed in the preceding paragraph). *See* EX1005, 4:34-37 (AS node

containing “a pool of IP multimedia routing numbers (IMRNs) from which a select IMRN may be dynamically-allocated or otherwise selected for purposes of SIP call routing....”); *id.*, 6:44-54 (teaching “message flow between the UE device **and the home IMS network’s AS node**” such that “the UE device and its **home IMS AS node** [are] operable to facilitate CS-originated SIP calls”). Buckley’s “pool” may in fact comprise multiple pools of IRMNs, each pool containing different number ranges for different local calls. *Id.* 5:5-7 (“[I]t may be desirable to provide for different pools of IMRNs to be configured from different number ranges.”) As discussed in the preceding paragraph, a POSITA would have recognized the benefit of sending the SIP request to the “home” node (as opposed to a non-home node) so that the home node would select an IMRN that enables a local call, and thus a POSITA would have expected, or at least found it obvious, that each access code in the pool enables a local call to be made. *Id.* 5:5-7; EX1003 ¶78. To the extent that Buckley’s “home” AS node was not comprised of access codes that **each** enable a local call (or a POSITA would not have found that obvious), another pool asserted in this ground is the subset of IMRNs available at the home AS node that enable a local call. EX1005, 5:5-7; EX1001, Figure 10 (table of access codes with multiple area codes); EX1003 ¶78.

- iii. “... said access code request message including said callee identifier and a location identifier separate and distinctive from said callee identifier, said

location identifier identifying a location of the mobile telephone;”

Buckley’s SIP Invite (access code request message) includes the callee’s URI (callee identifier). EX1005, 6:63-65 (“[T]he SIP Invite message 312 includes applicable call information such as ... [the] called party’s SIP URI....”).

The SIP Invite (access code request message) also includes the UE’s (mobile telephone’s) location information. For example, it includes the “calling party’s SIP URI.” *Id.* 5:25-27, 47-53. A Uniform Resource Locator (URL) is a type of Uniform Resource Identifier (URI), and it includes a network address which a POSITA would recognize “identifies [a] network location.” EX1005, 19:37-38; EX1020, 7. Buckley teaches that “a *typical* SIP address may take on the form of sip:<username>@<hostname>” (EX1005, 5:25-27), and provides an example showing that the hostname can be an IP address (EX1005, 9:27: “Contact: sip:alice@**192.0.2.1**”). Thus, Buckley teaches that a “typical” calling party’s SIP URI can be in the form of a network address that includes an IP address, which a POSITA would recognize (as the ’234 Patent admits was well known) is a location identifier. EX1001, 12:19-20; EX1003 ¶73.

The caller’s URI is different than the callee’s URI for all calls (except for the rare instance when the caller has dialed himself or herself). EX1003 ¶74. So, the callee’s URI (callee identifier) is necessarily separate and distinctive from the caller’s URI (location identifier) for all outbound calls. EX1003 ¶74.

As a further example, the SIP Invite (access code request) message can also include a P-Preferred-ID. EX1005, 8:67-9:20. “The P-Preferred-ID is set to the calling line identity (CLI) associated with the user or subscriber of the UE device for identification in the CS network”—in other words, a telephone number. *Id.*, 9:3-6, 9:20 (example “P-Preferred-Identity: <tel: +1-555-1001>”). A POSITA would have recognized that the telephone number includes a location identifier (e.g. a country or area code) for a telephone’s network location in a circuit-switched (CS) network such as a PSTN. *Id.*, 5:34-44; EX1003 ¶75. A POSITA would have also recognized that the country code and area code, and in some situations the telephone prefix (*i.e.*, the three digits in a telephone number before the final four digits), are each associated with the phone’s location. *See* EX1001, 12:32-34 “([T]he location identifier may include a ... local calling area where the mobile telephone [] is or may be situated.”); EX1003 ¶75. The P-Preferred-ID is thus a location identifier that identifies the location of the caller’s mobile telephone, and because it identifies the caller rather than the callee, it is also separate and distinctive from the callee identifier (*i.e.*, the callee’s URI). *See id.*

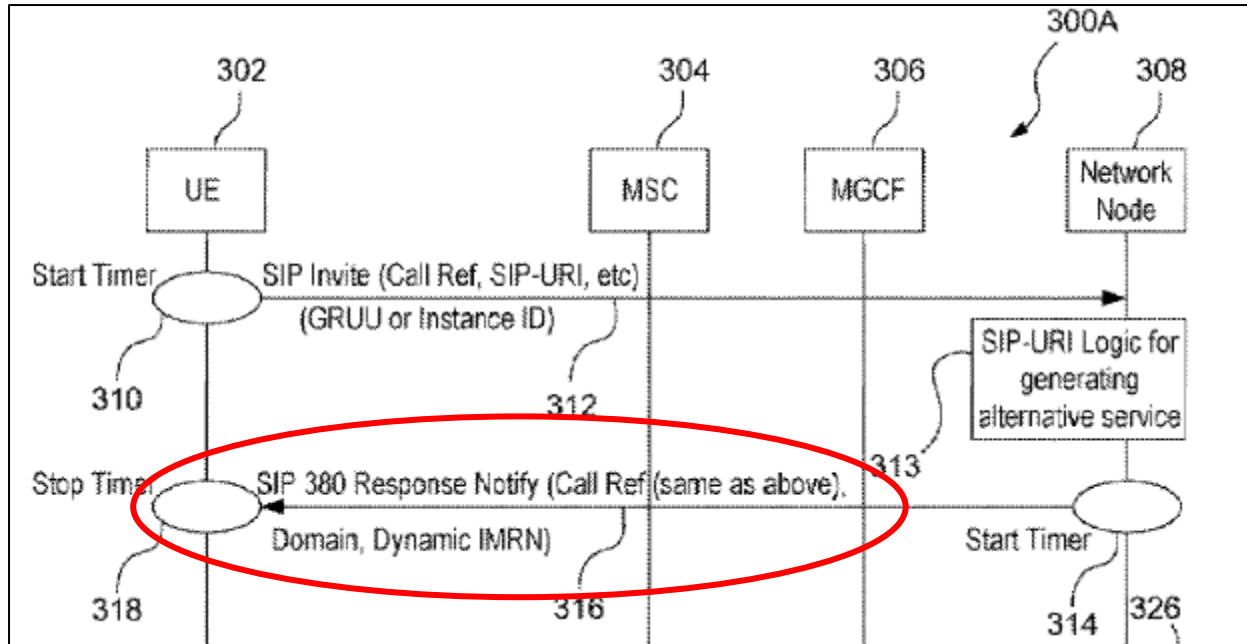
d. Element 1[c]

Buckley teaches this element. *See* EX1003 ¶¶79-84.

- i. “receiving an access code reply message from the access server in response to said access code request message, ...”

As shown, for example, in Figure 3A below (cropped in relevant part), Buckley teaches that UE 302 (mobile telephone) receives from AS network node 308 (access server) a SIP Response 316 (access code reply) message in response to the SIP Invite (access code request) 312 message. EX1005, 7:29-34 (“***Responsive to the Invite message 312***, ... AS node 308 disposed in the user’s home IMS network is operable to launch SIP-URI logic 313 for generating and populating a suitable SIP 380 (Alternative Service) Response message (e.g. SIP [] Response message [316]).”⁴); EX1003 ¶80.

⁴ The “380” in “SIP 380 Response” refers to a defined type of response code (an “Alternative Service”) used when the server may connect the call in a different manner than was requested, whereas the “SIP 380 Response” message in the context of Figure 3A refers to element 316. *See* EX1001, 7:41-42 (“SIP 380 message 316”), 7:49-50 (“SIP 380 Response message 316”); EX1003 ¶80.



- ii. “... said access code reply message including an access code different from said callee identifier and associated with said location identifier and/or associated with a location pre-associated with the mobile telephone and ...”

The SIP Response includes an IMRN (access code) that the UE uses to get access to communicate with the callee. EX1005, 7:36-42 (“[T]he network node (in this example, the IMS AS node) dynamically allocates or otherwise identifies a selected IMRN mapped to the call information or parameters ... and returns it back to UE device 302 via SIP 380 [Response] message 316.”); EX1003 ¶81. The IMRN (access code) is an E.164 number that is different from, and hence at the AS it must be “mapped to,” the callee’s URI (callee identifier). EX1005, 4:41-51; EX1003 ¶82. For example, Buckley teaches “dynamically allocating or otherwise selecting the E.164 number [IMRN] to a received called party’s URI (e.g. SIP URI or Tel URI)

and other received information; and providing the selected E.164 number to the originating UE device via a SIP 380 (Alternative Service) Response message” to provide access to reach the called party. EX1005, 4:52-57.

Buckley also teaches that the IMRN is associated with the location identifier (which, as discussed above, can be either the caller’s URI or P-Preferred ID) and/or associated with a location pre-associated with the caller’s mobile telephone. Specifically, Buckley teaches the IMRN can be constructed based on “some relationship(s) to one or more of the parameters received in a message ... from the UE device” or “may be mapped to ***all the received SIP call information***” in the SIP Invite message. EX1005, 3:4-12, 4:41-49, 6:1-3. And, “all the received SIP call information” would include the caller’s SIP URI and, additionally, the P-Preferred-Identity. *Id.*, 5:47-53 (“The call information may include information such as ... [the] calling party’s SIP URI...”), 6:63-66 (“[T]he SIP Invite message 312 includes applicable call information such as ... the P-Preferred-Identity”). The SIP URI and P-Preferred Identity both include location identifiers for the caller’s mobile phone as discussed above in Element 1[b]. Thus, this mapping to “***all the received SIP call information***” associates the IMRN with the location identifiers and/or locations pre-associated with the caller’s mobile telephone, namely the caller’s SIP URI and/or P-Preferred ID. EX1003 ¶83.

- iii. “... wherein said access code expires after a period of time; and”

Buckley also teaches that the IMRN (E.164 number) (access code) expires after a period of time, using the “Timer” mechanisms identified, for example, in Figure 3A (elements 314, 326, 328, and 330). EX1005 2:51-59 (“If the timer has expired, the mobile device may refrain from utilizing the E.164 number [access code] (now deassigned due to timer expiration) in the CS call setup message and alternatively obtain and utilize a new E.164 number....”); *see also id.*, 21:18-21; EX1003 ¶84.

e. Element 1[d]: “initiating a call with the mobile telephone using said access code to identify the callee.”

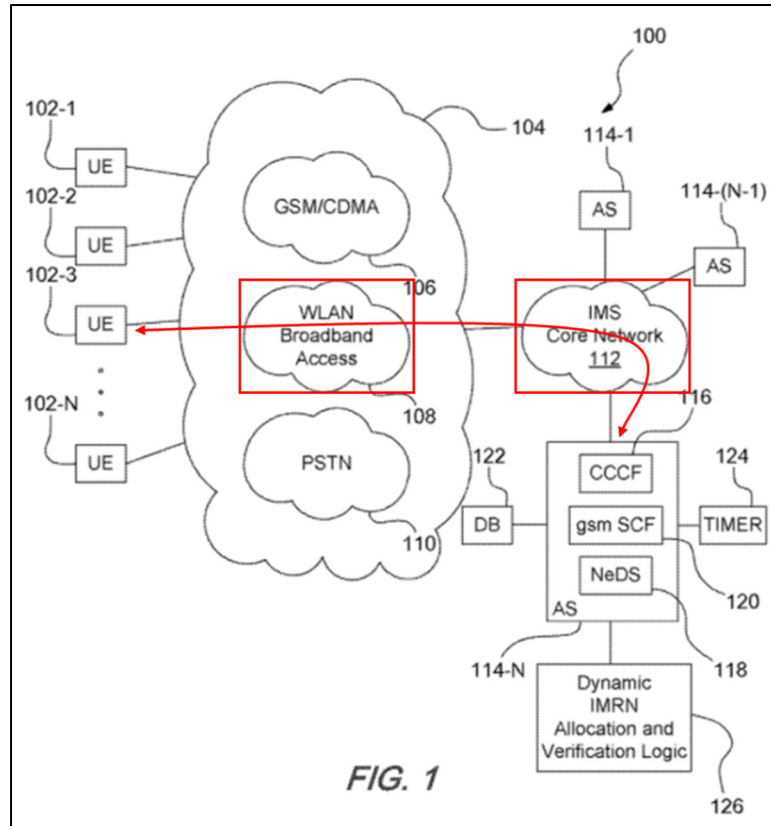
Buckley teaches this element. *See* EX1003 ¶¶85-86.

Buckley teaches the UE (mobile telephone) initiating a call using the IMRN (access code) to identify the callee, e.g., using “a call setup message 320 that includes the selected IMRN” resulting in messages “towards the AS node [], which then uses the IMRN mapping for establishing the SIP session or call to the called party.” EX1005, 7:50-56, Figure 3A. The call is initiated through the AS, which associates the IMRN to the callee’s URI (callee identifier per Element 1[a]). EX1005, 6:37-43 (“Upon correlating the IMRN with the call reference number, the *UE sets up a call using the IMRN* that terminates on the AS node. The IMRN is then interrogated against the record to *retrieve the called party’s URI* for establishing a SIP session with the called party”).

2. Claim 2: “The method of claim 1 wherein transmitting comprises transmitting said access code request message to said access server on a non-voice network.”

Buckley teaches this claim. *See* EX1003 ¶¶87-90.

For example, Figure 1 depicts a UE (mobile telephone) connected to an AS (114-N) (access server) via a non-voice, packet switched (PS) network including a WLAN Broadband Access network (108) and the IMS Core Network (112) as annotated in red below. EX1005, 3:23-24 (“[A]ccess space 104 [is] comprised of a number of access technologies available to a plurality of UE devices”), 3:41-43 (“The access space 104 may be comprised of both CS and ***PS networks***, which may involve wireless technologies, wireline technologies, broadband access technologies, etc.”).



The UE transmits its SIP Invite (access code request message) “to an application server (AS) node in the IMS network” through this WLAN Broadband Access network. *Id.* 14:33-36. PS networks, including the IMS and WLAN Broadband Access networks, are non-voice networks in the ’234 patent’s parlance because they carry IP data packets, not voice signals. EX1001, 11:51-52 (“non-voice network, such as an Internet, using WiFi or GPRS technology for example”); EX1003 ¶89. A POSITA would also have found it obvious to transmit the SIP Invite through a non-voice network because the SIP Invite is not a voice signal, so there is no specific need for a voice network to transmit the message, and a non-voice network would more efficiently handle such data communication. EX1003 ¶90.

3. Claim 3: “The method of claim 1 wherein transmitting said location identifier comprises transmitting an IP address of the mobile telephone in a wireless IP network.”

Buckley teaches this claim. *See* EX1003 ¶¶91-93.

As discussed in Element 1[b], Buckley’s SIP Invite message (access code requests message) includes the “calling party’s SIP URI” (location identifier) which “may take on the form of sip: <username>@<*hostname*>.” EX1005, 5:47-53, 5:25-27. A POSITA would have recognized that the hostname can “contain[] ... [a] numeric IPv4 or IPv6 address.” EX1010 (RFC 3261)⁵, 148; EX1003 ¶92. Buckley teaches an exemplary SIP URI of “sip:alice@**192.0.2.1**,” which includes an IP address as the hostname, namely “192.0.2.1”. *Id.*, 9:27. Thus, Buckley teaches transmitting the mobile telephone’s IP address (as the hostname) when transmitting the location identifier in the SIP invite message.

As discussed in Claim 2, Buckley teaches that the SIP Invite message (access code request message) is sent through a WLAN Broadband Access network, which includes “wireless local area networks,” and a POSITA would have understood this to include, or at least obviously include, a wireless IP network. EX1005, 3:51; EX1003 ¶93.

4. Claim 6: “The method of claim 1 wherein receiving said access code reply message comprises receiving said access

⁵ RFC 3261 is cited in relevant part in Buckley. EX1005, 5:29-33.

code reply message from said access server on a non-voice network.”

Buckley teaches this element. *See* EX1003 ¶¶94-96.

Buckley teaches a UE and AS (access server) connect via a non-voice, packet-switched network. *See* Claim 2.

Buckley teaches the IMRN is received after being transmitted from the AS via a packet-based SIP Response (access code reply message) over the IMS network (a non-voice PS network in the '234 Patent's parlance). EX1005, 30:23-34 (the mobile communication device “receive[s] a SIP 380 (Alternative Service) Response message from the IMS network”). A POSITA would also have found it obvious that the SIP Response could be received through another type of non-voice network because the SIP Response is not a voice signal, so there is no specific need for a voice network to transmit the message, as a non-voice network could efficiently handle such data communication. EX1003 ¶96.

5. Claim 10

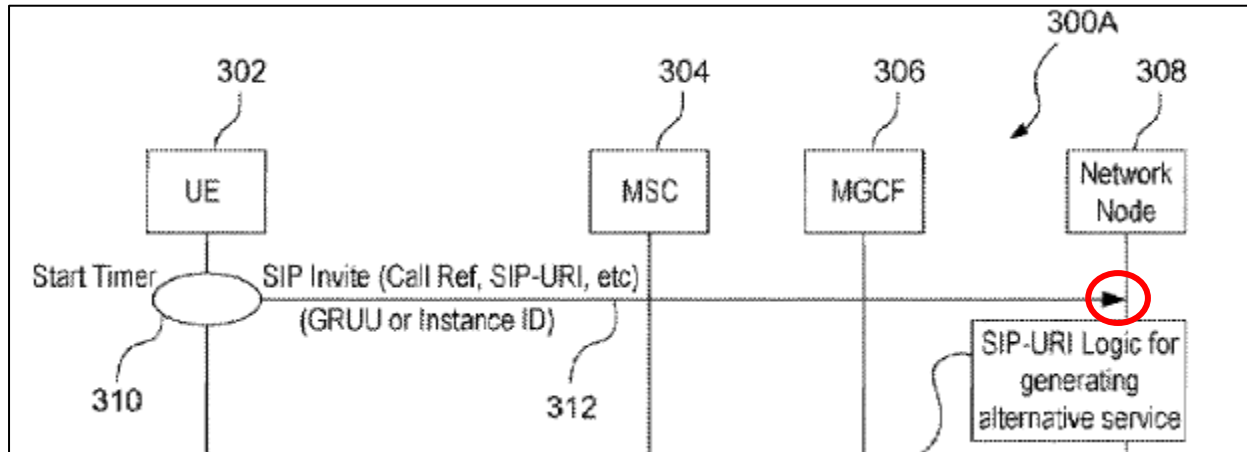
a. Element 10[preamble]: “The method of claim 1 further comprising:”

Buckley teaches this element. *See* EX1003 ¶97; Element 1[preamble].

b. Element 10[a]: “receiving from the mobile telephone said access code request message;

Buckley teaches this element. *See* EX1003 ¶¶98-99. When the mobile telephone “transmit[s] an access code request message” as discussed in Element

1[b], that access code requests message is received by the home AS node. *See, e.g.*, EX1005, Fig. 3A (excerpted):



- c. **Element 10[b]: “communicating with a routing controller to obtain from the routing controller said access code wherein said access code identifies a communications channel associated with said location identifier and wherein said access code is useable by the mobile telephone to cause the routing controller to establish a call to the callee using the channel; and”**

Buckley teaches this element. *See* EX1003 ¶¶100-103.

As the '234 Patent describes, “the access server 14 and the routing controller 30 need not be separate, but may, for example, be combined in a single component” and “the routing controller 30 executes a process to facilitate communication between callers and callees.” EX1001, 15:4-10. Buckley teaches a network node (308 in Figs 3A and 3B) where an AS (access server) is “provided with appropriate logic/structure/software/firmware module(s).” EX1005, 4:42-45; EX1003 ¶101. A POSITA would have understood that these modules comprise a routing controller

because these modules execute the process to facilitate communication between callers and callees described above with respect to Claim 1 where, for example, an E.164 number is used as an IMRN (access code). EX1003 ¶101. For example, AS contains modules that: “maintain[] a pool of E.164 numbers that are operable as IMRNs which terminate on the AS node,” select an E.164 number and map it a “called party’s” URI (callee identifier), “provid[e] the selected E.164 number to the originating UE device,” and “verify[] that the selected E.164 number has not timed out when that selected E.164 number is returned” during CS call set up. *Id.*, 4:46-58. These modules are AS components that establish a call to the callee by, *inter alia*, verifying the IMRN has not timed out. EX1005, 4:57-60 (The modules “verify[] that the selected E.164 number has not timed out when that selected E.164 number is returned (via conventional CS call setup) to AS 114-N for effectuating a SIP call session with respect to the called party.”); *Id.* 8:2-4, (“If the IMRN has not timed out, the AS node [] may establish the SIP session based on the IMRN correlation.”); EX1003 ¶101.

A POSITA would have understood that an E.164 telephone number (used in Buckley as an IMRN (access code) identifies a communications channel. EX1003 ¶102. Moreover, the ’234 Patent itself confirms that a telephone number was known to identify a communication channel. *See, e.g.*, EX1001, 3:30-32 (“[t]he access code may include a telephone number identifying a channel operably configured to

cooperate with an IP network.”). Further, Buckley’s SIP messaging process described above creates a “SIP session” based on the IMRN (E.164 number), and a SIP session is a channel because it establishes the end-to-end communication pathway for the duration of the communication “session.” EX1005, 7:50-56, Figure 3A, 6:39-43 (“The IMRN is then interrogated against the record to retrieve the called party’s URI for *establishing a SIP session with the called party* (i.e. between the calling party (UE device) ... and the called party....”); EX1003 ¶103.

The E.164 number thus identifies the channel and, as discussed above, is associated with the location identifier. *See* Element 1[c].

d. Element 10[c]: “transmitting said access code reply message to the mobile telephone.”

Buckley teaches this element. *See* EX1003 ¶104; Element 1[c].

6. Claim 11

a. Element 11[preamble]: “A mobile telephone apparatus comprising:”

Buckley teaches this element. *See* EX1003 ¶105; Element 1[preamble].

b. Element 11[a]: “means for receiving, from a user of the mobile telephone, a callee identifier associated with the callee;”

Buckley teaches this element. *See* EX1003 ¶¶106-107.

Buckley teaches means for receiving, which the parties agree incorporates the structure of a dialing input, which is a keypad, a voice recognition unit, or a parameter memory with pre-stored callee identifiers. For example, Buckley teaches

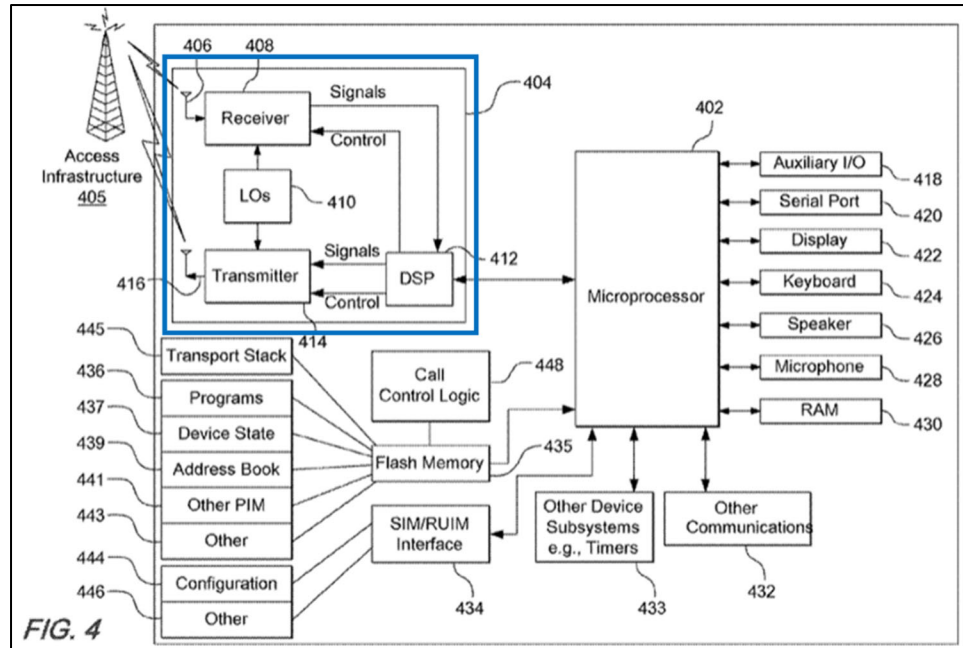
a keypad. *See* EX1005, 13:65-67 (“[D]isplay 422, **keyboard/keypad 424**, ... are part of the user interface of the mobile communication device”).

Buckley teaches the element’s remainder. *See* Element 1[a].

- c. **Element 11[b]: “transmitting means for transmitting an access code request message to an access server to seek an access code from a pool of access codes wherein each access code in said pool of access codes identifies a respective telephone number or Internet Protocol (IP) network address that enables a local call to be made to call the callee identified by the callee identifier, said access code request message including said callee identifier and a location identifier separate and distinctive from said callee identifier, said location identifier identifying a location of the mobile telephone;”**

Buckley teaches this element. *See* EX1003 ¶¶108-110.

Buckley teaches transmitting means, which the parties agree incorporates a network interface structure. Figure 4 depicts a “mobile communication device” with a “communication subsystem 404 [that] includes one or more receivers 408 and one or more transmitters 414,” as outlined below in blue. EX1005, 13:23-39. As a POSITA would have recognized, and as the data transmission lightning-bolt shapes indicate, this structure comprises as a network interface that communicates with, for example, Access Infrastructure 405 which provides access to the mobile network. *See* EX1003 ¶109.



Buckley teaches the element's remainder. *See* Element 1[b].

- d. **Element 11[c]: “means for receiving an access code reply message from the access server in response to said access code request message, said access code reply message including an access code different from said callee identifier and associated with said location identifier and/or associated with a location pre-associated with the mobile telephone and wherein said access code expires after a period of time; and”**

Buckley teaches this element. *See* EX1003 ¶¶111-113.

Buckley teaches the means for receiving, which the parties agree incorporates a network interface structure. Figure 4 depicts a “mobile communication device” with a “communication subsystem 404 generally includes one or more receivers 408 and one or more transmitters 414.” EX1005, 13:37-39; Figure 4. *See* Element 11[b].

Buckley teaches the element's remainder. *See* Element 1[c].

e. Element 11[d]: “means for initiating a call using said access code to identify the callee.”

Buckley teaches this element. *See* EX1003 ¶¶114-115.

Patent Owner contends this element incorporates the structure of a “[m]obile wireless device 12 having a microprocessor 52 programmed to implement the algorithm illustrated in FIG. 3, which includes block 149 labeled ‘Initiate voice/video call using access code.’ The wireless device 12 includes I/O port(s) 56 capable of acting as an interface to external networks (70, 72, 15, 16). *See* FIG 2.” EX1013, 6-7. Buckley’s Figure 4 depicts a “mobile communication device” where a “microprocessor 402 providing for the overall control of an embodiment of UE 302 is operably coupled to a communication subsystem 404.” EX1005, 13:23-35; Figure 4. Buckley also discloses the microprocessor implements the algorithm illustrated in Figure 3 for initiating a call because it is “coupled to a communication subsystem 404 that is capable of multi-mode communications (e.g. CS domain, IP domain such as IMS, etc.)” that transmits an access code request message, receives an access code reply message, and initiates a call using the IMRN (*i.e.*, access code). *Id.*, 13:35-37; EX1003 ¶115; Element 11[b]-[c]; Element 1[d]. Part of the “multi-mode communications” includes the “PSTN.” EX1005, Figure 1, 3:53-55 (“[P]art of the access space 104 is the conventional wireline PSTN infrastructure 110”). The microprocessor also obtains a callee identifier from the user. *See* Element 11[a].

7. Claim 19

- a. Element 19[preamble]: “A system for enabling roaming by a mobile telephone, the system comprising the mobile telephone apparatus of claim 11 and further comprising:”**

Buckley teaches the preamble. *See* EX1003 ¶116 *See* Element 1[preamble]; Claim 11. Buckley also teaches “a system.” EX1005, 1:23.

- b. Element 19[a]: “a routing controller; and”**

Buckley teaches this element. *See* EX1003 ¶¶117-118.

Buckley teaches a network node contains a routing controller. *See* EX1003 ¶118; Element 10[b].

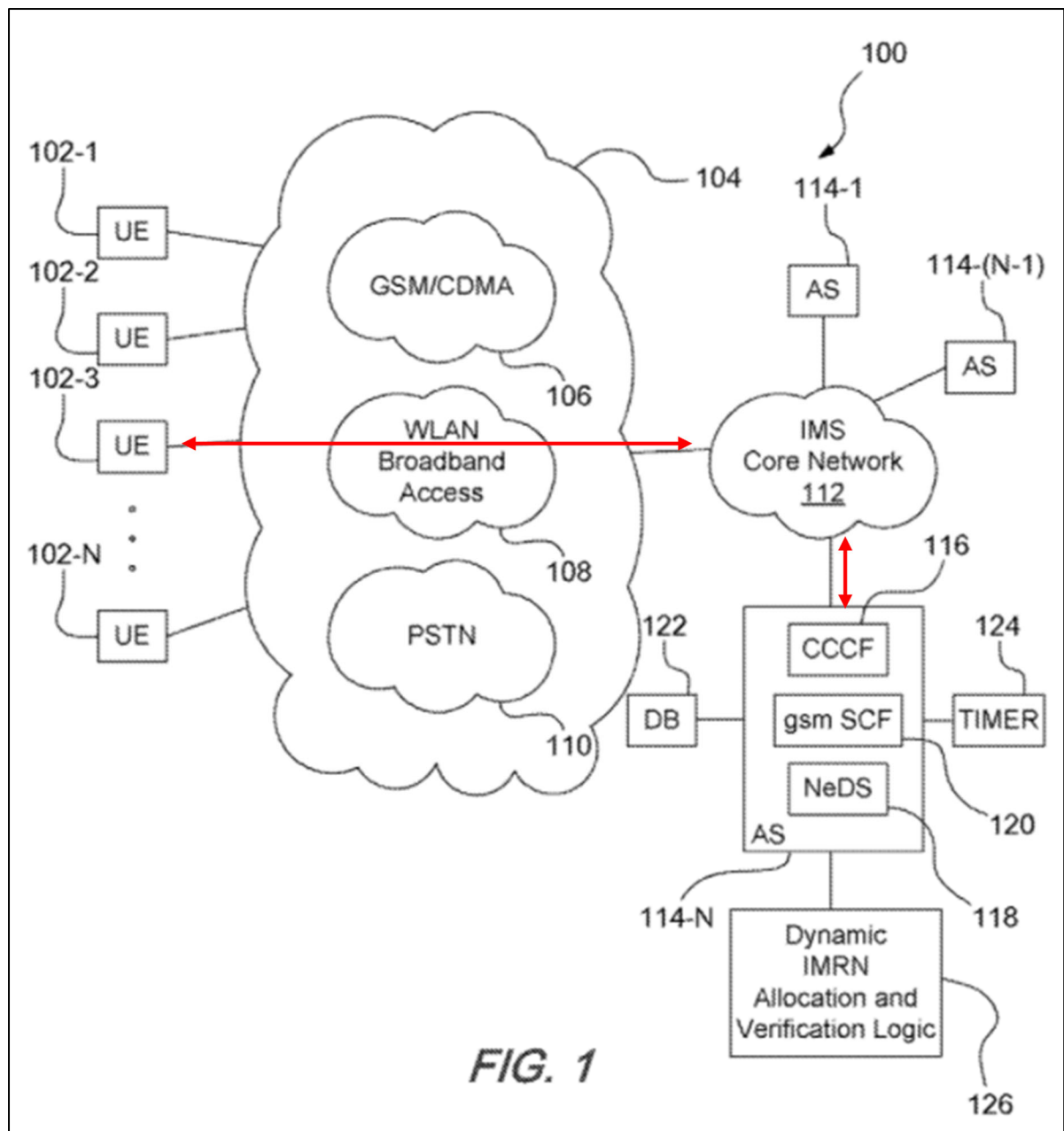
- c. Element 19[b]: “an access server comprising:”**

Buckley teaches this element. *See* EX1003 ¶119; Element 1[b].

- d. Element 19[c]: “means for receiving from the mobile telephone said access code request message;”**

Buckley teaches this element. *See* EX1003 ¶¶120-122.

Buckley teaches means for receiving, which the parties agree incorporates the structure of “a network interface.” EX1013, 4. Buckley teaches the application server or AS node has a network interface that allows communication with the UE via the IMS core network, as depicted in Figure 1. A POSITA would have understood the AS node depicted in Figure 1 contains a network interface to connect to the “IMS Core Network” and ultimately the UE as annotated in red in Figure 1 below. *See* EX1003 ¶121.



Buckley teaches the element's remainder. *See* Element 10[a].

- e. **Element 19[d]: “means for communicating with said routing controller to obtain from said routing controller said access code wherein said access code identifies a channel associated with said location identifier and wherein said access code is useable by**

the mobile telephone to cause the routing controller to establish a call to the callee using the channel; and”

Buckley teaches this element. *See* EX1003 ¶¶123-125.

Buckley teaches means for communicating, which incorporates the structure of “an input/output [I/O] port that transmits the access code request message, as received from the mobile telephone, to the routing controller and receives, from the routing controller, the access code reply message.” This structure also incorporates the alternative construction of “[a]n I/O port of an access server and/or an I/O port of a routing controller.” “The I/O port 156 includes a non-voice network interface.” *See* EX1001, 14:6-7. Buckley teaches the AS contains a routing controller and an I/O port. *See* Element 10[b]; 19[c]. Buckley’s mobile telephone utilizes its own I/O port to send and receive messages with the AS and routing controller. *See* Element 11[b]-[c]; Element 1[b]-[c].

Buckley teaches the element’s reminder. Element 1[d]; Element 10[b].

f. Element 19[e]: “means for transmitting said access code reply message including said access code to the mobile telephone.”

Buckley teaches this element. *See* EX1003 ¶¶126-128. Buckley teaches means for transmitting. *See* Element 19[c]. Buckley teaches the element’s remainder. *See* Element 10[c].

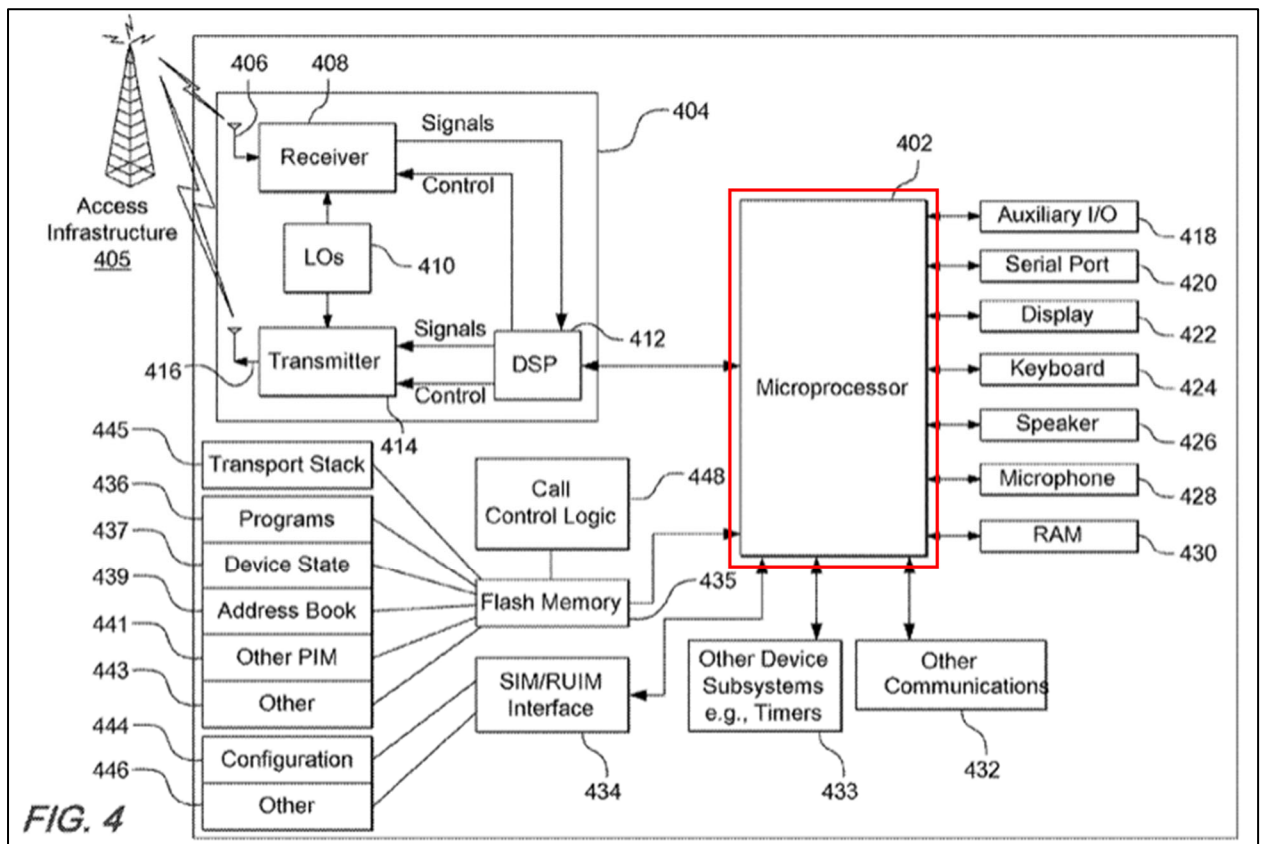
8. Claim 20

a. Element 20[preamble]: “A mobile telephone apparatus comprising:”

Buckley teaches this element. *See* EX1003 ¶129; Element 11[preamble].

b. Element 20[a]: “a processor circuit;”

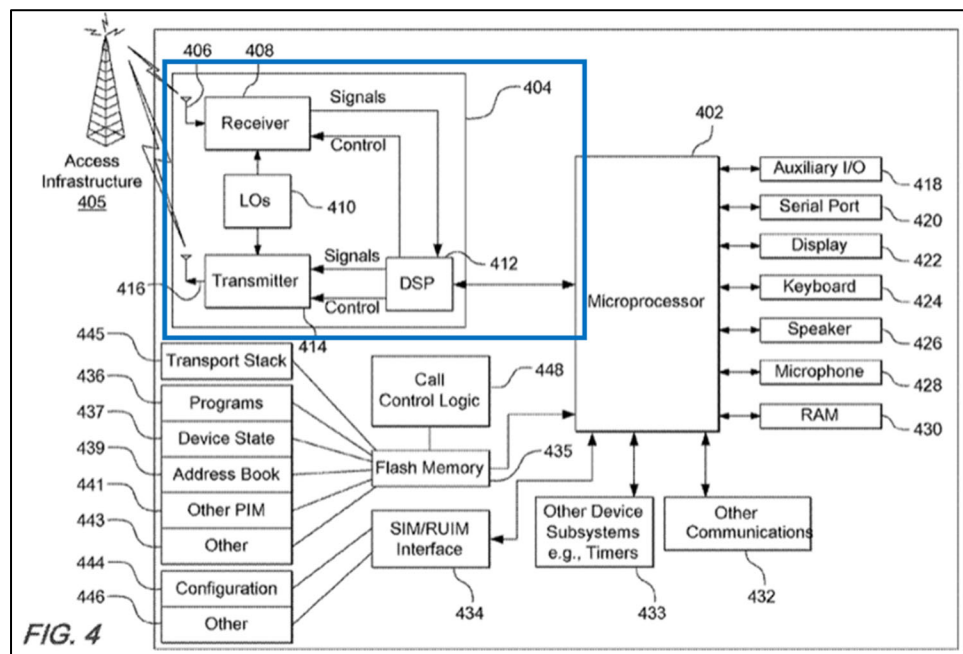
Buckley teaches this element. *See* EX1003 ¶¶130-131. Buckley teaches a mobile telephone with “a microprocessor” in FIG 4, as outlined in red. *See* EX1005, Figure 4.



c. Element 20[b]: “a network interface in communication with said processor circuit; and”

Buckley teaches this element. *See* EX1003 ¶¶132-133.

Buckley teaches a mobile telephone with a network interface. *See* Claim 11[b]. The network interface is in communication with a processor as outlined in blue below in FIG 4. *See* EX1005, Figure 4, 13:33-37 (“A **microprocessor** [] providing for the overall control of an embodiment of UE [] **is operably coupled to a communication subsystem** [] that is capable of multi-mode communications (e.g. CS domain, IP domain such as IMS, etc.)”).

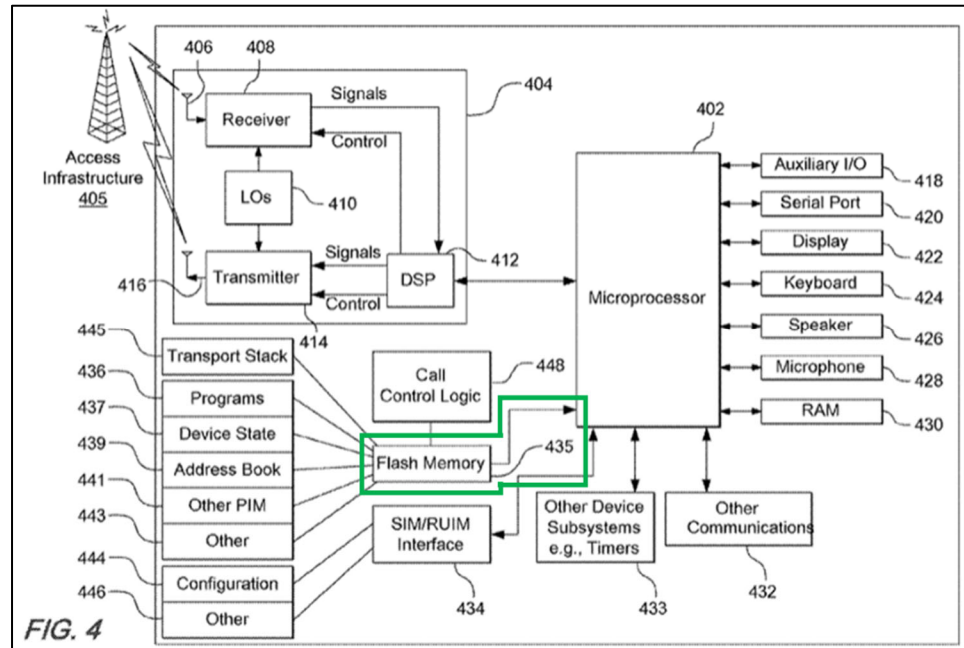


- d. **Element 20[c]: “a computer readable medium in communication with said processor circuit and encoded with codes for directing said processor circuit to:”**

Buckley teaches this element. *See* EX1003 ¶¶134-135.

Buckley teaches a mobile telephone with a computer readable medium in communication with a processor as outlined in green in FIG 4 below. *See* EX1005, Figure 4, 14:11-14 (“Operating system software and applicable service logic

software may be embodied in a persistent storage module (i.e., non-volatile storage) such as Flash memory”).



- e. **Element 20[d]: “receive, from a user of the mobile telephone, a callee identifier associated with the callee;”**

Buckley teaches this element. *See* EX1003 ¶136; *See* Element 1[a].

- f. **Element 20[e]: “cause an access code request message to be transmitted to an access server to seek an access code from a pool of access codes wherein each access code in said pool of access codes identifies a respective telephone number or Internet Protocol (IP) network address that enables a local call to be made to call the callee identified by the callee identifier, said access code request message including said callee identifier and a location identifier separate and distinctive from said callee identifier, said location identifier identifying a location of the mobile telephone;”**

Buckley teaches this element. *See* EX1003 ¶137; *See* Element 1[b].

- g. **Element 20[f]: “receive an access code reply message from the access server in response to said access code request message, said access code reply message including an access code different from said callee identifier and associated with said location identifier and/or associated with a location pre-associated with the mobile telephone and wherein said access code expires after a period of time; and”**

Buckley teaches this element. *See* EX1003 ¶138; *See* Element 1[c].

- h. **Element 20[g]: “initiate a call using said access code to identify the callee.”**

Buckley teaches this element. *See* EX1003 ¶139; *See* Element 1[d].

- 9. **Claim 21: “The mobile telephone apparatus of claim 20 wherein said network interface comprises a non-voice network interface, and wherein said codes for directing said processor circuit to cause said access code request message to be transmitted include codes for directing said processor circuit to cause said access code request message to be transmitted to said access server using said non-voice network interface on a non-voice network.”**

Buckley teaches this element. *See* EX1003 ¶¶140-141; Claim 2.

Moreover, Buckley teaches a mobile telephone with an IP (non-voice) network interface. *See* EX1005, Figure 4, 13:33-39 (“A microprocessor [] providing for the overall control of an embodiment of UE [] is operably coupled to a communication subsystem [] that is capable of *multi-mode communications* (e.g. CS domain, *IP domain such as IMS*, etc.). The communication subsystem [] generally includes one or more receivers [] and one or more transmitters....”).

- 10. Claim 22: “The mobile telephone apparatus of claim 20 wherein said location identifier comprises an IP address of the mobile telephone in a wireless IP network.”**

Buckley teaches this element. *See* EX1003 ¶142; Claim 3.

- 11. Claim 25: “The mobile telephone apparatus of claim 20 wherein said network interface comprises a non-voice network interface, and wherein said codes for directing said processor circuit to receive an access code reply message include codes for directing said processor circuit to cause said access code reply message to be received from said access server using said non-voice network interface on a non-voice network.”**

Buckley teaches this element. *See* EX1003 ¶143; Claims 6, 21.

12. Claim 28

- a. Element 28[preamble]: “A system for enabling roaming by a mobile telephone, the system comprising the mobile telephone of claim 20 and further comprising:”**

Buckley teaches this element. *See* EX1003 ¶144; Element 19[preamble]; Element 20[preamble].

- b. Element 28[a]: “a routing controller; and”**

Buckley teaches this element. *See* EX1003 ¶145; Element 19[a].

- c. Element 28[b]: “an access server comprising a processor circuit and a computer readable medium in communication with the processor circuit, the computer readable medium encoded with codes for directing said processor circuit to:”**

Buckley teaches this element. *See* EX1003 ¶¶146-147.

Buckley's AS is an access server. *See* Claim 1[b]. The AS has "one or more processors" (EX1005, Cl. 34) and is "provided with appropriate logic/structure/software/firmware module(s)." *Id.*, 4:42-43. As a POSITA would recognize, a computer readable medium in the form of memory is necessarily required in order to store software and firmware modules capable of performing the logic and operations ascribed to the AS. EX1003 ¶147.

- d. Element 28[c]: "receive from the mobile telephone said access code request message;"**

Buckley teaches this element. *See* EX1003 ¶148; Element 10[a].

- e. Element 28[d]: "communicate with said routing controller to obtain from said routing controller said access code wherein said access code identifies a channel associated with said location identifier and wherein said access code is useable by the mobile telephone to cause the routing controller to establish a call to the callee using the channel; and"**

Buckley teaches this element. *See* EX1003 ¶149; Element 10[b].

- f. Element 28[e]: "transmit said access code reply message to the mobile telephone."**

Buckley teaches this element. *See* EX1003 ¶150; Element 10[c].

13. Claim 29

- a. Element 29[preamble]: "A non-transitory computer readable medium encoded with codes for directing a processor circuit to enable mobile telephone roaming,**

said codes being operable to direct the processor circuit to:”

Buckley teaches this element. *See* EX1003 ¶151; Element 1[preamble]; Element 20[c].

- b. Element 29[a]: “receive, from a user of a mobile telephone, a callee identifier associated with a callee;”**

Buckley teaches this element. *See* EX1003 ¶152; Element 1[a].

- c. Element 29[b]⁶: “transmit an access code request message to an access server to seek an access code from a pool of access codes telephone wherein each access code in said pool of access codes identifies a respective telephone number or Internet Protocol (IP) network address to enable a local call to be made to call the callee identified by the callee identifier, said access code request message including said callee identifier and a location identifier separate and distinctive from said callee identifier, said location identifier identifying a location of the mobile telephone;”**

Buckley teaches this element. *See* EX1003 ¶153; Element 1[b].

- d. Element 29[c]: “receive an access code reply message from the access server in response to said access code request message, said access code reply message including an access code different from said callee identifier and associated with said callee location**

⁶ A POSITA would have understood that there is a typo in this limitation, as the word “telephone” appears out of context in the middle of this element right after “pool of access codes.” EX1003 FN13. Striking this apparent typo renders this Element the same as Element 1[b].

identifier and/or associated with a location pre-associated with the mobile telephone and wherein said access code expires after a period of time; and”

Buckley teaches this element. *See* EX1003 ¶154; Element 1[c].

e. Element 29[d]: “initiate a call using said access code to identify the callee.”

Buckley teaches this element. *See* EX1003 ¶155; Element 1[d].

B. Ground II: Claims 1-3, 6, 10-11, 19-22, 24-25, and 28-29 Are Obvious Over Buckley in View of Bates.

1. Motivation to Combine

Bates builds upon Buckley’s disclosed transmission of location information, and further informs a POSITA why such location information is important in selecting a temporary number that will optimize call routing and enable a local call. A POSITA would have been motivated to modify Buckley with Bates for a number of reasons. *See* EX1003 ¶156.

To begin, both references are in the field of call routing and are directed to improving call routing. Both teach improved methods of routing PSTN and VoIP calls across packet-switched networks and circuit-switched networks. *Compare* EX1005 (Buckley), Abstract (“Methods and apparatus for use in processing Session Initiation Protocol (SIP) calls in a network environment which includes a circuit-switched (CS) network and an Internet Protocol (IP) multimedia subsystem (IMS) network”), *with* EX1009 (Bates), 14:26-31 (Invention “enabl[es] interoperability of

non-traditional communication networks with established, traditional PSTN-based emergency services.”).

The similarities between references is substantial, and a POSITA therefore would have had a reasonable expectation of success in combining Buckley with Bates. *See* EX1003 ¶¶157-158. For example, both references teach selecting temporary telephone numbers to allow calls to be transferred or routed between IP (*i.e.*, packet-switched (PS)) and circuit-switched (CS) (*e.g.*, PSTN) networks. *Compare* EX1005 (Buckley), 4:26-40, *with* EX1009 (Bates), 14:2-8, 26-37. Both references also teach selecting telephone numbers from a pool of numbers that are temporarily assigned in response to a communication request. *Compare* EX1005 (Buckley), 4:46-49, *with* EX1009 (Bates), 1:32-37. Both references also teach receiving a message that contains a user device’s location information and using that received information when selecting a temporary number from the pool. *Compare* EX1005 (Buckley), 3:4-12, 4:41-49, 6:1-3, *with*. EX1009 (Bates), 3:42-49, 18:67-19:2, 19:54-55. The analogous overlap can also be seen in comparing, for example, Figure 3A of Buckley with Figure 7 of Bates, as discussed above in Section IX.B.

A POSITA also would have had a reasonable expectation of success in combining the references because Buckley expressly contemplates routing emergency calls, and Bates seeks to improve on such routing. For example, Buckley teaches XML code for establishing registration information used for emergency

calls. *See* EX1005, 11:28-43; 12:8-18; EX1006, 11:44-45; EX1003 ¶159. A POSITA would therefore have understood that Bates's techniques and rationale for selecting a geographically-correct telephone number (described in further detail below) could be utilized by Buckley's system to select a local IMRN E.164 telephone number in the interest of optimizing routing decisions, including ensuring proper routing of emergency calls and avoiding unnecessary long distance and roaming charges. EX1003 ¶159. Multiple prior art references from the same inventor (Buckley) and assignee (Research in Motion) further confirm that a POSITA would have understood from Buckley's disclosure that Buckley's system included ensuring proper routing of emergency calls. EX1006, 11:44-45; EX1008, [0041]-[0042], Figure 6; EX1003 ¶159.

A POSITA also would have had a reasonable expectation of success in combining, and be motivated to combine, Buckley and Bates because they both teach techniques for establishing channels for bi-directional communication. EX1003 ¶160. Buckley's IMRN access code, which may be an E.164 telephone number as discussed above in Ground I, identifies a channel for communication. *See, e.g.*, EX1001, 3:30-32 ("The access code may include a telephone number identifying a channel operably configured to cooperate with an IP network."). So too does Bates's geographically-correct telephone number identify a channel for communication. EX1009, 3:43-50, Fig 4 ("Establish the Communication Session Including the

Temporary Telephone Number”). Buckley’s and Bates’s techniques for mapping such temporary numbers to call participants identifies the channels on which those participants communicate.

A POSITA would also have been motivated to modify Buckley with the teachings of Bates to produce better routing results, including for routing local calls. *See* EX1003 ¶161. Buckley teaches the IMRN can be constructed based on “some relationship(s) to one or more of the parameters received in a message ... from the UE device” in the SIP Invite message. EX1005, 3:4-12, 4:41-49. But Buckley does not expressly teach all such “relationship(s)” that a POSITA may use to map the received information to an IMRN. A POSITA would have been motivated to select available and known techniques for creating such relationships and mappings to embody Buckley’s system. EX1003 ¶161. Bates provides one such technique that determines a “***geographically-correct telephone number*** (e.g., a telephone number including a 202 area code for a call that was determined to have been made by a user located in the Washington, D.C. area, where the 202 area code indicates that the user placed the call from the Washington, D.C. area).” EX1009, 3:43-50. A POSITA would thus appreciate that Bates’s “geographically-correct” relationship technique is a known technique that can be used to improve or carry out Buckley’s similar system with predictable results, and was an obvious-to-try option for mapping

IMRNs to the “received SIP call information” that yields predictable results (a local call). EX1003 ¶161.

Bates itself teaches the communication service that selects temporary telephone numbers may do so whenever the server “determine[s] that the type of communication session requested by the user communication device 110 would benefit from having a temporary telephone number.” EX1009, 7:55-64; *Id.* 11:26-31 (“The communications service provider 120 determines whether the type of communication session would benefit from a temporary telephone number (420). In one implementation, the communications service provider 120 may analyze the communication session request to determine whether a temporary telephone number would be beneficial.”). Bates further teaches using a “geographically-correct telephone number” allows “the temporary telephone number [to be] used to ... route the call to the appropriate public safety answering point [(PSAP)] for the location of the user communication device 110,” which is helpful to ensure, for example, that a mobile phone caller with a Los Angeles area code does not get connected to the Los Angeles 9-1-1 when that caller is traveling in New York. *See* EX1009, 12:28-32; EX1003 ¶162. Thus, a POSITA would have been motivated to modify Buckley with Bates to produce better call routing results, including in the emergency services context. *See* EX1003 ¶162. Additionally, as discussed above, a POSITA would have known that selecting a “geographically correct” local telephone number can produce

a local call that avoids long distance and roaming charges, providing further motivation to modify Buckley with Bates's techniques to obtain these predictable and desirable results. *See* EX1014, Abstract, [0036]; EX1001, 1:20-28; EX1003 ¶162.

2. Claim 1

a. Element 1[preamble]⁷

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶163; Ground I; Element 1[preamble]. Further, Bates additionally teaches that the mobile phone would be roaming. EX1009, 4:43-47 (“[T]he user communication device 110 may be mobile such that the user communication device 110 may establish a connection with communications service provider 120 at multiple different points in data network 130 located in multiple different geographic areas.”).

b. Element 1[a]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶¶164-165; Ground I; Element 1[a].

Bates teaches “a request to place a call to a call recipient is received from the user” EX1009, Abstract. Moreover, Bates teaches the “user *places a call* for

⁷ The complete text of the claims' corresponding portions is available in the claim listing attached hereto as Appendix A.

emergency services (e.g., a **9-1-1 call**).” *Id.*, 3:39-40. The 9-1-1 number is a callee identifier associated with the callee, which is emergency services. *See* EX1003 ¶165.

c. Element 1[b]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶¶166-170; Ground I; Element 1[b].

Bates teaches the service “receive[s] a request from the user communication device [] to establish a communication session with the recipient communication device,” and “the **location key** [(location identifier)] may be included in the request.” EX1009, 11:12-15, 12:7-8. “The location key is an identifier used by the communications service provider 120 to identify a particular location” of the user’s mobile telephone. *Id.* 9:27-29. That location key may be input by the user for transmission to the service provider’s access server. *Id.*, 8:56-9:1 (“[T]he user provides his or her current location by explicitly providing his or her address (e.g., entering location in a text box provided in a graphical user interface (GUI) of the communications service provider 120 or orally reciting location in a voice communication). In another implementation, the communications service provider 120 maintains a list of potential locations for the user and the user selects a location from a list provided by the communications service provider....”). Thus, Bates teaches that the access code request message includes a location identifier (Bates’s

“location key”) that is separate and distinctive from said callee identifier (9-1-1, in the asserted combination).

Bates teaches “the communications service provider [] maintains a pool of telephone numbers.” EX1009, 10:11-14, 19-21. From among that pool, Bates teaches techniques to “select a temporary telephone number that corresponds to the location of the user communication device.” EX1009, 18:67-19:2. “The temporary telephone number is a geographically-correct telephone number” that enables a local call because a geographically-correct telephone number “route[s] the call to the appropriate public safety answering point for the location of the user communication device.” *Id.* 19:53-55, 12:30-31; EX1003 ¶168. For example, Bates teaches selecting “a telephone number including a 202 area code for a call that was determined to have been made by a user located in the Washington, D.C. area, where the 202 area code indicates that the user placed the call from the Washington, D.C. area.” EX1009, 3:43-50.

In the asserted combination, Bates’s technique for selecting a “geographically-correct telephone number” from among its pool of such numbers determines Buckley’s selection of IMRN from a pool of telephone (E.164) numbers (access codes) in order to ensure that a local call is made so that the correct emergency services is contacted and no unnecessary long distance or roaming charges are incurred. EX1003 ¶168.

A POSITA would have understood that selecting a geographically-correct telephone numbers from Bates's pool, when applied to Buckley's system, enables a local call because the purpose is to "route the call to the appropriate public safety answering point for the location of the user communication device," which is the local public safety answering point that is actually located near to the person and not emergency services in a different state (for example). EX1009, 12:30-31; EX1003 ¶169. A POSITA would at least have found it obvious that selecting a geographically-correct telephone numbers in Bates's pool, when applied to Buckley's system, would each enable a local call for the same reasons that selecting from Buckley's pool of IMRNs in its "home" AS would each enable a local call, as described above in Element 1[b]. EX1003 ¶169. To the extent that Bates's pool of geographically-correct telephone numbers, when applied to Buckley's system, was not comprised of access codes that *each* enable a local call (or a POSITA would not have found that obvious), another pool asserted in this ground is the subset of numbers within Bates's pool that enable a local call. EX1003 ¶169; EX1005, 5:5-7("[I]t may be desirable to provide for different pools of IMRNs to be configured from different number ranges."); *Compare* EX1001, Figure 10 (table of access codes with multiple area codes).

The remaining components of this element are taught by Buckley as described above in Ground I, Element 1[b].

d. Element 1[c]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶¶171-175; Ground I, Element 1[c].

As described above, Buckley teaches receiving an access code reply message from the access server in response to said access code request message. Ground I, Element 1[c] In the asserted combination, however, the access code included in the access code reply message is selected based on Bates’s techniques to select a geographically correct telephone number that would be used by the caller’s mobile phone to enable a local call. EX1009, 18:67-19:2 (“[A] communications service provider may ... select a temporary telephone number that corresponds to the location of the user communication device.”); 19:53-55 (“The temporary telephone number is a geographically-correct telephone number”); 3:45-49 (“***geographically-correct telephone number*** (e.g., a telephone number including a 202 area code for a call that was determined to have been made by a user located in the Washington, D.C. area, where the 202 area code indicates that the user placed the call from the Washington, D.C. area)”). Either the caller’s IP address or P-Preferred-ID as taught by Buckley or the location key as taught by Bates would provide the location information necessary to utilize Bates technique to select a geographically-correct IMRN (access code). EX1003 ¶172.

Bates's geographically-correct telephone number selection technique, when applied in Buckley's system, yields a number that is different than the emergency number dialed (*e.g.* 9-1-1) because the geographically-correct telephone number will have a local area code, such as 202 in the Washington, D.C. example. EX1009, 3:43-50; EX1003 ¶173. Bates's technique to select a geographically-correct telephone number (access code), when applied to Buckley's system, includes associating the telephone number with the location identifier (whether Buckley's caller's IP address or P-Preferred-ID or Bates's location key) and/or with a location pre-associated with the mobile telephone. The purpose of selecting a geographically-correct telephone number in the asserted ground is to choose a number that ensures the caller is placing a local call to local emergency services, and not (for example) placing a call to emergency services in California when the caller is in Washington, D.C, nor needlessly incurring long distance or roaming charges. EX1009, 3:54-56 (Teaching the system "routes the call to the appropriate public safety answering point (PSAP) based on the location associated with the temporary telephone number"); EX1003 ¶173.

Bates further teaches that its system "may *wait a threshold amount of time* ... prior to *returning the temporary telephone number to the pool of available telephone numbers*" rather than doing so immediately. EX1009, 12:44-51. Returning the number to the pool means the number's association to the

communication session has expired because then the number “may be assigned to a different user communication device in a subsequent communication session request.” *Id.* 13:15-16; EX1003 ¶174. Thus, Bates teaches that the access code expires after a period of time, which makes it compatible with Buckley’s system, in which selected IMRNs expire as discussed above in Ground I.

The remaining elements are taught by Buckley as described above in Ground I, Element 1[c], with Bates’s selection technique applied to Buckley. *See* EX1003 ¶175.

e. Element 1[d]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶176; Ground I, Element 1[d].

3. Claim 2

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶177; Ground I, Claim 2.

4. Claim 3

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶¶178-179; Ground I, Claim 3.

Bates also teaches the location identifier is an IP address. *See* EX1009, 9:4-9 (“the communications service provider 120 may *determine a current location* of the user communication device 110 *based on an IP address the user communication device* is using to connect to the data network 130”). Bates also teaches the user

communication device may be “a wireless phone” that connects via a “data network [that] may include ... a wired or *wireless* data pathway.” *id.*, 4:22-23, 6:10-13. A POSITA would recognize that when the user communication device is connected to a wireless network, its IP address would be wireless IP network address. *See* EX1003 ¶179.

5. Claim 6

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶180; Ground I, Claim 6.

6. Claim 10

a. Element 10[preamble]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶181; Ground I, Element 10[preamble].

b. Element 10[a]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶182; Ground I, Element 10[a].

c. Element 10[b]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶¶183-187; Ground I, Element 10[b].

As the '234 Patent describes, “the access server 14 and the routing controller 30 need not be separate, but may, for example, be combined in a single component” and “the routing controller 30 executes a process to facilitate communication

between callers and callees.” EX1001, 15:4-10. Bates’s “emergency services proxy server” comprises a routing controller because the emergency services proxy server facilitates communication between a caller and callee by assigning the “geographically correct telephone number” and establishing a call with the appropriate PSAP while informing the PSAP of the UE’s location. *See* EX1009, 13:61-14:1 (“[T]he emergency services proxy server 524 may be configured to ... relay the request to enhanced emergency service provider 540 including the temporary telephone number”); *Id.*, 3:53-57 (“The traditional emergency services call handling system routes the call to the appropriate public safety answering point (PSAP) based on the location associated with the temporary telephone number and establishes the emergency services call between the user and the PSAP”); *Id.*, 14:13-15 (“the user communication device [] may be able to receive a return call from the PSAP”); EX1003 ¶185; Element 1[c]-[d].

A POSITA would have understood that the geographically correct telephone number used in Bates identifies a communications channel. EX1003 ¶186. Moreover, the ’234 Patent itself confirms that a telephone number identifies a communication channel. *See, e.g.*, EX1001, 3:30-32 (“[t]he access code may include a telephone number identifying a channel operably configured to cooperate with an IP network.”). Further, Bates’s temporary number selection process and system described above is used to “***establish a communication session*** with an emergency

services provider” or between “communication device[s]”, and such a “communication session” is a channel. EX1009, 14:26-32, 4:48-61, 11:26-31, 12:17-21 (“The communications service provider 120 establishes the communication session requested by the user communication device 110 including the temporary telephone number in information used to establish the communication session (450).”), 15:28-30; EX1003 ¶186.

Bates’s session (channel) is associated with the location identifier because Bates’s technique to select a “geographically correct telephone number” used to establish the session is based on the location identifier. EX1003 ¶187; Ground II, Element 1[c]).

d. Element 10[c]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶188; Ground I, Element 10[c].

7. Claim 11

a. Element 11[preamble]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶189; Ground I, Element 11[preamble].

b. Element 11[a]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶190; Ground I, Element 11[a].

c. Element 11[b]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶191; Ground I, Element 11[b]; Ground II, Element 1[b].

d. Element 11[c]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶192; Ground I, Element 11[c]; Ground II, Element 1[c].

e. Element 11[d]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶193; Ground I, Element 11[d].

8. Claim 19

a. Element 19[preamble]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶194; Ground I, Element 19[preamble].

b. Element 19[a]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶195; Ground I, Element 19[a]; Ground II, Element 10[b].

c. Element 19[b]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶196; Ground I, Element 19[b].

d. Element 19[c]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶197; Ground I, Element 19[c].

e. Element 19[d]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶198; Ground I, Element 19[d]; Ground II, Element 10[b].

f. Element 19[e]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶199; Ground I, Element 19[e].

9. Claim 20

a. Element 20[preamble]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶200; Ground I, Element 20[preamble].

b. Element 20[a]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶201; Ground I, Element 20[a].

c. Element 20[b]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶202; Ground I, Element 20[b].

d. Element 20[c]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶203; Ground I, Element 20[c].

e. Element 20[d]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶204; Ground I, Element 20[d].

f. Element 20[e]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶205; Ground I, Element 20[e]; Ground II, Element 1[b].

g. Element 20[f]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶206; Ground I, Element 20[f]; Ground II, Element 1[c].

h. Element 20[g]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶207; Ground I, Element 20[g].

10. Claim 21

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶208; Ground I, Claim 21.

11. Claim 22

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶209; Ground I, Claim 22; Ground II, Claim 3.

12. Claim 24: “The mobile telephone apparatus of claim 20 wherein said location identifier comprises a user-configured identifier of a location associated with the mobile telephone.”

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶¶210-211.

Bates teaches “the current physical address of the user accessing the communications service provider 120 with the user communication device ... may be *explicitly supplied by the user.*” EX1009, 5:30-34; Ground II, Element 1[b]; EX1003 ¶211.

13. Claim 25

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶212; Ground I, Claim 25.

14. Claim 28

a. Element 28[preamble]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶213; Ground I, Element 28[preamble].

b. Element 28[a]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶214; Ground I, Element 28[a].

c. Element 28[b]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶215; Ground I, Element 28[b].

d. Element 28[c]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶216; Ground I, Element 28[c].

e. Element 28[d]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶217; Ground I, Element 28[d]; Ground II, Element 10[b]; Ground II, Element 1[c].

f. Element 28[e]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶218; Ground I, Element 28[e].

15. Claim 29

a. Element 29[preamble]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶219; Ground I, Element 29[preamble].

b. Element 29[a]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶220; Ground I, Element 29[a].

c. Element 29[b]⁸

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶221; Ground I, Element 29[b]; Ground II, Element 1[b].

d. Element 29[c]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶222; Ground I, Element 29[c]; Ground II, Element 1[c].

e. Element 29[d]

Buckley in view of Bates renders this element obvious. *See* EX1003 ¶223; Ground I, Element 29[d].

XI. SECONDARY CONSIDERATIONS

Petitioner is unaware of any evidence of secondary considerations that would support a finding of non-obviousness. *See* EX1003, ¶224. The asserted prior art demonstrates there is no evidence of failure by others and that the features recited in the Challenged Claims were readily available in the prior art. In any event, no secondary considerations could overcome the strong *prima facie* case of obviousness shown in this Petition. *See Wyers v. Master Lock Co.*, 616 F.3d 1231, 7276 (Fed.

⁸ A POSITA would have understood that there is a typo in this limitation, as the word “telephone” appears out of context after “pool of access codes.” EX1003, FN16. Striking this apparent typo renders this Element the same as Element 1[b].

Cir. 2010). Should Patent Owner attempt to meet its burden to show secondary considerations, Petitioner reserves the right to respond.

XII. CONCLUSION

Petitioner requests institution of an IPR and cancellation of the Challenged Claims.

Respectfully submitted,

Dated: February 28, 2023

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CERTIFICATE OF COMPLIANCE

This Petition complies with the type-volume limitations as mandated in 37 C.F.R. §42.24, totaling 12,824 words. Counsel has relied upon the word count feature provided by Microsoft Word.

/Kourtney Mueller Merrill/
Kourtney Mueller Merrill

CERTIFICATE OF SERVICE

I hereby certify that on February 28, 2023, I caused a true and correct copy of the foregoing **PETITION FOR *INTER PARTES* REVIEW, POWER OF ATTORNEY, AND EXHIBITS 1001-1026** to be served via USPS Priority Mail Express on the Patent Owner at the following correspondence address of record as listed on PAIR:

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A courtesy copy was also served by electronic mail on the attorneys of record for the following related matter:

VoIP-Pal.com, Inc. v. Meta Platforms, Inc. et al., Case No. 3:22-cv-03202
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APPENDIX A

No.	Claim Language
1[preamble]	A method of roaming with a mobile telephone, the method comprising:
1[a]	receiving, from a user of the mobile telephone, a callee identifier associated with the callee;
1[b]	transmitting an access code request message to an access server to seek an access code from a pool of access codes wherein each access code in said pool of access codes identifies a respective telephone number or Internet Protocol (IP) network address that enables a local call to be made to call the callee identified by the callee identifier, said access code request message including said callee identifier and a location identifier separate and distinctive from said callee identifier, said location identifier identifying a location of the mobile telephone;
1[c]	receiving an access code reply message from the access server in response to said access code request message, said access code reply message including an access code different from said callee identifier and associated with said location identifier and/or associated with a location pre-associated with the mobile telephone and wherein said access code expires after a period of time; and
1[d]	initiating a call with the mobile telephone using said access code to identify the callee.
2	The method of claim 1 wherein transmitting comprises transmitting said access code request message to said access server on a non-voice network.
3	The method of claim 1 wherein transmitting said location identifier comprises transmitting an IP address of the mobile telephone in a wireless IP network.
6	6. The method of claim 1 wherein receiving said access code reply message comprises receiving said access code reply message from said access server on a non-voice network.
10[preamble]	The method of claim 1 further comprising:
10[a]	receiving from the mobile telephone said access code request message;

No.	Claim Language
10[b]	communicating with a routing controller to obtain from the routing controller said access code wherein said access code identifies a communications channel associated with said location identifier and wherein said access code is useable by the mobile telephone to cause the routing controller to establish a call to the callee using the channel; and
10[c]	transmitting said access code reply message to the mobile telephone.
11[preamble]	A mobile telephone apparatus comprising:
11[a]	means for receiving, from a user of the mobile telephone, a callee identifier associated with the callee;
11[b]	transmitting means for transmitting an access code request message to an access server to seek an access code from a pool of access codes wherein each access code in said pool of access codes identifies a respective telephone number or Internet Protocol (IP) network address that enables a local call to be made to call the callee identified by the callee identifier, said access code request message including said callee identifier and a location identifier separate and distinctive from said callee identifier, said location identifier identifying a location of the mobile telephone;
11[c]	means for receiving an access code reply message from the access server in response to said access code request message, said access code reply message including an access code different from said callee identifier and associated with said location identifier and/or associated with a location pre-associated with the mobile telephone and wherein said access code expires after a period of time; and
11[d]	means for initiating a call using said access code to identify the callee.
19[preamble]	A system for enabling roaming by a mobile telephone, the system comprising the mobile telephone apparatus of claim 11 and further comprising:
19[a]	a routing controller; and
19[b]	an access server comprising
19[c]	means for receiving from the mobile telephone said access code request message;

No.	Claim Language
19[d]	means for communicating with said routing controller to obtain from said routing controller said access code wherein said access code identifies a channel associated with said location identifier and wherein said access code is useable by the mobile telephone to cause the routing controller to establish a call to the callee using the channel; and
19[e]	means for transmitting said access code reply message including said access code to the mobile telephone.
20[preamble]	A mobile telephone apparatus comprising:
20[a]	a processor circuit;
20[b]	a network interface in communication with said processor circuit; and
20[c]	a computer readable medium in communication with said processor circuit and encoded with codes for directing said processor circuit to
20[d]	receive, from a user of the mobile telephone, a callee identifier associated with the callee;
20[e]	cause an access code request message to be transmitted to an access server to seek an access code from a pool of access codes wherein each access code in said pool of access codes identifies a respective telephone number or Internet Protocol (IP) network address that enables a local call to be made to call the callee identified by the callee identifier, said access code request message including said callee identifier and a location identifier separate and distinctive from said callee identifier, said location identifier identifying a location of the mobile telephone;
20[f]	receive an access code reply message from the access server in response to said access code request message, said access code reply message including an access code different from said callee identifier and associated with said location identifier and/or associated with a location pre-associated with the mobile telephone and wherein said access code expires after a period of time; and
20[g]	initiate a call using said access code to identify the callee.

No.	Claim Language
21	The mobile telephone apparatus of claim 20 wherein said network interface comprises a non-voice network interface, and wherein said codes for directing said processor circuit to cause said access code request message to be transmitted include codes for directing said processor circuit to cause said access code request message to be transmitted to said access server using said non-voice network interface on a non-voice network.
22	The mobile telephone apparatus of claim 20 wherein said location identifier comprises an IP address of the mobile telephone in a wireless IP network.
24	The mobile telephone apparatus of claim 20 wherein said location identifier comprises a user-configured identifier of a location associated with the mobile telephone.
25	The mobile telephone apparatus of claim 20 wherein said network interface comprises a non-voice network interface, and wherein said codes for directing said processor circuit to receive an access code reply message include codes for directing said processor circuit to cause said access code reply message to be received from said access server using said non-voice network interface on a non-voice network.
28[preamble]	A system for enabling roaming by a mobile telephone, the system comprising the mobile telephone of claim 20 and further comprising:
28[a]	a routing controller; and
28[b]	an access server comprising a processor circuit and a computer readable medium in communication with the processor circuit, the computer readable medium encoded with codes for directing said processor circuit to:
28[c]	receive from the mobile telephone said access code request message;
28[d]	communicate with said routing controller to obtain from said routing controller said access code wherein said access code identifies a channel associated with said location identifier and wherein said access code is useable by the mobile telephone to cause the routing controller to establish a call to the callee using the channel; and
28[e]	transmit said access code reply message to the mobile telephone.

No.	Claim Language
29[preamble]	A non-transitory computer readable medium encoded with codes for directing a processor circuit to enable mobile telephone roaming, said codes being operable to direct the processor circuit to:
29[a]	receive, from a user of a mobile telephone, a callee identifier associated with a callee;
29[b]	transmit an access code request message to an access server to seek an access code from a pool of access codes telephone wherein each access code in said pool of access codes identifies a respective telephone number or Internet Protocol (IP) network address to enable a local call to be made to call the callee identified by the callee identifier, said access code request message including said callee identifier and a location identifier separate and distinctive from said callee identifier, said location identifier identifying a location of the mobile telephone;
29[c]	receive an access code reply message from the access server in response to said access code request message, said access code reply message including an access code different from said callee identifier and associated with said callee location identifier and/or associated with a location pre-associated with the mobile telephone and wherein said access code expires after a period of time; and
29[d]	initiate a call using said access code to identify the callee.