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Paper 39
Entered: May 2, 2017

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ALARM.COM INC.,
Petitioner,

v.

VIVINT, INC.,
Patent Owner.

Case IPR2016-00116
Patent 6,147,601

Before MICHAEL R. ZECHER, JAMES B. ARPIN, and CHARLES J. BOUDREAU, *Administrative Patent Judges*.

BOUDREAU, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Alarm.com Incorporated ("Alarm.com") filed a Petition (Paper 1, "Pet.") requesting an *inter partes* review of claims 1, 2, 4–23, 25–31, and 33–41 of U.S. Patent No. 6,147,601 (Ex. 1101, "the '601 patent"), owned by Vivint, Inc. ("Vivint"). Pet. 3.[1] On May 4, 2016, we issued a Decision granting institution of *inter partes* review of claims 1, 2, 4–15, 17–23, 25–31, and 33–41 of the '601 patent. Paper 14 ("Dec. on Inst."), 46. Vivint then filed a Patent Owner's Response (Paper 20, "PO Resp."), and Alarm.com filed a Reply (Paper 26, "Pet. Reply"). A consolidated hearing for the instant proceeding and related Cases IPR2016-00161 and IPR2016-00173 was held on January 31, 2017. A transcript of that hearing is included in the record. Paper 38 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6, and we issue this Final Written Decision pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed below, we determine that Alarm.com has met its burden to prove by a preponderance of the evidence that claims 1, 2, 4, 6, 7,

[1] On December 17, 2015, after Alarm.com's filing of the Petition, Vivint filed a Request for Certificate of Correction with respect to the '601 patent, seeking to correct an alleged mistake in claim 39. Ex. 2003 ("Request"), 3. By Order, pursuant to 37 C.F.R. § 42.3, dated January 28, 2016, we stayed the Request pending our decision on the Petition and the petitions filed in Cases IPR2015-02004 and IPR2016-00155 also involving the '601 patent, and we also authorized Alarm.com to file a Brief limited to addressing certain issues related to the requested Certificate of Correction. *See* Paper 9 ("Order"). Alarm.com filed its Brief shortly before Vivint filed a Preliminary Response in this case. Paper 11 ("Pet. Brief"). On June 1, 2016, we lifted the stay of the Request (Paper 16), and the Certificate of Corrections Branch of the Office subsequently denied the Request (Ex. 3001).

10–15, 17, 18, 22, 23, 25, 29, and 38 of the ’601 patent are unpatentable on the grounds upon which we instituted *inter partes* review, but that Alarm.com has not proven by a preponderance of the evidence that claims 5, 8, 9, 19–21, 26–28, 30, 31, 33–37, and 39–41 are unpatentable.

II. BACKGROUND

A. Related Proceedings

The ’601 patent is the subject of a district court action between the parties titled *Vivint, Inc. v. Alarm.com Inc.*, 2:15-cv-00392-CW-BCW (D. Utah 2015). Pet. 1; Paper 8, 2. Alarm.com also filed three other petitions challenging certain claims of the ’601 patent (Cases IPR2015-02004, IPR2016-00155, and IPR2016-01080), and fourteen petitions challenging certain claims of the following other patents owned by Vivint: (1) U.S. Patent No. 6,462,654 B1 (Cases IPR2015-02003, IPR2016-00161, IPR2016-01110, and IPR2016-01124); (2) U.S. Patent No. 6,535,123 B2 (Cases IPR2015-01995, IPR2016-00173, and IPR2016-01126); (3) U.S. Patent No. 6,717,513 B1 (Cases IPR2015-01997, IPR2016-00129, and IPR2016-01091); (4) U.S. Patent No. 6,924,727 B2 (Cases IPR2015-01977 and IPR2015-02008); and (5) U.S. Patent No. 7,884,713 B1 (Cases IPR2015-01965 and IPR2015-01967). Paper 17, 2–3; Paper 18, 1–2.

B. The ’601 Patent

The ’601 patent, titled “Electronic Message Delivery System Utilizable in the Monitoring of Remote Equipment and Method of Same,” issued November 14, 2000, from U.S. Patent Application No. 09/317,235, filed May 24, 1999. Ex. 1101, at [21], [22], [45], [54]. The ’601 patent also

claims the benefit of U.S. Provisional Application No. 60/115,305, filed January 9, 1999 ("the '305 provisional"). *Id.* at [60], 1:6–7.

The '601 patent describes systems and methods for monitoring remote equipment such as "devices . . . employed in heating, ventilating, and [air conditioning] (HVAC) systems." Ex. 1101, Abstract, 1:11–14. The '601 patent explains that "[i]t is desirable to be able to monitor remotely equipment that may require periodic preventive maintenance and/or that may require rapid response time should a catastrophic failure occur." *Id.* at 1:15–18. According to the '601 patent, prior art systems were limited insofar as they did not "allow for sufficient flexibility in routing fault messages to a variety of different potential recipients of such messages via a variety of different media, depending on the urgency or nature of the fault." *Id.* at 1:66–2:3. The '601 patent provides, as an example, that an HVAC customer may want to send "certain non-emergency condition notifications (e.g., filter needs cleaning) to certain individuals (e.g., contractor/maintenance personnel) via a certain medium (e.g., e-mail) and emergency condition notifications (e.g., low or high refrigerant pressure) to other individuals (building owner, contractor, etc.) via other means (e.g., via beeper or other personal communication device)." *Id.* at 2:5–14. "Such a list of who to contact via what means depending on which fault has occurred may be referred to as a 'message profile.'" *Id.* at 2:14–16. According to the '601 patent, conventional systems did not allow for "easy customer modifications to the message profile." *Id.* at 2:21–22.

The '601 patent purportedly solves these problems by describing a system for remotely monitoring electrical or mechanical equipment that can deliver fault notification messages to different individuals for different fault

conditions via different electronic media, and in which a customer may modify its message profile interactively. Ex. 1101, 2:33–41. Figure 1 of the '601 patent, reproduced below, illustrates a schematic diagram of the preferred embodiment of this system. *Id.* at 3:24–25, 5:38–39.

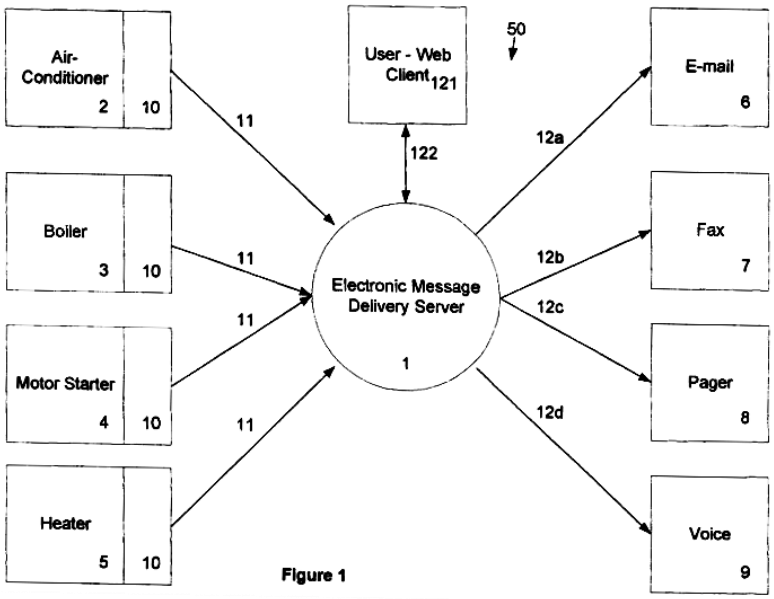

Figure 1

As shown in Figure 1, system 50 monitors existing pieces of electronic equipment, such as air-conditioner 2, boiler 3, motor starter 4, heater 5, or any other equipment that a prospective user desires to monitor. Ex. 1101, 5:39–42. Each piece of equipment is fitted with interface 10 that periodically sends a status signal to electronic message delivery server 1 indicating whether the piece of equipment and its corresponding interface are functioning correctly. *Id.* at 5:43–47. When a predetermined "exception" condition, e.g., a fault condition, occurs in a piece of equipment being monitored, interface unit 10 sends a message to electronic message delivery server 1. *Id.* at 5:47–51. Electronic message delivery server 1 then routes the message to the appropriate user interface, such as e-mail 6, fax 7,

pager 8, voice 9, etc., according to a message profile configured by the user via user-web client 121 connected to Internet 122. *Id.* at 5:51–55.

In the described systems and methods, a sensor in communication with a piece of remote equipment determines the state of at least one parameter of the remote equipment. Ex. 1101, 2:48–50, 55–56. When the sensor detects an "exception" condition (i.e., an operating condition that is either out of the ordinary or beyond nominal parameters) in the remote equipment, an interface unit connected to the sensor and having a message generating mechanism generates an incoming exception message and forwards the message to a central computer server. *Id.* at 2:56–65. The server forwards at least one outgoing exception message to at least one predetermined user-defined end device based on the incoming exception message. *Id.* at 2:65–67.

C. Illustrative Challenged Claims

Of the challenged claims, claims 1 and 22 are independent. Those two claims are reproduced below:

> 1. A method of monitoring remote equipment comprising the steps of:
>
> a) determining a state of at least one parameter of at least one piece of the remote equipment;
>
> b) communicating a message indicative of the state from the piece of remote equipment to a computer server as an incoming message;
>
> c) enabling a user to remotely configure or modify a user-defined message profile containing outgoing message routing instructions, the user-defined message profile being storable on the computer server;

d) determining whether an incoming message is an incoming exception message indicative of improper operation of the piece of remote equipment;

e) if it is determined in step d) that an incoming message is an incoming exception message, forwarding at least one outgoing exception message based on the incoming message to at least one user-defined communication device specifiable in the user-defined message profile,

wherein the user can remotely configure or modify the user-defined message profile by remotely accessing the computer server.

Ex. 1101, 8:51–9:6.

22. A system for monitoring remote equipment, comprising:

a sensor in local communication with a piece of remote equipment, said sensor detecting a state of at least one parameter of the piece of remote equipment;

an interface unit, locally connected to said sensor, said interface unit having a message generating mechanism; and

a computer server in remote communication with said interface unit, said server adapted to receive messages generated by said interface unit, said computer server having a user interface, a user being capable of remotely accessing said computer server via said user interface to remotely configure a user-defined message profile containing outgoing message routing instructions,

wherein when said sensor detects an exception condition in the piece of remote equipment, said interface unit generates an incoming exception message indicative of the exception condition and forwards said message to said server,

and wherein said server forwards at least one outgoing exception message to at least one predetermined user-defined remote communication device based on said incoming exception message as specified in said user-defined message profile.

Ex. 1101, 10:43–11:2. Challenged claims 2, 4–15, and 17–21 depend directly or indirectly from claim 1; and challenged claims 23, 25–31, and 33–41 depend directly or indirectly from claim 22. *Id.* at 9:7–10, 9:16–10:15, 10:19–42, 11:3–8, 11:16–12:5, 12:14–54.

D. Applied References and Declaration

Alarm.com relies upon the following references in support of the asserted grounds:

Exhibit	Reference
1103	U.S. Patent No. 5,808,907, issued Sept. 15, 1998 ("Shetty")
1104	U.S. Patent No. 6,040,770, issued Mar. 21, 2000 (filed Sept. 4, 1998) ("Britton")
1105	U.S. Patent No. 6,034,970, issued Mar. 7, 2000 (filed July 2, 1997) ("Levac")
1106	U.S. Patent No. 5,061,916, issued Oct. 29, 1991 ("French")

Pet. 3. Alarm.com also relies on the Declaration and Reply Declaration of Arthur Zatarain, PE (Exs. 1107, 1130) in support of its Petition and Reply, respectively; and Vivint relies on the Declaration of Scott Andrew Denning (Ex. 2010) in support of its Patent Owner Response.

E. Instituted Grounds of Unpatentability

We instituted *inter partes* review of the challenged claims under 35 U.S.C. § 103(a) based on the following grounds:

Reference(s)	Claim(s) Challenged
Shetty	1, 2, 4, 6, 10–13, 15, 17, 22, 23, 25–27, 29, 33–35, and 38
Shetty and Levac	7, 19, and 28
Shetty and Britton	5, 8, 9, 21, 30, 31, 37, 39, and 40
Shetty, Levac, and Britton	20 and 41
Shetty and French	14, 17, 18, 36, and 38
Shetty, Levac, Britton, and French	39

Dec. on Inst. 46.

III. ANALYSIS

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard as the claim construction standard to be applied in an *inter partes* review proceeding). Under the broadest reasonable interpretation standard, claim terms generally are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). The U.S. Court of Appeals for the Federal Circuit has "recognized 'only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.'" *Unwired Planet, LLC v. Apple Inc.*, 829 F.3d 1353, 1358 (Fed. Cir. 2016) (citing *Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)). Any special definition for a claim term must be set forth

with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). In the absence of such a definition, limitations are not to be read from the specification into the claims. *See In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

In the Decision on Institution, we determined that the broadest reasonable interpretation of "message profile containing outgoing message routing instructions," as recited in each of independent claims 1 and 22, is "data record including instructions specifying at least one communication device to which an outgoing message can be routed in response to an incoming exception message." Dec. on Inst. 10–14. We also determined that the term "message generating mechanism," as recited in independent claim 22, is not a means-plus-function term subject to construction under 35 U.S.C. § 112, paragraph 6,[2] contrary to Alarm.com's contentions (*see* Pet. 8), and neither that term nor any other claim terms required construction for purposes of institution of trial. Dec. on Inst. 15–18.

In its Patent Owner Response, Vivint contends that our construction of "message profile containing outgoing message routing instructions" in the Decision on Institution "overlooks a key aspect of the claimed message profile" and that the phrase instead "should be construed to mean a 'data record including instructions specifying ***which*** communication device ***associated with which individuals*** an outgoing message can be routed in

[2] Section 4(c) of the Leahy-Smith America Invents Act (AIA) re-designated 35 U.S.C. § 112 ¶ 6, as 35 U.S.C. § 112(f). Because the '601 patent has a filing date before September 16, 2012 (effective date of the statute), we refer to the pre-AIA version of 35 U.S.C. § 112.

response to an incoming exception message.'" PO Resp. 3–4, 32–35. Vivint also seeks to construe the phrases "at different time periods" and "at different times" recited in challenged claims 19 and 20, to refer to the "time of day" at which the exception message is received. *Id.* at 4, 39–40. We address the construction of each of these phrases in turn below. We also construe the phrase "communication device identification codes," which appears in claim 26 of the '601 patent.

1. "message profile containing outgoing message routing instructions" / "message profile"(claims 1 and 22)

Referring to a sentence in the '601 patent stating that "a list of who to contact via what means depending on which fault has occurred may be referred to as a 'message profile'" (Ex. 1101, 2:14–16), Vivint contends:

> In the [Patent Owner's Preliminary Response (Paper 12)], Vivint argued that the construction of the term "message profile" should include "a list of who to contact" based on a definition in the Specification that included this limitation. (Paper 12, 7–9.) The Institution Decision rejected this argument in part because the cited language from the Specification used "the permissive word 'may.'" (Paper 14, p. 13.) But the "may" in the cited portion of the '601 Patent states "[s]uch a list of who to contact via what means depending on which fault has occurred ***may be referred to as*** a 'message profile.'" (Ex. 1101, 2:14–16, emphasis added.) So, "may" in this passage is used as part of a larger clause, "may be referred to as." (Ex. 1101, 2:14–16.) This clause describes how the preceding language can be named, meaning this is one of many names, one of which is a message profile. (Ex. 2010, ¶ 51.) But there is no uncertainty as to what constitutes the message profile, as it is the inventor's chosen name in this patent for the "list of who to contact via what means depending on which fault has occurred." (*Id.* at ¶ 124.)

PO Resp. 33; *see also id.* at 3–4 (presenting essentially the same argument). Vivint further contends:

> This understanding is corroborated by another portion of the Specification, which serves as separate evidence as to the accuracy of Vivint's proposed construction herein. Specifically, the '601 Patent describes how a contractor configures his message delivery:
>
> > The contractor is provided with an account on the message delivery system that he can access via the Internet. The contractor sets up the specific parameters of which exception conditions ***are reported to which individuals***. The contractor also sets up by which media (fax, e-mail, PCS) these individuals are to be notified. Multiple individuals may be alerted as to an exception condition. ***All of this data constitutes the contractor's message profile.***

PO Resp. 34 (quoting Ex. 1101, 4:39–47, emphases added by Vivint). According to Vivint, "[t]his passage is explicit as to the contents of the message profile requiring that the message profile includes 'the specific parameters of which exception conditions are reported to which individuals,' and the 'media [by which] these individuals are to be notified.'" *Id.* (citing Ex. 2010 ¶¶ 50, 52–53). Vivint contends that the intrinsic record "describes the 'message profile' as unwaveringly requiring not only an indication of which devices to contact, but also which individuals associated with those devices should be contacted." *Id.* (citing Ex. 1101, 2:14–16, 4:39–47; Ex. 2010 ¶¶ 53, 56). Vivint further contends that, "[e]ven aside from the intrinsic evidence, under the law a proper definition must take into consideration the problem the inventor was trying to solve," and "[t]he '601 Patent makes it clear that the inventor's intent was to allow for the system to send different fault messages to different individuals depending on the fault that occurs." *Id.* at 34–35 (citing Ex. 1101, 1:66–2:3 ("All of the above

systems and the prior art are limited in scope because they do not allow for sufficient flexibility in routing fault messages to ***a variety of different potential recipients*** of such messages via a variety of different media, depending on the urgency or nature of the fault." (emphasis added by Vivint))).

Alarm.com replies that, "[b]ecause the Board's construction 'take[s] into consideration' the problem the '601 Patent was directed at and is the Broadest Reasonable Interpretation of the term, it is correct." Pet. Reply 1. Alarm.com contends that "Vivint largely rehashes arguments the Board previously rejected," and "[t]hose arguments should be rejected once again for the same reasons the Board previously articulated." *Id.* at 1–2 (citing Dec. on Inst. 12–13). Referring to the statement in the Specification that "[s]uch a list of who to contact via what means . . . may be referred to as a 'message profile,'" cited by Vivint in support of its construction (*see* PO Resp. 33 (citing Ex. 1101, 2:14–16)), Alarm.com contends that "[s]uch a list indeed fits within the Board's construction, but adds no support for a limitation *requiring* that a message profile identify individuals." Pet. Reply 2 (citing Dec. on Inst. 12–13; Ex. 1130 ¶¶ 18–26). Alarm.com further contends "[l]ines 4:39–47 of the '601 Patent likewise do not support Vivint's narrower construction of 'message profile.'" *Id.* "That passage identifies several implementation details of the preferred embodiment that are not limitations of the independent claims: a user account; accessing a server via the internet; specifying types of communication devices and the specification of multiple individuals. To make such details part of the term construction improperly imports the specification into the claims." *Id.* (citing Ex. 1130 ¶¶ 27–34).

Having considered the parties' arguments and the cited evidence, we discern no reason to modify the construction of "message profile containing outgoing message routing instructions" set forth in the Decision on Institution. As we explained in that Decision, we interpret the statement in the '601 patent that "a list of who to contact via what means depending on which fault has occurred may be referred to as a 'message profile'" (Ex. 1101, 2:14–16), at most, reflects that "a list of who to contact via what means depending on which fault has occurred" *could* be an example of a message profile, and does not necessarily require "a list of who to contact." Dec. on Inst. 12–13. Although we acknowledge Vivint's interpretation of the phrase "may be referred to as a 'message profile'" as indicating that "message profile" simply is one of "many" names that could be given to "a list of who to contact via what means depending on which fault has occurred" (*see* PO Resp. 3–4, 33), we are not persuaded that Vivint's construction of "message profile" represents the broadest reasonable interpretation in light of the Specification of the '601 patent. As we pointed out in the Decision on Institution, the '601 patent includes embodiments, in which, for example, multiple messages are sent to multiple recipients via differing media for the same exception condition (Ex. 1101, 3:10–13), or the same person is contacted by different means (e.g., fax or personal communication service (PCS)) at different times (*id.* at 4:57–58). Dec. on Inst. 13. Vivint's proposed construction, requiring the message profile to specify "***which*** communication device ***associated with which individuals***" (PO Resp. 32), would exclude such embodiments.

In view of the full record developed during trial, we remain unpersuaded by Vivint's argument that the statement in the Specification of

the ’601 patent that “a list of who to contact via what means depending on which fault has occurred may be referred to as a ‘message profile’” (Ex. 1101, 2:14–16) provides the requisite “clarity, deliberateness, and precision” to indicate that the patentees intended to act as their own lexicographer and disclaim the embodiments identified above. *See* Dec. on Inst. 12–13; *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1369 (Fed. Cir. 2004) (“We have cautioned against reading limitations into a claim from the preferred embodiment described in the specification, even if it is the only embodiment described, absent clear disclaimer in the specification.”); *Paulsen*, 30 F.3d at 1480 (an inventor may define specific terms used to describe invention, but must do so “with reasonable clarity, deliberateness, and precision” and, if done, must “‘set out his uncommon definition in some manner within the patent disclosure’ so as to give one of ordinary skill in the art notice of the change” in meaning).

Accordingly, we conclude that the broadest reasonable interpretation of “message profile containing outgoing message routing instructions” is a “data record including instructions specifying at least one communication device to which an outgoing message can be routed in response to an incoming exception message.” This construction is consistent with the ordinary and customary meaning of this claim phrase, as would be understood by one with ordinary skill in the art, in light of the claims and Specification of the ’601 patent. *See* Ex. 1101, 2:14–16, 3:10–13, 4:57–58.

2. “at different time periods”/ “at different times” (claim 19)

Claim 19 depends directly from claim 1 and recites that the “enabling” step of claim 1 “further comprises the step of enabling selection of different user-defined communication devices to receive outgoing

exception messages *at different time periods* in accordance with the message profile, the message profile being definable to have the exception messages forwarded to different specified remote communication devices *at different times*." Ex. 1101, 10:28–34 (italics added). Claim 20 depends indirectly from claim 1 and recites that the "forwarding" step of claim 1 "further comprises the step of enabling selection of different user-defined communication devices to receive outgoing exception *messages at different time periods*." *Id.* at 10:39–42 (italics added).

Vivint contends that "[t]he '601 Patent sets forth the meaning of having the exception messages forwarded to 'different specified remote communication devices ***at different times***' and enabling selection of 'different user-defined communication devices to receive outgoing exception messages ***at different time periods***,' as recited in claims 19 and 20, respectively." PO Resp. 39. Specifically, Vivint contends, "these terms mean forwarding the exception messages to different specified remote communications devices in accordance with the message profile based on ***the time of day*** the exception message was received." *Id.* at 39–40 (citing Ex. 1101, 4:40–57; Ex. 2010 ¶¶ 137–138). Vivint points out that the '601 patent states, for example, "[t]he user may also set, as part of the message profile, that different messages be delivered to different individuals at different ***times of*** the day, week, month, season, or year." *Id.* at 40 (quoting Ex. 1101, 4:50–57 (emphasis added by Vivint)). Vivint notes that, although the '601 patent refers to all of these times for convenience as "time of day," it does not mean that "the various *times* . . . are equal to just time of day." *Id.* at 40 n.7.

Only terms or phrases that are in controversy in this proceeding need to be construed, and then only to the extent necessary to resolve the controversy. *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) (explaining that "claim terms need only be construed 'to the extent necessary to resolve the controversy'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))). Alarm.com does not challenge Vivint's interpretation of "at different time periods" and "at different times" as referring to different times of day (or week, month, season, or year), and indeed, appears to rely on Vivint's interpretation in its Reply. *See* Pet. Reply 21–22. Accordingly, we agree with and adopt Vivint's interpretation and determine that it is unnecessary to further construe the phrases "at different time periods" and "at different times."

3. "communication device identification codes" (claim 26)[3]

Claim 26 depends from claim 22 and recites, in part, that the server of claim 22 "further compris[es] . . . memory in which communication device identification codes of all of said user-defined communication remote devices are stored, said communication device identification codes being configured in a plurality of said user-defined message profiles." Ex. 1101, 11:20–29. In its Petition, Alarm.com does not present a construction for the claim term "communication device identification codes." *See generally* Pet. 6–9. Instead, in support of its contention that Shetty teaches that element of claim 26, Alarm.com merely quotes Shetty's disclosure that "user profile

[3] The parties did not present their claim construction positions regarding the claim term "communication device identification codes" separate and apart from their arguments regarding whether Shetty teaches or suggests this claim term.

database 106 contains information relating to all users of the data manager including a user profile," and cross-references a portion of its claim chart for claim 1 that in turn quotes, *inter alia*, Shetty's disclosure that "the user profile defines the . . . method of notification" as supporting its contention that Shetty teaches this element. Pet. 30 (claim chart for claim 26, quoting Ex. 1103, 2:18–19 and cross-referencing claim chart for claim element "1(c)" (*see* Pet. 20–21 (quoting Ex. 1103, 2:18–21, 2:34–35, 4:8–10))).

In its Patent Owner Response, Vivint directs us to co-pending Case IPR2016-00161, in which we determined at the institution stage that Shetty's disclosure of sending a notification to a user, at most, identifies telephone numbers or email addresses, which do not amount to "communication device identification codes" recited in dependent claim 11 of the related '654 patent. PO Resp. 38 (citing *Alarm.com Inc. v. Vivint, Inc.*, Case IPR2016-00161, slip op. 40–41 (PTAB May 12, 2016) (Paper 16)). For instance, Vivint argues that an email address is not associated with a specific communication device because "a user could use just about any computing device with Internet access to access email." *Id.* at 38 (citing Ex. 2012 (Deposition Transcript of Mr. Zatarain), 89:15–90:11).

In its Reply, Alarm.com counters that, outside of dependent claim 26, the Specification of the '601 patent does not use the term "communication device identification code." Pet. Reply. 16. Alarm.com argues that "[t]he '601 specification and description of the preferred embodiment repeatedly teach that what is stored in the message profile is information sufficient to identify 'by which media (fax, e-mail, PCS) . . . individuals are notified' of exception conditions." *Id.* (citing Ex. 1101, 4:43–45, 7:50–58; Ex. 1130 ¶¶ 136–39). Alarm.com further contends that the Specification of the '601

patent uses the term "device" to describe the "user-defined communication device[s]" of the claims in only a single paragraph, wherein it "describes the process of 'deliver[y] to the specified end device or devices' . . . described as an 'e-mail box', 'fax machine', 'pager or PCS' and 'voice mail box'." *Id.* at 17 (citing Ex. 1101, 6–21). Alarm.com concedes that, "[o]bviously, an 'email box' is a logical rather than a physical 'device[,]' . . . different physical fax machines might be substituted on a fax line, and a call to a land-line telephone may ring multiple telephone devices within a home," but contends, "[n]evertheless, there is no teaching in the '601 Patent of storage in the 'user message profile' of any [communication device identification code] more specific than, *e.g.*, a telephone number, fax number, or email address." *Id.* Alarm.com further contends that no possible utility is suggested for storing any more specific identification codes, and that the disclosed telephone number, fax number and email address represent identifiers for all of the specific devices enumerated in dependent claims 11 and 29 of the '601 patent. *Id.* (citing Ex. 1130 ¶¶ 140–143).

Alarm.com further contends that any interpretation of a "communication device identification code" that excludes telephone numbers and email addresses cannot constitute the broadest reasonable interpretation because it would be inconsistent with 37 C.F.R. § 42.100(b) and would impermissibly exclude the preferred embodiment. Pet. Reply 17–18. Alarm.com reiterates that the disclosures in the Specification of the '601 patent of storing telephone numbers and email addresses are the only disclosure of storing any data about communication devices. *Id.* at 18 (citing Ex. 1130 ¶¶ 140–143, 160–164). Alarm.com further asserts that, although certain portions of the Specification disclose fixed and unique

identifiers, such as electronic serial numbers ("ESNs") and mobile identification numbers ("MINs"), these ESNs and MINs only identify interface units—not user-defined communication devices. *Id.* at 19 (citing Ex. 1101, 4:25–31; Ex. 1130 ¶¶ 144–151).

Lastly, Alarm.com contends that Vivint's argument that an email address is not a communication device identification code also should not be credited because it ignores "basic claim interpretation principles." *Id.* at 19. In particular, Alarm.com points out, claim 29 depends from claim 22—from which claim 26 also depends—and additionally recites "wherein said remote communication devices include at least . . . an e-mail receiving device." *Id.* As such, according to Alarm.com, the "communication device" of claims 22 and 26 must be interpreted broadly enough to include "an email receiving device," and "an email address must be a device identifier despite Vivint's argument to the contrary." *Id.* at 19–20.

Based on our review of the claims and Specification of the '601 patent, we agree with Alarm.com that the claim term "communication device identification code" does not appear in the Specification outside of dependent claim 26. *See* Pet. Reply 16. We, however, do not agree with Alarm.com's argument that any interpretation of "communication device identification code" that excludes telephone numbers and email addresses would impermissibly exclude the preferred embodiment. *See* Pet. Reply 17–18. As noted above, the term "communication device identification codes" appears only in dependent claim 26. Interpreting that term according to its plain meaning as referring to a device ID or a serial number capable of uniquely identifying communication devices (such as the ESNs and MINs disclosed in the '601 patent for identification of interface units) would not

exclude any allegedly preferred embodiment from independent claims 1 and 22, neither of which recites "communication device identification codes." Claim 26 depends from claim 22 and, therefore, narrows the scope of that claim. Whereas claim 22 might cover a system in which the recited communication device is, for example, a generic "email receiving device" configured to receive email messages addressed to an email address specified in the recited user profile, claim 26 additionally requires, among other things, that the server in the system of claim 22 includes memory that stores communication device identification codes.

In summary, we conclude that the broadest reasonable interpretation of the claim term "communication device identification codes" includes either a device ID (e.g., a MIN) or a serial number of a device (e.g., an ESN). This construction is consistent with the ordinary and customary meaning of this claim term, as would be understood by one with ordinary skill in the art, in light of the claims and Specification of the '601 patent.

B. Grounds of Unpatentability

1. Principles of Law

To prevail in an *inter partes* review, a petitioner must prove the unpatentability of the challenged claims by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). "[T]he petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim")). The burden of persuasion never shifts to the patent owner. *See Dynamic Drinkware, LLC v. Nat'l Graphics,*

Inc., 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review). Furthermore, a petitioner cannot satisfy its burden of proving obviousness by employing "mere conclusory statements." *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are "such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, objective evidence of nonobviousness (i.e., secondary considerations such as commercial success, long felt but unsolved needs, and failure of others).[4] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

We analyze the instituted grounds of unpatentability in accordance with the principles stated above.

2. Level of Ordinary Skill in the Art

In determining whether an invention would have been obvious at the time it was made, 35 U.S.C. § 103 requires us to resolve the level of ordinary skill in the pertinent art at the time of the invention. *Graham*, 383 U.S. at 17. "The importance of resolving the level of ordinary skill in the art

[4] The record in this case does not contain any evidence relating to objective indicia of non-obviousness.

lies in the necessity of maintaining objectivity in the obviousness inquiry." *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention. *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). Factors that may be considered in determining the level of ordinary skill in the art include, but are not limited to, the types of problems encountered in the art, the sophistication of the technology, and educational level of active workers in the field. *Id.* In a given case, one or more factors may predominate. *Id.* Generally, it is easier to establish obviousness under a higher level of ordinary skill in the art. *Innovention Toys, LLC v. MGA Entm't, Inc*., 637 F.3d 1314, 1323 (Fed. Cir. 2011) ("A less sophisticated level of skill generally favors a determination of nonobviousness, . . . while a higher level of skill favors the reverse."); *see also Dystar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1370 (Fed. Cir. 2006) ("If the level of skill is low, . . . then it may be rational to assume that such an artisan would not think to combine references absent explicit direction in a prior art reference.").

Alarm.com posits that a person of ordinary skill in the art of the '601 patent "would have had, as of January 1999, at least a bachelor's degree in computer science, electrical engineering, computer engineering, or equivalent coursework, and at least two years of experience in remote monitoring and control systems." Pet. 6–7. Alarm.com's declarant, Mr. Zatarain, assumes this skill level assessment in his declaration and opines that he was a person of ordinary skill, under this assessment, at the time of the invention. Ex. 1107 ¶ 11.

Vivint does not dispute Alarm.com's assessment in its Response, but we note that Vivint's declarant, Mr. Denning, opines that a person of ordinary skill in the art of the '601 patent would have had "at least a bachelor's degree in electrical engineering or computer science and at least four years of experience in remote monitoring and control systems," with the possibility of less experience being compensated for by more education. Ex. 2010 ¶ 15. We do not discern a material difference between the assessments advanced by the declarants, nor does either party premise its arguments exclusively on its assessment of the level of skill in the art. Moreover, each party's declarant appears to meet or exceed both parties' assessments (*see* Ex. 1107 ¶¶ 2–4, Attachment A; Ex. 2011), and either assessment of the level of skill in the art is consistent with the '601 patent and the asserted prior art. We adopt Mr. Zatarain's assessment and apply it to our obviousness evaluation below, but note that our conclusions would be the same under Mr. Denning's assessment.

3. Scope and Content of the Prior Art

a. Overview of Shetty

Shetty discloses a "method for providing information relating to a machine to a user." Ex. 1103, Abstract. The method includes the steps of sensing predetermined events relating to the machine, producing corresponding event signals, delivering the event signals to a remote site, comparing the event signals to a profile of events corresponding to the user, and delivering a notification signal to the user if the event signals match the profile. *Id.* Shetty explains that "[c]omputers and electronics are becoming increasingly common on many machines." *Id.* at 1:12–13. Shetty provides, as an example, that earthmoving machines now include many on-board

sensors for recording parameter data during operation, and that on-board controllers also may calculate parameters of the machine based on sensor data. *Id.* at 1:13–17. Shetty further explains that, "with the large increase in the number of sensors and data being collected, the amount of data to be analyzed becomes unmanageable," and "[a]dditionally, different persons, for example, the operator, the owner, etc. . . . , may have need for different information." *Id.* at 1:18–24.

Figure 1 of Shetty is reproduced below.

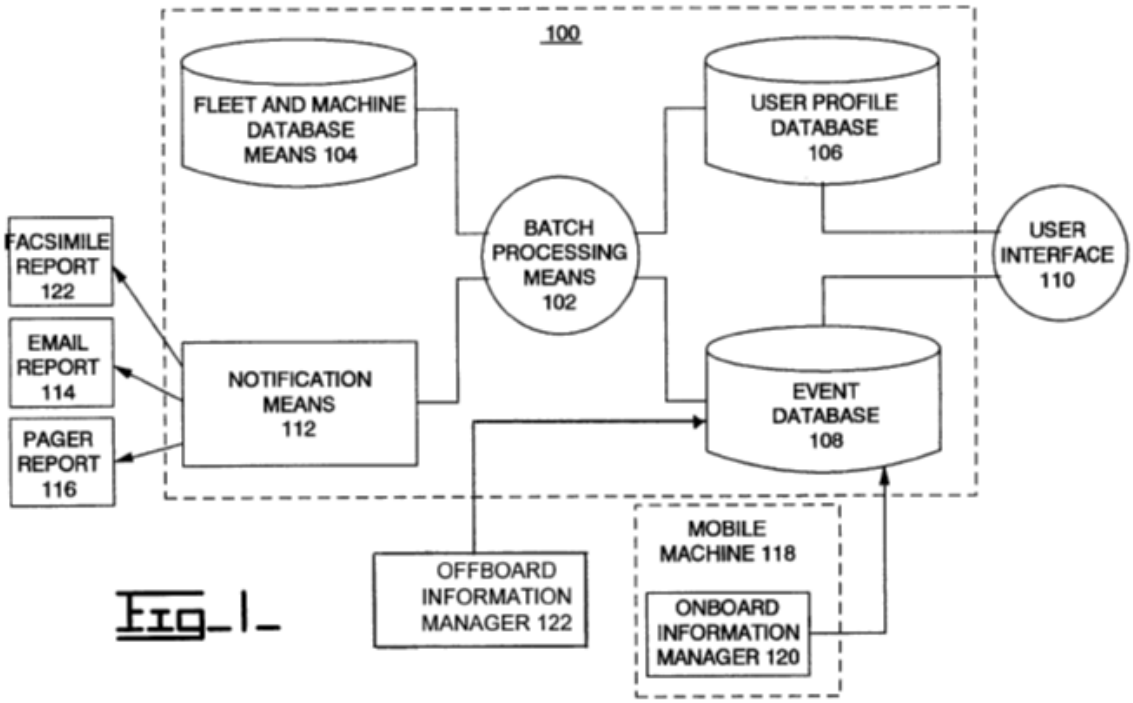

Figure 1 is a block diagram of an apparatus adapted for performing the method provided by Shetty. Ex. 1103, 1:39–40. With reference to Figure 1, warning manager 100 provides a method for providing information relating to a mobile machine in a fleet of mobile machines 118. *Id.* at 1:52–55. Shetty discloses that each of mobile machines 118 includes a plurality of on-board sensors for measuring machine parameters. *Id.* at 1:56–58. Each mobile machine 118 also may include a microprocessor-based

controller or information manager 120 for receiving signals from the sensors, storing data when an event occurs, and calculating other machine parameters based on the sensor data. *Id.* at 1:58–62. Shetty explains that an "event" is a predetermined condition or set of conditions of the machine parameters. *Id.* at 1:63–65, 3:5–6. Shetty teaches that one event may be defined when a parameter, such as engine oil temperature, exceeds a predetermined threshold, while other events may be tied to two or more parameters, such as when engine oil temperature exceeds another threshold and a sensor for detecting particles in the oil is triggered. *Id.* at 1:65–2:2, 3:6–9. Warning manager 100, which is preferably implemented on a computer workstation, includes batch processing means 102 for receiving and analyzing the events, fleet and machine database 104, user profile database 106, and event database 108 containing information relating to all triggered events received from the machines. *Id.* at 2:7–23.

Shetty further teaches that user profile database 106 contains information relating to all users, including a user profile that defines which events require that the user be notified. Ex. 1103, 2:18–21. The user profile defines the events which trigger the notification and the method of notification (e.g., by e-mail, pager, or facsimile). *Id.* at 2:43–48. User interface 110 allows a user to access user profile database 106 and input information. *Id.* at 2:34–37. Shetty teaches that each user may have multiple profiles each having a different list of events that trigger notification. *Id.* at 2:49–51. Each profile can be predefined for a different event or different set of events, and each profile also may trigger a different mode or modes of communication. *Id.* at 2:58–61. In operation, the events stored in event data may be received from on-board information manager

120 in any of a number of methods, including by radio data link, satellite datalink, or similar methods. *Id.* at 2:23–27. Batch processing means 102 retrieves a list of events from event database 108 and the user profiles from user profile database 106, compares the list of events with the profile of each user, and, if all the conditions of a user profile are met, then the user is notified via notification means 112. *Id.* at 2:38–43.

b. Overview of Levac

Levac teaches an "intelligent message system" that "automatically conveys messages generated by a variety of message sources to one or more designated message recipients who receive communications via different types of communication devices." Ex. 1105, Abstract. A message server automatically dispatches messages and updates to messages to a communication device interface that converts the messages to a protocol compatible with the types of communication devices used by the designated message recipients. *Id.* Further, the converted messages are routed to local or remote communication destinations at which the message recipients' communication devices are located. *Id.*

In a preferred embodiment, a message file generator creates message files in a standardized file format, ".msa," which is an Object Linking and Embedding (OLE) compound file format. Ex. 1105, 4:36–39. The .msa file may incorporate, *inter alia*, the following information:

> 1. OWNER: identifies the user who created the file . . . 4. DATA: contains the message . . . 7. VARSTART: describes the variable conditions that must be satisfied before triggering a message to run . . . [and] 10. DESTPARAMS: supplies a list of destination parameters, such as recipient site location, required for transmitting the message to the destination.

Ex. 1105, 4:48–5:53. Levac also explains that the disclosed message server "supports various interfaces, such as . . . [Transmission Control Protocol / Internet Protocol (TCP/IP)] messaging." *Id.* at 8:1–3. "Thus, message files can be received from a variety of local or remote message sources and can be generated either by automated sources or individual users." *Id.* at 8:3–5.

c. Overview of Britton

Britton teaches a "communication path integrity supervision system . . . that allows communication of automatic alarm data." Ex. 1104, Abstract. According to Britton, a "central alarm monitoring station greatly desires a signal that corresponds to or indicates the loss of the telephone link between itself and the protected premise, as that is an alarm event in itself." *Id.* at 1:43–46. In Britton's system, "a plurality of automatic alarm data transmitters are linked by diverse paths with . . . at least one central receiver on the network for receiving the automatic alarm data." *Id.* at Abstract. "[E]ach transmitter includes circuits for generating and sending to the central receiver a succession of 'next promised check-in' messages, to be on schedule as promised." *Id.* "The central receiver is further configured with an alert signal for signaling whenever any remote transmitter fails to meet its scheduled . . . next promised check-in." *Id.*

d. Overview of French

French is directed to "[a] system and method for reporting of alarms (or other conditions) to a remote location, in a building automation system." Ex. 1106, Abstract. The alarm is reported in a graphical format that shows, in addition to information related directly to the alarm, "additional information . . . intended to put the alarm in context." *Id.* Upon occurrence

of an alarm condition, the system assembles a graphical display for transmission, including specified fixed parameters and measured data for real-time operating parameters. *Id.* French teaches that

> examples of transmittable reports, which can be specified by the user . . . include periodic reports such as . . . maintenance reports and the like, intended to be generated at predetermined intervals or after the accumulation of a predetermined number of events in order to provide a desired set of operating conditions to a remote location.

Ex. 1106, 8:20–26. Moreover, "the user can, for example, specify a particular triggering event . . . and then specify for that particular alarm event the elements of fixed and real time data which are to be reported to the remote location as the alarm report." *Id.* at 8:31–35.

4. Discussion – Differences Between the Claimed Subject Matter and the Prior Art

a. Patentability of claims 1, 2, 4, 6, 10–13, 15, 17, 22, 23, 25–27, 29, 33–35, and 38 over Shetty

Alarm.com contends that claims 1, 2, 4, 6, 10–13, 15, 17, 22, 23, 25–27, 29, 33–35, and 38 are unpatentable under 35 U.S.C. § 103(a) over Shetty. Pet. 9–27. Alarm.com explains how Shetty purportedly teaches the subject matter of each challenged claim. *Id*. Alarm.com relies upon the Declaration of Mr. Zatarain to support its positions. Ex. 1107 ¶¶ 71–102. In its Patent Owner Response, Vivint presents a number of arguments with respect to these challenged claims. PO Resp. 6–38. Vivint relies upon the Declaration of Mr. Denning to support its positions. Ex. 2010 ¶¶ 59–133.

(1) Claims 1 and 22

In its Petition, Alarm.com contends that a person of ordinary skill in the art would have understood that Shetty discloses all of the limitations of

independent claims 1 and 22. Pet. 10–20, 22. With respect to remote user configuration of the message profile, as required by both of those claims, Alarm.com contends that users would access user profiles stored in Shetty's user profile database 106 via user interface 110, and that a person of ordinary skill in the art would have recognized that, in Shetty's customizable system, the purpose of user access to user profile database 106 would at least have been to configure or modify the user profiles stored therein. *Id.* at 16 (citing Ex. 1103, 2:34–35; Ex. 1107 ¶ 82). Alternatively, Alarm.com contends it would have been obvious to one of ordinary skill in the art to extend Shetty's disclosure of user access to user profile database 106 to provide for user configuration of the user profiles stored therein. *Id.* (citing Ex. 1107 ¶¶ 83–85). Alarm.com argues that, because Figure 4 of Shetty illustrates that users may access a third work station functioning as a data manager computer from a remote location, Shetty teaches remote user access via a user interface to configure user profiles stored in its user profile database. *Id.* at 16–17 (citing Ex. 1103, 3:58–67, 4:1–4, 4:8–10, 4:13–15, Fig. 4).

At a minimum, Alarm.com contends that, given Shetty's emphasis on customizable user profiles and its disclosures regarding remote access, one of ordinary skill in the art would have had reason to allow for remote configuration of the user profiles stored in user profile database 106. Pet. 17. According to Alarm.com, implementing this remote configuration in Shetty's system would have required nothing more than the routine application of known techniques. *Id.* (citing Ex. 1107 ¶¶ 83–85). In the claim chart for its asserted ground based on obviousness over Shetty, Alarm.com reiterates its arguments as to how Shetty teaches or suggests

obvious remote configuration of the user profiles stored in user profile database 106. *Id.* at 20–21, 25.

In its Patent Owner Response, Vivint presents the following two arguments: (1) Shetty's teaching of accessing user profiles stored in user profile database 106 does not teach or suggest enabling a user to "remotely" "configure a user-defined message profile"; and (2) Shetty's user profile does not amount to "a user-defined message profile containing outgoing message routing instructions." PO Resp. 2–3, 6–37. We address each argument in turn.

(a) Shetty teaches or suggests "remotely configur[ing] . . . a user-defined message profile," as recited in each of independent claims 1 and 22

Each of independent claims 1 and 22 recites, in relevant part, "remotely configur[ing] . . . a user-defined message profile." Ex. 1101, 8:59–60, 10:57–58.

As we explain above in the introduction of the ground based on obviousness over Shetty, Alarm.com presents alternative theories as to how Shetty teaches or suggests the aforementioned claim limitation. *See supra* Section III.B.4.a.(1). We need not reiterate those same arguments again here. In response, Vivint contends that Alarm.com's positions as to how Shetty teaches or suggests the aforementioned claim limitation are untenable because Shetty is silent as to what level of access the user has been granted to user profile database 106. PO Resp. 7. Vivint argues that Shetty does not teach whether access is local or remote, nor does it disclose whether access is read-only or allows for user modification. *Id.* at 7–8. Relying upon the supporting testimony of its declarant, Mr. Denning, Vivint argues that the access taught by Shetty is likely read-only and local. *Id.* at 8 (citing

Ex. 2010 ¶¶ 73–76). Vivint then addresses the claim terms "configure" and "remotely" separately and, finally, argues that Alarm.com's reading of Shetty is tainted with hindsight bias. *Id.*

i. "configure"

Turning first to the "configure" limitation recited in each of independent claims 1 and 22, Vivint contends that Shetty's "access" does not teach explicitly or inherently configuration of user profiles. PO Resp. 9. In particular, Vivint disagrees with Alarm.com's argument that a person of ordinary skill in the art would have recognized that, in Shetty's customizable system, the purpose of user access to user profile database 106 would at least have been to configure or modify the user profiles stored therein. *Id.* at 9–10. Vivint argues that Alarm.com's position in this regard is predicated on Shetty's system being customizable, but Vivint asserts that Shetty does not teach a customizable system nor do its claims require such a system. *Id.* Vivint recognizes that Shetty's user interface 110 allows the user to input information relating to fleets or machines, but Vivint argues that data concerning fleets or machines are stored in a separate database. *Id.* at 10–11 (citing Ex. 1103, 2:13–17, 2:33–36, Fig. 1; Ex. 2010 ¶¶ 73–76; Ex. 2012, 29:4–6, 31:2–8).

Vivint further contends that the terms "configure" and "access" are not synonymous. PO Resp. 10. Relying on dictionary definitions, Vivint argues that these terms have different meanings in the art. *Id.* at 10–11 (citing Ex. 2008, 12, 111). Vivint also argues that, because the terms "configure" and "access" are used differently in the claims and the Specification of the '601 patent, we must presume that these terms have

different meanings in the art. *Id.* at 11–12 (citing *CAE Screenplates, Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000); Ex. 1101, 3:18–20, 4:39–41). Lastly, Vivint argues that the '601 patent does not indicate that the terms "configure" and "access" are coextensive. *Id.* at 12 (citing *In re Magna Elecs., Inc.*, 611 F. App'x 969, 974 (Fed. Cir. 2015)).

In its Reply, Alarm.com counters that, contrary to Vivint's assertion that Shetty's system is not customizable, the description of Shetty's system indicates that it *must* be customized and configured for each particular installation and user. Pet. Reply 4 (citing Ex. 1103, 1:52–2:61; Ex. 1130 ¶¶ 45–50; Ex. 1118 (Deposition Transcript of Mr. Denning), 48:9–18). Alarm.com maintains that Shetty's teaching of a user accessing its user profile stored in user profile database 106 via user interface 110 to specify when and how he/she will receive notifications teaches the configuration required by independent claims 1 and 22. *Id.* (citing Ex. 1103, 2:18–21, 2:33–36, 2:41–45, Fig. 1). To support this argument, Alarm.com asserts that Shetty does not teach or suggest any limitation or restriction on the operation of users accessing their user profiles stored in user profile database 106 via user interface 110, nor does Shetty teach or suggest any other means to configure the user profiles. *Id.* at 5–6 (citing Ex. 1130 ¶¶ 52–55, 57–59, 62–68; Ex. 1118, 50:3–24).

Alarm.com further argues that Shetty's recitation of "access" immediately adjacent to its recitation of "*also* allowing the user to input information," would have conveyed to one of ordinary skill in the art that a user is able to perform the function of inputting information into all three databases, including user profile database 106. Pet. Reply 6 (citing Ex. 1103, 2:34–37; Ex. 1130 ¶¶ 69–72, 80–84). Lastly, Alarm.com argues

that its position in this regard, as well as the supporting testimony of Mr. Zatarain, is informed and supported by four technical dictionaries, each of which confirms that one of ordinary skill in the art would have understood that "access" encompasses both reading and writing data. *Id.* at 6–7 (citing Exs. 1126–1129; 1130 ¶ 56).

We begin our analysis by noting that Shetty includes numerous disclosures teaching or fairly suggesting that its system is customizable. For instance, Shetty discloses that "different persons, for example, the operator, the owner, etc. . . . *may have need for different information*." Ex. 1103, 1:22–23 (emphasis added). Shetty also teaches how each user may have multiple, predefined aliases, each of which trigger notification via different modes of communication for different events. *Id.* at 2:48–57. In addition, when describing the first industrial application or embodiment of Shetty's invention illustrated in Figure 3, Shetty teaches that this first embodiment is "solely for illustration purposes," and "the present invention may be *adapted* for a variety of such systems." Ex. 1101, 3:46–48 (emphasis added); *see also id.* at 1:39–40 (explaining that Figure 1 illustrates "an apparatus *adapted* for performing the [invention described by Shetty]" (emphasis added)). Based on these teachings, we find that Shetty's system, including user profile database 106, may be customized in a manner suitable for each particular installation and its corresponding users.

We also agree with Alarm.com that there is sufficient evidence of record demonstrating Shetty's customizable system and, in particular, its accessing of user profile database 106, allows for both reading and modifying data. The parties' arguments regarding access to user profile database 106 focus on the following disclosure in Shetty: "A user interface

110 allows a user to *access* both the user profile database 106 and the event database 108. The user interface 110 also allows the user to *input* information relating to the fleet and machine data." Ex. 1103, 2:34–37 (emphases added). In our view, Shetty's teaching of allowing a user to "access . . . user profile database 106" immediately adjacent to its teaching of "also allow[ing] the user to input formation relating to fleet and machine data," would have conveyed to one of ordinary skill in the art that user interface 110 allows a user to input information, such as fleet and machine data, into user profile database 106. Neither party directs us to, nor do we find, a disclosure in Shetty that teaches or suggests inputting information relating to fleet and machine data is restricted to inputting such data to fleet and machine database means 104. For instance, in order to ensure proper notification of an exception message, Shetty's system must associate a mobile machine (i.e., fleet and machine data) with a specific user profile stored in user profile database 106. That way, if an on-board sensor connected to the mobile machine detects an event (e.g., the engine oil temperature exceeds a predetermined threshold), Shetty's system consults the user profiles stored in user profile database 106, identifies the user profile associated with the mobile machine, and determines how the corresponding user should be notified.

Alarm.com's position in this regard is reinforced further by the background knowledge one of ordinary skill in the art may consider in an obviousness evaluation. The Federal Circuit has recognized that evidence submitted during the course of a trial may be considered to demonstrate the knowledge that one of skill in the art "would bring to bear in reading the prior art identified as producing obviousness." *Ariosa Diagnostics v.*

Verinata Health, Inc., 805 F.3d 1359, 1365 (Fed. Cir. 2015); *see also Randall Mfg. v. Rea*, 733 F.3d 1355, 1362–63 (Fed. Cir. 2013) (emphasizing that additional prior art references or evidence are not for the purpose of changing the prior art combination that forms the basis of the asserted ground, but rather are merely for the purpose of providing evidence of the state of the art, including the background knowledge of one of ordinary skill in this art). Here, we view the introduction of technical dictionaries defining the word "access" as including both reading and writing data as falling within the purview of permissible evidence we may consider in this obviousness evaluation. Upon considering this evidence, we agree with Alarm.com that these dictionary definitions of "access" would have informed one of ordinary skill in the art that, unless Shetty explicitly indicates otherwise (which it does not), its disclosure of accessing user profile database 106 encompasses both reading and writing data. *See* Exs. 1126–1129.

We do not agree with Vivint's argument that the '601 patent clearly differentiates between the terms "configure" and "access." *See* PO Resp. 11–12. Rather, we view this as the unusual circumstance where the claims and Specification of the '601 patent essentially treat these two terms as coextensive because they provide no reason for "access," other than to configure or modify. For instance, independent claim 22 recites "a user being capable of remotely *accessing* said computer server via said user interface to remotely *configure* a user-defined message profile." Ex. 1101, 10:55–58 (emphases added). Independent claim 1 similarly recites "wherein the user can remotely configure or modify the user-defined message profile by remotely accessing the computer server." *Id.* at 9:4–6. Another

disclosure in the Specification also uses essentially the same language, namely, that "the contractor or consumer can *access* the centralized message server via the Internet and *modify* the message profile through software on the device." *Id.* at 3:18–20 (emphases added). In addition, when describing the details of message delivery server 1 in conjunction with Figure 4, the Specification further discloses a hardware device included in server 1 that enables "user 121 to *access* server 1 and *create or edit* his message profile residing in relational [database] 21." *Id.* at 6:50–52 (emphases added). Put simply, the claims and Specification of the '601 patent merely require accessing the computer server via the user interface to configure or modify user profiles stored therein—no other intervening operations or steps are required between accessing and configuring/modifying.

In support of its argument that the '601 patent differentiates between the claim terms "configure" and "access," Vivint attempts to distinguish the Federal Circuit's discussion regarding coextensive terms in *Magna Electronics*. *See* PO Resp. 12. Contrary to Vivint's assertion, we do not view the Federal Circuit's discussion of coextensive terms in that case as distinguishable from the circumstances presented here. In that case, the appellant argued that there was a distinction between the terms "a positional relationship" and "an indication of a distance." *Magna Elecs.*, 611 F. App'x at 974. The Federal Circuit explained that, even if it were to presume that such a distinction exists, the patent at issue in that case (i.e., U.S. Patent No. 5,949,331 ("the '331 patent")) essentially treats these two terms as coextensive. *Id.* After discussing certain disclosures in the specification of the '331 patent, the Federal Circuit determined that all that was required by the '331 patent was "a graphic overlay to indicate the distance, *i.e.*, relative

position, of objects behind a vehicle," and this was precisely what the Board found was taught by the prior art. *Id.* Similarly, all that is required by the '601 patent is accessing the computer server via a user interface to configure or modify user profiles stored therein—no other intervening operations or steps are required between accessing and configuring/modifying. We agree with Alarm.com that Shetty teaches or suggests the configuration of user profiles required by independent claims 1 and 22 because (1) Shetty's system may be customized in a manner suitable for each particular installation and its corresponding users; and (2) there is sufficient evidence of record to support a finding that one of ordinary skill in the art would have understood that Shetty's teaching of accessing user profile database 106 encompasses both reading and writing data. *See* Pet. 16–17 (citing Ex. 1107 ¶¶ 82–85); Pet. Reply 4–7 (citing Ex. 1103, 1:52–2:61, Fig. 1, Abstract; Exs. 1126–1129; Ex. 1130 ¶¶ 45–50, 52–59, 62–74, 76, 80–84; Ex. 1118, 48:9–18, 50:3–24).

Lastly, we do not agree with Vivint that the general presumption that different words in a claim should have different meanings applies to the terms "configure" and "access." *See* PO Resp. 11–12 (citing *CAE Screenplates*, 224 F.3d at 1317). This presumption may be rebutted if there is sufficient evidence to the contrary. *See CAE Screenplates*, 224 F.3d at 1317 ("In the absence of any evidence to the contrary, we must presume that the use of . . . different terms in the claims connotes different meanings."). In our view, the record before us includes sufficient evidence to the contrary because the claims and Specification of the '601 patent merely disclose *accessing* the computer server via a user interface to *configure* or modify user profiles stored therein—no other intervening operations or steps are

required between accessing and configuring/modifying. *See* Ex. 1101, 3:18–20, 6:50–52, 9:4–6, 10:55–58. As we explain above, Alarm.com presents sufficient argument and evidence demonstrating that Shetty's access to user profile database 106 allows for the configuration of profiles stored therein, as required by independent claims 1 and 22.

ii. "remotely"

Turning now to the "remotely" limitation recited in each of independent claims 1 and 22, Vivint contends that neither Shetty's teaching of remote notification illustrated in Figure 4 nor Shetty's limited discussion of the Hewlett-Packard HP-UX operating system (the "HP-UX system") teaches or suggests remotely accessing user profile database 106. PO Resp. 16. In particular, Vivint argues that Shetty does not disclose explicitly or inherently that user interface 110 allows remote access to user profile database 106. *Id.* at 18–19 (citing Ex. 2010 ¶ 94). To cure this purported deficiency, Vivint argues that Alarm.com directs us to Figure 4 of Shetty and its corresponding description that "[u]sers can also access the data stored on the third work station 406 and *receive electronic mail* via first and second *remote* work station 420, 422." *Id.* (quoting Pet. 21; Ex. 1103, 4:8–10). According to Vivint, this teaching in Shetty indicates that remote access only applies to email notification—not to accessing user profiles. *Id.* at 19 (citing Ex. 2010 ¶ 95). Vivint then asserts that Shetty is silent as to whether a user may access user profile database 106 from the remote work stations via user interface 110. *Id.* (citing Ex. 2010 ¶¶ 95–98).

Vivint further contends that a single sentence in Shetty stating that "warning manager 100 is implemented on a computer workstation operating the Hewlett-Packard HP-UX operating system" is not enough to demonstrate

that warning manager 100 may be accessed remotely via user interface 110. PO Resp. 20 (quoting Ex. 1103, 2:7–9). Vivint argues that, at the very least, a certain amount of programming is required in order to enable remote access of a user interface program on an HP-UX system. *Id.* at 22–23 (citing Ex. 2010 ¶ 108). Vivint argues that neither Alarm.com nor its declarant, Mr. Zatarain, provide any details of the programming required to run under the HP-UX system that would be necessary to take advantage of the remote capabilities the HP-UX system has to offer. *See id.* at 20–21 (Ex. 2010 ¶¶ 100–106).

In addition, Vivint contends that Alarm.com relies upon three conclusory paragraphs of Mr. Zatarain's Declaration to support its argument that Shetty teaches remote access. PO Resp. 23 (citing Pet. 17; Ex. 1107 ¶¶ 83–85). Vivint argues, however, that none of these paragraphs in Mr. Zatarain's Declaration provide or rely upon corroborating evidence to support his positions. *See id.* at 23–29. Vivint further argues that, even in paragraphs of Mr. Zatarain's Declaration that were not presented and developed in the Petition that provide or rely upon corroborating evidence to support his position, that evidence neither qualifies as prior art to the '601 patent nor does it prove the point that Mr. Zatarain was trying to make. *See id.* at 27–28.

In its Reply, Alarm.com counters that Shetty explicitly discloses that users may access data on a data manager via remote work stations, which are illustrated in Figure 4 as communicating with the data manager by a modem-type connection. Pet. Reply 7–8 (citing Pet. 17; Ex. 1103, 4:8–10; Ex. 1130 ¶¶ 75, 76, 82–84; Ex. 1118, 74:2–75:16). According to Alarm.com, this type of remote access allows a user to configure profiles

stored in Shetty's user profile database 106. *See id.* at 8. Alarm.com further disagrees with Vivint's assertion that the remoteness illustrated in Shetty's Figure 4 and its corresponding description is limited to retrieval of email. *Id.* Alarm.com argues that Vivint's argument in this regard is contradicted by Shetty's explicit statement that users may "*access the data stored* on the third workstation [410] *and* receive electronic mail." *Id.* (quoting Ex. 1103, 4:8–10).

Alarm.com further argues that Vivint misses the point with its argument that the HP-UX system by itself does not teach remote access to a message profile. Pet. Reply 8. Alarm.com argues that it never contended that the HP-UX system itself discloses remote configuration. *Id.* Rather, relying upon the supporting testimony of Mr. Zatarain, Alarm.com advocates that the HP-UX system is a multi-user network operation system specifically designed to support software and network operations that would allow a user to interact with software remotely. *Id.* According to Alarm.com, a person of ordinary skill in the art would have understood that the use of the HP-UX system in Shetty's preferred embodiment is consistent with, and confirms, the network-based implementation illustrated in Shetty's Figure 4 and the remote access capability associated therewith. *Id.* at 8–9 (citing Ex. 1107 ¶ 82; Ex. 1130 ¶¶ 85–88).

In addition, Alarm.com contends that Vivint's arguments regarding alleged deficiencies in three paragraphs in Mr. Zatarain's Declaration are without merit because, as Vivint purportedly admits in a footnote, each of these paragraphs provides or relies upon various disclosures in Shetty. Pet. Reply 14 (citing PO Resp. 24 n.6). Alarm.com then reiterates its position that it would have been obvious to combine Shetty's teaching of a user

remotely accessing data stored on either a database server or remote work station, with its teaching of a user accessing user profile database 106 via user interface 110, to teach or suggest remote user access to user profile database 106 via user interface 110. *Id.* (citing Ex. 1103, 2:34–35, 4:5–15; Pet. 16–17, 20–21).

As an initial matter, although Shetty does not disclose explicitly whether user interface 110 is local to, or remote from, warning manager 100, Figure 1 of Shetty (*see supra* Section III.B.3.a) clearly illustrates that user interface 110 is separate from and, therefore, remote from warning manager 100. *See In re Mraz*, 455 F.2d 1069, 1072 (CCPA 1972) (explaining that "things patent drawings show clearly are [not] to be disregarded" and that "the teachings of patent drawings, even as to features unexplained by the specification, [may] prove[] dispositive"). Indeed, Figure 1 of Shetty illustrates warning manager 100 using a dotted line that surrounds batch processing means 102, fleet and machine database means 104, user profile database 106, event database 108, and notification means 112. Ex. 1103, 2:11–31, Fig. 1. Off-board information manager 122 and mobile machine 118, which includes onboard information manager 120, both are located outside the dotted line that delineates warning manager 100. *Id.* at 1:56–62, 2:3–6, 2:22–32, Fig. 1. Similarly, user interface 110 is located outside the dotted line that delineates warning manager 100. *Id.* at 2:34–37, Fig. 1. Based on the orientation of elements illustrated in Figure 1 of Shetty, we find that user interface 110 is remote from warning manager 110 because this is consistent with how both off-board information manager 122 and mobile machine 118 are shown as being remote from warning manager 100.

Our finding in this regard is reinforced further by Alarm.com's position as to how Figure 4 of Shetty and its corresponding description of a user remotely accessing data stored on either a database server or remote work station, together with Figure 1 of Shetty and its corresponding description of a user accessing user profile database 106 via user interface 110, teaches or suggests remote user access to user profile database 106 via user interface 110. *See* Pet. 16–17, 20–21; Pet. Reply 7–9, 14–15. Figure 4 of Shetty, reproduced below, illustrates a second industrial application or embodiment of the invention described in Shetty. Ex. 1103, 1:46–47.

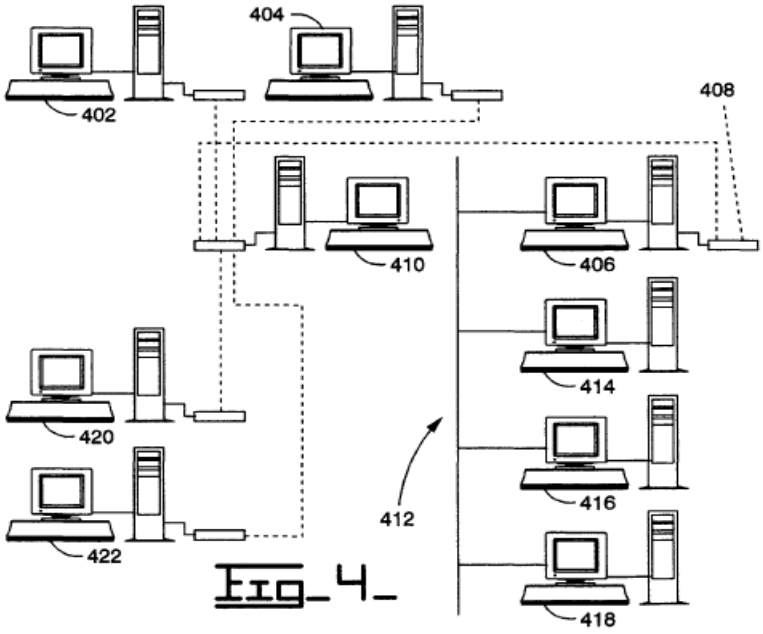

Fig_4_

As shown in Figure 4, Shetty discloses that first work station 402 and second work station 404 each collect data, which, in turn, are delivered to remote third workstation 410 for storage. Ex. 1103, 3:59–61, 3:65–67. Shetty further teaches that another remote site collects data that are delivered to remote database server work station 406 for storage. *Id.* at 3:61–64. Shetty then states that "*[u]sers can access data stored on database server work station 406* and receive electronic mail via the first, second, and third

network computers 414, 416, and 418." *Id.* at 4:5–7 (emphasis added). Shetty further states that *"[u]sers can also access data stored on the third work station [410]* and receive electronic mail via first and second remote work stations 420 and 422." *Id.* at 4:8–10 (emphasis added).

Based on Shetty's Figure 4 and its corresponding description, we find that Shetty teaches at least one embodiment that allows a user to access data stored on either a database server or work station via one or more additional remote work stations. We determine that, at a fundamental level, access of this type is nothing more than remote access. Applying this teaching of remote access in one embodiment of Shetty to its explicit disclosure of a user accessing user profile database 106 via user interface 110 (*id.* at 2:34–36, Fig. 1), we agree with Alarm.com that it presents sufficient argument and evidence demonstrating that a user may remotely access user profile database 106 via user interface 110, as required by independent claims 1 and 22.

We do not agree with Vivint that remote access taught by Figure 4 of Shetty and its corresponding description is limited to remote email notification. *See* PO Resp. 18–19. Although Shetty does state that "[u]sers can . . . receive electronic mail via first and second remote work stations 420, 422" (Ex. 1103, 4:8–10), Vivint's position overlooks the first part of this sentence, which states that *"[u]sers can also access the data stored on the third work station [410] and* receive electronic mail *via first and second remote work stations 420, 422*" (*id.* (emphases added)). Shetty further explains how this type of remote access to data stored on a work station parallels the access to data stored on a database server via network computers. *Id.* at 4:5–7 ("Users can access the data stored on the database

server work station 406 and receive electronic mail via the first, second, and third network computers 414, 416, 418."). Contrary to Vivint's argument, access of this type is not limited to remote email notification, but rather involves accessing data stored in either a database server or work station via one or more additional remote work stations.

As Shetty explains, events may be stored on both third work station 410 and database server work station 406. Ex. 1103, 4:11–12. We determine that there is no discernable reason why remotely accessing the event data stored on these work stations would not apply to accessing the user profile data stored in user profile database 106 contained within warning manager 100, especially considering that the embodiment illustrated in Figure 4 is one of two industrial applications of the invention described in Shetty. That is, we understand Figure 4 of Shetty to be a particular application of the apparatus disclosed in Figure 1 of Shetty. *See id.* at 1:39–40 ("FIG. 1 is a block diagram of an apparatus adapted for performing the present invention."), 3:54–55 ("With reference to FIG. 4, a second application of the present invention is illustrated."). In Figure 1 of Shetty, event database 108, in which the events are stored, is accessed through the same user interface 110 that allows for access to user profile database 106. *See id.* at 2:34–35, Fig. 1.

We recognize that the parties present arguments as to whether Shetty's disclosure of implementing warning manager 100 on a computer work station operating the HP-UX system does, indeed, support Alarm.com's position that a user may remotely access user profile database 106 via user interface 110. *See* PO Resp. 17, 23–28; Pet. Reply 7–9, 12–13. We also recognize that the parties present arguments as to the weight we

should accord Mr. Zatarain's testimony that, for numerous reasons, it would have been obvious to one of ordinary skill in the art to provide remote access to Shetty's user profile database 106. *See* Pet. 16–18; PO Resp. 27–29; Pet. Reply 13–15. However, we need not assess the merits of those arguments because, as we explain above, Alarm.com directs us to Figures 1 and 4 of Shetty and their corresponding descriptions that, when considered together, sufficiently demonstrate that a user may remotely access user profile database 106 via user interface 110, as required by independent claims 1 and 22.

iii. Alarm.com does not engage in impermissible hindsight reconstruction

Vivint contends that, to the extent Alarm.com demonstrates that Shetty teaches allowing a user to access remotely user profile database 106 to configure profiles stored therein, Alarm.com's arguments in this regard are the product of impermissible hindsight reconstruction. PO Resp. 30–32. According to Vivint, Alarm.com has not proven that a person of ordinary skill in the art at the time of the invention would have recognized the same problem recognized by the inventors of this patent. *Id.* at 30–31 (citing *Mintz v. Dietz & Watson, Inc.*, 679 F.3d 1372, 1377 (Fed Cir. 2012)). Vivint argues that Alarm.com does not provide or rely upon evidence indicating that one of ordinary skill in the art would have understood that it was "obvious and technically straightforward" to extend the meaning of database access into database configuration, much less extend the meaning of remote email notification into remote configuration of user profiles. *Id.* at 31–32 (citing Pet. 16–17; Ex. 2010 ¶ 93). Vivint further argues that the testimony of Alarm.com's declarant, Mr. Zatarain, fails to cure these deficiencies in the

Petition because Mr. Zatarain makes only conclusory statements that are not supported by underlying facts or data. *Id.* at 31 (citing Ex. 2010 ¶¶ 68, 78, 119).

To the extent Vivint relies upon the Federal Circuit's decision in *Mintz* to support its argument that Alarm.com must look to the problem solved by the '601 patent in its obviousness evaluation, we do not agree. In *KSR*, the Supreme Court made clear that it is error to "hold[] that courts and [petitioners] should look only to the problem the patentee was trying to solve." *KSR*, 550 U.S. at 420 (citation omitted). The Supreme Court explained that:

> [t]he question is not whether the combination was obvious to the patentee but whether the combination was obvious to a person with ordinary skill in the art. Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.

Id.

Here, as we explain above, Alarm.com provides sufficient reasoning as to why one of ordinary skill in the art would have understood that Shetty allows a user to remotely access user profile database 106 via user interface 110 to configure profiles stored therein. *See* Pet. 16–18, 20–21; Pet. Reply 9–15. Alarm.com's reasoning in this regard is directed specifically to the subject matter at issue in independent claims 1 and 22, and Alarm.com provides sufficient evidence in the record to support its reasoning. As a result, instead of presenting reasoning that is based on impermissible hindsight reconstruction, as asserted by Vivint, Alarm.com has articulated sufficient reasoning as to why one of ordinary skill in the art would have had reason to extend Shetty's teaching of user access to user profile database 106

via user interface 110 to provide for remote configuration of the profiles stored therein.

iv. Summary

In summary, Alarm.com has presented sufficient argument and supporting evidence demonstrating that Shetty teaches or suggests "remotely configur[ing] a user-defined message profile," as recited in independent claims 1 and 22.

(b) Shetty's user profile teaches "a user-defined message profile containing outgoing message routing instructions," as recited in each of independent claims 1 and 22

Each of independent claims 1 and 22 recites, in relevant part, "a user-defined message profile containing outgoing message routing instructions." Ex. 1101, 8:59–61, 10:57–59.

In its Petition, Alarm.com contends that Shetty teaches a user profile that defines events that trigger notification via different modes of communication. Pet. 14–15 (citing Ex. 1103, 2:43–48); *see also id.* at 20 (arguing the same). According to Alarm.com, Shetty's system allows for multiple users with multiple user profiles. *Id.* at 15 (citing Ex. 1103, 2:49–61). Alarm.com further argues that these profiles are stored in user profile database 106. *Id.* (citing Ex. 1103, 2:18–21, 3:13–15, Fig. 1); *see also id.* at 20 (arguing the same). Alarm.com explains that, after receiving an event from mobile machine 118's onboard information manager 120, batch processing means 102 compares the event to each user profile stored in user profile database 106, and, once a match is found, notification means 112 sends a notification to the appropriate user devices. *Id.* (citing Ex. 1103,

2:39–42). Alarm.com further explains that Shetty refers to notifications sent to user devices as "notification signals" or "messages," and that these notification signals/messages may be sent to different types of devices. *Id.* at 16 (citing Ex. 1103, 3:18–20, 4:26–27, 4:51–52). Alarm.com asserts that, because Shetty discloses a user profile that specifies the destination of notification signals, including different categories of devices (e.g., email, pager, fax) for different detected events, Shetty teaches a "user-defined message profile containing outgoing message routing instructions," as recited in independent claims 1 and 22. *Id.* at 14–16.

In its Patent Owner Response, Vivint contends that Shetty's user profile does not include "any information relating to 'which individuals an outgoing message can be routed.'" PO Resp. 36 (citing Ex. 2010 ¶ 127). Rather, Vivint argues that Shetty's user profile includes routing instructions for notifying only a single user. *Id.* (citing Ex. 1103, 2:18–21, 2:42–43; Ex. 2010 ¶ 125). According to Vivint, Shetty confirms this understanding in another disclosure in which it describes, as an example, how two users are capable of being notified. *Id.* (citing Ex. 1103, 2:53–56; Ex. 2010 ¶ 126). Vivint asserts that Shetty's user profile is specific to a particular user and does not include, nor has reason to include, information relating to "which individuals an outgoing message can be routed," and that Shetty does not teach a "user-defined message profile containing outgoing message routing instructions," as recited in independent claims 1 and 22. *Id.* at 37 (citing Ex. 2010 ¶ 127).

In our claim construction section above, we maintain that the broadest reasonable construction of this claim term is "data record including instructions specifying at least one communication device to which an

outgoing message can be routed in response to an incoming exception message." *See supra* Section III.A.1. Shetty's user profile is consistent with this construction because it specifies at least one communication device (e.g., device capable of receiving email, pager, fax, etc.) to which an outgoing message is routed in response to batch processing means 102 determining that an event received from mobile machine 118 matches the criteria of a user profile stored in user profile database 106. *See* Ex. 1103, 2:18–21, 3:13–15, 3:18–20, Fig. 1. We, therefore, agree with Alarm.com that Shetty teaches or suggests the recited "user-defined message profile containing outgoing message routing instructions." *See* Pet. 14–16, 20.

(c) Remaining limitations

In its Patent Owner Response, Vivint does not address separately Alarm.com's explanations and supporting evidence as to how Shetty teaches or suggests the remaining limitations recited in independent claims 1 and 22. *See generally* PO Resp. 6–38. We have reviewed Alarm.com's explanations and supporting evidence in this regard, and we are persuaded that Shetty teaches or suggests each such limitation. *See* Pet. 10–13, 17–21, 24–25, and evidence cited therein.

(d) Conclusion

We conclude that Alarm.com has demonstrated by a preponderance of the evidence that the subject matter of independent claims 1 and 22 would have been obvious over Shetty.

(2) Claims 26, 27, and 33–35

Dependent claim 26 recites, in relevant part, "a second memory in which communication device identification codes of . . . remote user-defined communication devices are stored." Ex. 1011, 11:25–27. Although we have

outlined the parties' arguments regarding the claim term "communication device identification codes" in our claim construction above (*see supra* Section III.A.3), we nonetheless highlight these arguments below for convenience.

In its Petition, Alarm.com contends with respect to the "second memory" element of claim 26 that Shetty's user profile database 106 "contains information relating to all users of the data manager including a user profile" and otherwise merely relies on its claim chart for claim element 1(c). Pet. 26 (citing Ex. 1103, 2:18–21, 2:49–61, Fig. 1). In the claim chart for claim element 1(c), Alarm.com contends Shetty's user profiles define the events that require that a user be notified and the methods of notification, such as email, pager report, or facsimile report. *Id.* at 20 (citing Ex. 1003, 1:21–22, 2:18–21, 2:23–61, Fig. 1; Ex. 1107 ¶ 82). We, therefore, understand Alarm.com to argue that Shetty's email addresses, pager telephone numbers, and fax telephone numbers teach the recited "communication device identification codes." In its Patent Owner Response, Vivint contends that "there is nothing in Shetty to suggest that [its] different modes of communication correspond to specific remote devices, nor that they are represented by identification codes within the database." PO Resp. 37 (citing Ex. 2010 ¶¶ 128–129). For instance, Vivint argues that Shetty discloses using email as one mode of communication, but that an email address is not associated with a particular communication device, because "a user could use just about any computing device with Internet access to access email." *Id.* at 38 (citing Ex. 2012, 89:15–90:11). In its Reply, Alarm.com contends that "the disclosures in Shetty (storage of email addresses and telephone numbers in a user profile database) are

identical to the preferred embodiment of the '601 Patent for this [communication device identification code] limitation," and that Shetty, therefore, teaches this limitation. Pet. Reply 16 (citing Ex. 1130 ¶¶ 132–139).

In our claim construction section above, we construe the claim term "communication device identification codes" as including either a device ID or serial number of a device. *See supra* Section III.A.3. Shetty's telephone numbers and email addresses are not consistent with this construction because they do not identify uniquely a specific device. *See* Ex. 1103, 2:18–21, 3:18–20. We also credit Vivint's declarant, Mr. Denning's, testimony on this particular issue. *See* Ex. 2010 ¶¶ 128–132. In particular, Mr. Denning testifies that "[Shetty's] system can dial a particular phone number, and it will reach whatever device is tied to that phone number at the moment. *It is not device-specific*." *Id.* ¶ 130 (emphasis added). He also testifies that, "[s]imilarly, [Shetty's] system could send an email, and the recipient would be able to retrieve that email from nearly any Internet-accessible computer device. *Again, . . .* [*this*] *is not device-specific*." *Id.* ¶ 131 (emphasis added). We, therefore, agree with both Vivint and Mr. Denning that Shetty does not teach or suggest the recited "communication device identification codes." *See* PO Resp. 37–38; Ex. 2010 ¶¶ 128–132.

Accordingly, we conclude that Alarm.com has not demonstrated by a preponderance of the evidence that the subject matter of dependent claim 26—or the subject matter of claims 27 and 33–35, dependent therefrom—would have been obvious over Shetty.

(3) Claims 2, 4, 6, 10–13, 15, 17, 23, 25, 29, and 38

Alarm.com provides a detailed mapping of the limitations of each of these claims on Shetty. Vivint does not address separately Alarm.com's arguments and supporting evidence with respect to dependent claims 2, 4, 6, 10–13, 15, 17, 23, 25, 29, and 38. *See generally* PO Resp. 6–37. We have reviewed Alarm.com's arguments and supporting evidence with respect to each of those claims presented in the Petition, and we agree with and adopt Alarm.com's analysis. *See* Pet. 19, 21–27, and evidence cited therein. Based on our determinations with respect to independent claims 1 and 22, and the arguments and evidence presented in the Petition with respect to dependent claims 2, 4, 6, 10–13, 15, 17, 23, 25, 29, and 38, we conclude that Alarm.com has demonstrated by a preponderance of the evidence that the subject matter of those dependent claims would have been obvious over Shetty.

b. Patentability of claims 7, 19, and 28 over Shetty and Levac

Claim 7 depends from claim 1 and recites that "the remote configuring or modifying of the message profile" further comprises the steps of: "1) selecting at least one type of user-defined communication device to which outgoing exception messages are to be forwarded"; "2) selecting specific user-defined communication devices of the types selected in step 1)"; and "3) determining the content of the outgoing exception messages forwarded in step d)." Ex. 1101, 9:26–35. Claim 19 depends from claim 1 and recites that the "enabling" step "further comprises enabling selection of different user-defined communication devices to receive outgoing exception messages at different time periods in accordance with

the message profile, the message profile being definable to have the exception messages forwarded to different specified remote communication devices at different times." *Id.* at 10:28–34. Claim 28 depends from claim 27 and, similar to claim 7, recites, in part, "select[ing] at least one type of communication device . . . [and] select[ing] specific user-defined communication devices of the types selected." *Id.* at 11:34–41.

In the Petition, Alarm.com explains how the combination of Shetty and Levac teaches or suggests the subject matter of claims 7, 19, and 28 and provides reasoning as to why one of ordinary skill in the art would have been prompted to combine or modify their respective teachings. Pet. 28–33, 36–38. Regarding claims 7 and 28, Alarm.com contends that Shetty's teaching of notifying a user by email, pager, or facsimile, in conjunction with Levac's teaching of creating an .msa file that may incorporate a particular message and a list of destination parameters (i.e., a recipient site location) required for transmitting a message to a particular destination, teaches the aforementioned features of those claims. Pet. 36–38 (citing Ex. 1103, 3:16–20; Ex. 1105, 4:48–63, 5:49–53, 8:14–17; Ex. 1107 ¶¶ 87, 90). Regarding claim 19, Alarm.com contends Levac teaches enabling selection of different devices to receive exception messages at different time periods, relying on Levac's disclosures that "message file generator 23 embeds the actual message in the .msa file together with primary data streams specifying essential message parameters, such as date, time and destination, required to transmit the message to the designated recipients," and that "the .msa file . . . may incorporate, and in some instances must incorporate, the following information: . . . RUNTIME: identifies the period

of time the message should run. . . . [and] DESTPARAMS: supplies a list of destination parameters." *Id.* at 37 (citing Ex. 1005, 4:39–43, 4:48).

To support combining the teachings of Shetty and Levac, Alarm.com argues that it would have been obvious to one of ordinary skill in the art to modify Shetty's system in view of the teachings of Levac because Levac provides implementation details for the core functionality taught by Shetty—namely, sending messages triggered by external sources (i.e., sensors or other "automated sources") to particular devices based on user-specified preferences. Pet. 31–32. According to Alarm.com, Levac provides an explicit reason for making such a combination because its message system was intended to be used in a variety of contexts. *Id.* at 32 (citing Ex. 1105, 3:46–49). Moreover, Alarm.com argues that, because Levac's .msa file performs essentially the same role as Shetty's user profile, one of ordinary skill in the art would have known to incorporate the helpful aspects of Levac's .msa file (e.g., specifying destination parameters) into Shetty's user profile without technical difficulty. *Id.* (citing Ex. 1107 ¶¶ 107–112). Alarm.com also contends that it would have been obvious to one of ordinary skill in the art to utilize Levac's teaching of sending outgoing messages to different types of user devices in systems taught by Shetty. *Id.* at 33. Alarm.com recognizes that, although Shetty teaches that this result already occurred, Shetty does not provide a detailed explanation as to how messages are actually sent to different types of user devices. *Id.* By contrast, Alarm.com argues, Levac teaches a comprehensive system and process flow for routing messages to different types of user communication devices. *Id.* (citing Ex. 1107 ¶¶ 105–106).

(1) Claims 7 and 28

In its Patent Owner Response, Vivint does not address separately Alarm.com's arguments and supporting evidence as to how the combination of Shetty and Levac accounts for all of the limitations required by dependent claims 7 and 28, but contends that Alarm.com's rationale for combining the teachings of Shetty and Levac is too broad and that one of ordinary skill in the art would not have had sufficient reason to combine the teachings of those references. PO Resp. 44–46. According to Vivint, Alarm.com and its declarant, Mr. Zatarain, merely attempt to show how Shetty and Levac account for the claim features, but they do not provide the "'what,' 'how,' and 'why'" for the proffered combination. *Id.* at 45. Vivint argues that neither Alarm.com nor Mr. Zatarain explains "what the combined Shetty-Levac system would look like"; nor do they explain how one of ordinary skill in the art would incorporate features of Levac into Shetty's system "without technical difficulty." *Id.* (citing Pet. 32). Moreover, Vivint argues that neither Alarm.com nor Mr. Zatarain explains why one of ordinary skill in the art would have considered the limitations of Levac to be "natural extensions" of Shetty, much less how such limitations are useful to monitor remote machines, which Shetty already does. *Id.* at 45–46 (citing Pet. 32; Ex. 1107 ¶¶ 114–116).

Turning first to the parties' arguments as to whether one of ordinary skill in the art would have had sufficient reason to combine the teachings of Shetty and Levac, we note that the Supreme Court has held that an obviousness evaluation "cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents."

KSR, 550 U.S. at 419. Instead, the relevant inquiry is whether Alarm.com has set forth "some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), *cited with approval in KSR*, 550 U.S. at 418. When describing examples of what may constitute a sufficient rationale to combine, the Supreme Court elaborated that, "if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *KSR*, 550 U.S. at 417.

After considering the record in its entirety, we are persuaded that Alarm.com's rationale for combining the teachings of Shetty and Levac suffices as articulated reasoning with rational underpinnings to support the legal conclusion of obviousness. When, as here, a technique has been used to improve one device (i.e., Levac's messaging system creates an .msa file that may incorporate a particular message and a list of destination parameters, such as a recipient site location, required for transmitting a message to a particular destination), and one of ordinary skill in the art would have recognized that it would improve similar devices in the same way (i.e., using the aforementioned disclosure in Levac to improve Shetty's system), using the technique is obvious unless its actual application is beyond the skill level of an ordinarily skilled artisan. *See KSR*, 550 U.S. at 417; Pet. 31–33; Ex. 1107 ¶¶ 105–112; *see also In re Ethicon, Inc.*, 844 F.3d 1344, 1351 (Fed. Cir. 2017) (Our reviewing court has recognized "[t]he normal desire of artisans to improve upon what is already generally known."). Apart from generally asserting that neither Alarm.com nor Mr.

Zatarain provide the "what," "how," and "why" for the asserted combination of Shetty and Levac (*see* PO Resp. 44–46), Vivint does not present credible evidence that combining the teachings of these references in the manner proposed by Alarm.com would have been uniquely challenging or otherwise beyond the skill level of an ordinarily skilled artisan.

For the foregoing reasons, and based on Levac's teachings cited by Alarm.com (e.g., Ex. 1105, 4:48–63, 5:49–53, 8:14–17), we conclude that Alarm.com has demonstrated by a preponderance of the evidence that the subject matter of dependent claim 7 would have been obvious over Shetty and Levac. We have reviewed Alarm.com's arguments and supporting evidence in this regard, and we agree with and adopt Alarm.com's analysis. *See* Pet. 28–33, 36–37, and evidence cited therein.

We conclude, however, that Alarm.com has not demonstrated by a preponderance of the evidence that claim 28 is unpatentable over the proffered combination. Claim 28, as noted above, depends from claim 27, which in turn depends from claim 26. For the reasons stated in Section III.B.4.a.(2), *supra*, we find that Shetty does not teach or suggest the "communication device identification codes" limitation recited in claim 26. Because Alarm.com does not rely on Levac as teaching or suggesting that limitation, we conclude that Alarm.com has not shown by a preponderance of the evidence that the combination of Shetty and Levac teaches or suggests that limitation, and, accordingly, the combination of those references does not render claim 28 unpatentable.

(2) Claim 19

Alarm.com provides a detailed mapping of the limitations of claim 19 on Shetty and Levac. In addition to its argument that a skilled artisan would

not have been motivated to combine the teachings of Shetty with Levac, Vivint additionally contends that the combination of Shetty and Levac does not teach the "at different time periods" limitation of claim 19. PO Resp. 39–43. Vivint acknowledges that Levac discloses that a message file generator creates a message file containing a number of parameters indicating, for example, the year, month, day, hour, minute, and second that a message should begin running, but Vivint contends that is significantly different from what is claimed by the '601 patent. *Id.* at 42 (citing Ex. 1105, 4:36–44, 5:7–34). More particularly, according to Vivint, whereas Levac is used to schedule the run-time of a message at a later time, "it does not teach or disclose 'enabling selection of different user-defined communication devices to receive outgoing exception messages at different time periods in accordance with the message profile,' as recited in claim 19." *Id.* at 43 (citing Ex. 2010 ¶ 142).

In its Reply, Alarm.com responds that "Vivint's assert[ion] that Levac's 'method for scheduling the runtime of a message at some later time' 'is significantly different from what is claimed by the '601 Patent' . . . is incorrect." Pet. Reply 21 (quoting PO Resp. 42). According to Alarm.com:

> Claim[] 19 . . . recites limitations whereby different user-defined communication devices receive outgoing exception messages at different times; for example, to one destination during normal business hours and to another after hours. Ex. 1101, 4:53–57; claim[ ] 19. . . .
>
> Levac's .msa file, through its RUNTIME variable, discloses the limitations of claim[] 19 . . . . Levac disclosed a system for automatically conveying a message generated by a variety of message sources, such as a sensor, to various types of communication devices. Pet[.] 28–29. In addition to specifying the message sources, the user could also set other parameters, such as a RUNTIME parameter. Ex. 1105, 5:7–34. As Vivint

> points out, the RUNTIME parameter limits the runtime of the message. [PO Resp.] 42. However, Vivint's analysis ignores Levac's further disclosures regarding the transmission of messages generated by sensors. Ex. 1130 [¶¶ 167–168].

Pet. Reply 21. Further, Alarm.com contends, "Levac discloses the use of VARSTART and RUNTIME variables." *Id.* at 22 (citing Ex. 1105, 5:7–38). Alarm.com asks us to

> [c]onsider a user who defines two "messages" that specify messages to be sent when specified sensors are activated, but also using the RUNTIME and VARSTART variables as disclosed in Levac. *Id.*; Pet[.] 28–29[.] In the first such defined "message," the user specifies that a message will be sent by telephone, but configures the RUNTIME parameter such that this "message" only runs from 9:00 AM to 5:00 PM on weekdays. In the second, the user specifies that a message will be sent by email, but configures the RUNTIME variable such that this "message" will only run from 5:00 PM to 9:00 AM on weekdays. Thus—precisely as taught in the '601 Patent—when the specified sensor activates during the week, a telephone message is sent during regular business hours and an email is sent at night; on the weekend, no message is sent at all. Ex. 1101, 4:50-57; Ex. 1130 [¶¶ 169–176].

Pet. Reply 22. Thus, Alarm.com contends, "Levac discloses the limitations of claim[] 19 . . . of the '601 patent." *Id.*

Having considered the parties' respective arguments and the evidence presented by Alarm.com, we agree with Vivint that the combination of the teachings of Shetty and Levac does not teach or suggest "enabling selection of different user-defined communication devices to receive outgoing exception messages at different time periods in accordance with the message profile," as recited in claim 19. PO Resp. 43. Although it might have been *possible* using Levac's system to define two "messages" in the manner

proposed by Alarm.com—with one to run from 9:00 AM to 5:00 PM and the second to run from 5:00 PM to 9:00 AM, with each specifying a different mode of notification—Alarm.com points to no evidence that the ordinarily skilled artisan at the time of the alleged invention of claim 19 actually would have had reason to do so in the absence of the teachings of the '601 patent itself. In other words, in light of the evidence before us, we are not persuaded that the subject matter of claim 19 would have been obvious to a person of ordinary skill in the art in the absence of improper hindsight knowledge. *See Graham*, 383 U.S. at 36 (cautioning against "the temptation to read into the prior art the teachings of the invention in issue").

We conclude, therefore, that Alarm.com has not demonstrated by a preponderance of the evidence that claim 19 is unpatentable over Shetty and Levac.

c. Patentability of claims 14, 17, 18, 36, and 38 over Shetty and French

Alarm.com argues that French discloses each of the limitations that dependent claims 14, 17, 18, 36, and 38 add to the base claims from which they depend (Pet. 54–55 (citing Ex. 1106, 7:14–21, 8:20–26, 8:28–35, 8:52–55, 9:17–31, 11:66–12:3, Figs. 2–4; 1107 ¶ 142)), and that a person of ordinary skill in the art would have had reason to combine the teachings of Shetty and French to achieve the subject matter recited in those claims (*id.* at 53–54 (citing Ex. 1107 ¶¶ 145, 146)). In its Patent Owner Response, Vivint does not address separately Alarm.com's arguments and supporting evidence as to how the combination of Shetty and French would account for the all of the limitations recited by dependent claims 14, 17, 18, 36, and 38, but merely contends that French does not cure the deficiencies of Shetty with

respect to independent claims 1 and 22, from which claims 14, 17, 18, 36, and 38 directly or indirectly depend. *See* PO Resp. 53; *see also* Paper 15 (Scheduling Order), 3 ("The patent owner is cautioned that any arguments for patentability not raised in the response will be deemed waived.").

In view of French's disclosures (*see supra* Section III.B.3.d), we are persuaded, on this record, that the combination of the teachings of Shetty and French teaches or suggests all of the limitations of claims 14, 17, 18, and 38, and that Alarm.com has provided articulated reasoning with rational underpinning that would support the legal conclusion of obviousness with respect to these claims. *See KSR*, 550 U.S. at 418 (citing *Kahn*, 441 F.3d at 988). Based on our determinations above with respect to independent claims 1 and 22, and the arguments and evidence presented in the Petition with respect to dependent claims 14, 17, 18, and 38, we conclude that Alarm.com has demonstrated by a preponderance of the evidence that the subject matter of those dependent claims would have been obvious over Shetty and French.

We conclude, however, that Alarm.com has not demonstrated by a preponderance of the evidence that claim 36 is unpatentable over the proffered combination. Claim 36 depends from claim 26. For the reasons stated in Section III.B.4.a.(2), *supra*, we find that Shetty does not teach or suggest the "communication device identification codes" limitation recited in claim 26. Because Alarm.com does not rely on French as teaching or suggesting that limitation, we find that the combination of the teachings of Shetty and French also does not teach or suggest that limitation and conclude, accordingly, that the combination of those references does not render claim 36 unpatentable.

d. Patentability of claims 5, 8, 9, 21, 30, 31, 37, 39, and 40 over Shetty and Britton; claims 20 and 41 over Shetty, Levac, and Britton; and claim 39 over Shetty, Levac, Britton, and French

Alarm.com contends that claims 5, 8, 9, 21, 30, 31, 37, 39, and 40 of the '601 patent are unpatentable under § 103(a) over the combination of Shetty and Britton (Pet. 38–49); that claims 20 and 41 are unpatentable under § 103(a) over the combination of Shetty, Levac, and Britton (*id.* at 47–49); and that claim 39 is alternatively unpatentable under § 103(a) over the combination of Shetty, Levac, Britton, and French (Pet. Brief 4–5). Alarm.com explains how the asserted combinations of references teach or suggest the subject matter of each challenged claim, and provides reasoning as to why one of ordinary skill in the art would have been prompted to combine or modify their respective teachings. Pet. 38–49; Pet. Brief 4–5. Alarm.com also relies upon the Declaration of Mr. Zatarain to support its positions. Ex. 1107 ¶¶ 119, 123–132, 134–145.

Claim 5 depends from claim 1 and recites that the "forwarding" step of claim 1 "further comprises the step of determining whether an incoming message is a normal status message indicative of proper operation of the piece of remote equipment." Ex. 1101, 9:19–22. Claim 30 depends from claim 26 and recites, in part, "wherein said interface unit periodically generates a normal status message if said sensor to which said interface unit is connected detects a normal status condition indicative of proper operation of said respective piece of equipment to which said sensor is connected." *Id.* at 11:46–51. Challenged claims 8, 9, 20, and 21 directly or indirectly depend from claim 5; and challenged claims 31, 37, 40, and 41 directly or

indirectly depend from claim 30. Claim 39 depends from claim 38 and recites "wherein said outgoing exception message comprises exception information and identification information concerning said piece of remote equipment to which said normal status message[5] pertains." *Id.* at 12:45–48.

In the Petition, Alarm.com asserts that periodic transmission of "'normal status messages' . . . was well known in the art," and "[i]n particular, it was disclosed by Britton." Pet. 39. Alarm.com contends, "Britton noted that a 'central alarm monitoring station greatly desires a signal that corresponds to or indicates the loss of the telephone link between itself and the protected premise, as that is an alarm event in itself.'" *Id.* at 40 (quoting Ex. 1104, 1:43–46). According to Alarm.com, "[i]f the central station failed to receive an expected check-in message, the central station generated an 'alert signal' corresponding to the protected premises, which could then be forwarded to various destinations." *Id.* (citing Ex. 1104, 8:48–52, 8:56–62). Accordingly, Alarm.com asserts, "Britton disclosed the periodic transmission of a 'check-in message' from the monitored premises to a remote computer, and that the failure of the remote computer to receive such a message caused an alert to be sent to different specified destinations depending on the premises being monitored." *Id.* Alarm.com contends that the combination of the teachings of Shetty and Britton rendered obvious the

[5] Neither claim 22 nor claim 38 provides any antecedent basis for the phrase "said normal status message" recited in claim 39 (*see id.* at 10:43–11:2, 12:41–44). Vivint unsuccessfully attempted to obtain a certificate of correction to replace "said" to "a" to correct this defect. *See* Ex. 2003; Ex. 3001.

limitations of transmitting and storing of "normal status messages" and sending particularized alarm messages concerning premises that failed to send "normal status messages," as collectively required by claims 5, 8, 9, 30, and 31 (*id.* at 40–43); and that a person of ordinary skill in the art would have found it obvious to include "operational information" from Shetty in the normal status messages of Britton, to render obvious the additional limitations recited in claims 21 and 40 (*id.* at 43–44). Alarm.com further contends a person of ordinary skill in the art "would have been motivated to incorporate Britton's periodic status messages into the Shetty system (whether augmented by Levac) because Britton offered a solution to a well-known problem in the art: the inability to distinguish between silence caused by lack of alarm conditions and silence caused by communication failure." *Id.* at 44.

Vivint responds that the combination of the teachings of Shetty and Britton fails to teach or suggest a normal status message indicative of proper operation of the piece of remote equipment, because "Britton's check-in messages indicate only health of communication lines, but not the health of the remote equipment as claimed." PO Resp. 4–5, 47–49. According to Vivint, "Britton's check-in messages verify integrity of the communication link between the alleged interface unit and the alleged server," but "have no relationship at all to the health of Britton's remote equipment." *Id.* at 5, 48. Vivint contends that the Decision on Institution instituted trial with respect to these claims based on an argument that could have been, but wasn't, raised in the Petition," and that, under *Magnum Oil Tools*, "the Board is not free to advance arguments not made in the Petition." *Id.* at 5, 50.

In the Reply, Alarm.com contends that Britton operates similarly to teachings of the '601 patent in that, if a non-normal condition is detected at monitored equipment, a remote interface sends an alarm message. Pet. Reply 24. Alarm.com further contends:

> The '601 Patent states that the interface can also be programmed to "check in once a day with an 'all systems okay' message". Ex. 1101, 4:61–62. The "missing message subroutine" at the message delivery server (the central monitoring station) checks whether each "interface" has actually "checked in" (*id.*, 5:1–5), and "sends out the appropriate message" if not (*id.*, 5:6–8). Likewise, according to Britton, each "control unit or panel that interfaces between the central alarm monitoring station and various alarm sensors" (Ex. 1104, 4:36–37) sends scheduled "check-in" messages to a central station or "receiving equipment". *Id.*, 2:5–7; 7:28–32. Britton further teaches that it is known that in systems using "packet data messages", such messages can include additional content. *Id.*, 7:41–44. The "receiving equipment" compares incoming check-in messages against a list of expected check-in signals, and generates an alert if an expected check-in is not received. *Id.*, 8:30–34; 8:48–54.
>
> In both Britton and the '601 Patent, a check-in message indicates (a) that the communication link between the remote interface and the central station is functional, and (b) because it is merely a check-in message and not an exception condition message, that neither sensors associated with the interface nor the interface itself is reporting exception conditions. Ex. 1130, ¶189.
>
> In both systems, if the communication channel is operational, and an exception condition is reported to the interface by a sensor, an exception message will be sent to the central station. Britton expressly discloses that alarm conditions may relate to any of an individual piece of monitored equipment ("an ATM"), a remote interface unit—or "control unit panel"—(e.g., "a low battery condition") (Ex. 1104, 1:23–31), or the communication link itself (*id.*, 8:48–54). Thus, just as taught by

> the '601 Patent, receipt of a non-alarm check-in message verifies that *all* aspects of the system are in a normal, non-exception condition. Ex. 1130, ¶¶187–89.

Pet. Reply 24–25.

Having considered the full record developed during trial, we are not persuaded that the combination of the teachings of Shetty and Britton teaches or suggests a "normal status message," as that phrase is used in claims 5 and 30 and the claims dependent therefrom, to refer to a message indicative of proper operation of remote equipment being monitored. Notwithstanding our determination in the Decision on Institution that "a check-in message that does not indicate an alarm condition can be termed a normal status message, under a broad, but reasonable, interpretation of that term" (Dec. on Inst. 41), we agree with Vivint that Alarm.com did not raise that specific argument in the Petition. *See* PO Resp. 5. Rather, as stated above, Alarm.com argued that Britton teaches or suggests check-in messages indicating the status of the telephone link between a central alarm monitoring station and monitored premises, and that the failure to receive such a message is treated as an alarm condition. *See, generally,* Pet. 38–43. In contrast with Alarm.com's arguments, we agree with Vivint that claims 5 and 30 require a message *specifically* "indicative of proper operation ***of the piece of remote equipment***." *See* PO Resp. 46. Although one might theoretically be able to deduce from a check-in message confirming the integrity of the communication link that is unaccompanied by an exception message indicative of improper operation of remote equipment (i.e., a "non-alarm check-in message," in Alarm.com's parlance) that both the communication link and the remote equipment are functioning normally, Alarm.com has not established that a person of ordinary skill in the art

would have understood such a combination of events to teach or suggest affirmatively a "normal status message" indicative of proper operation of a piece of remote equipment. Moreover, we are not persuaded that a person of ordinary skill in the art would have made such a modification in the absence of improper hindsight knowledge drawn from the teachings of the '601 patent itself. *See Graham*, 383 U.S. at 36 (cautioning against "the temptation to read into the prior art the teachings of the invention in issue"). While we recognize Alarm.com's contention that "[f]or the reasons stated above, no modification of Britton's check-in would be needed" (Pet. Reply 26), we disagree. Although, as Alarm.com points out, Britton teaches that it was known that systems using "packet data messages" *can* include additional content (*id.* at 24 (citing Ex. 1104, 7:41–44)), Alarm.com points to no persuasive evidence that the combination of Britton and Shetty specifically would include a normal status message as such "additional content."

For the foregoing reasons, we are not persuaded that the combination of Shetty and Britton would have rendered obvious the "normal status message" limitations of claims 5, 30, and 39. We conclude, therefore, that Alarm.com has not demonstrated by a preponderance of the evidence that those claims—or claims 8, 9, 21, 31, 37, and 40, variously dependent therefrom—are unpatentable over Shetty and Britton.[6] Further, because

[6] Because claims 30, 31, and 37 also depend directly or indirectly from claim 26, and Alarm.com does not allege that Britton teaches or suggests "communication device identification codes," we conclude that Alarm.com also has not demonstrated the unpatentability of those claims for the reasons set forth in our above discussion of claim 26. *See supra* Section III.B.4.a.(2).

Alarm.com does not rely on Levac or French as teaching or suggesting the normal status messages or communication device identification codes of the claims, we also conclude that Alarm.com has not demonstrated by a preponderance of the evidence that claims 20 and 41 are unpatentable over Shetty, Levac, and Britton, or that claim 39 is unpatentable over Shetty, Levac, Britton, and French.

E. Motion for Observation

Vivint filed a Motion for Observation regarding the cross-examination of Mr. Zatarain. Paper 32 ("Obs."). Alarm.com, in turn, filed a Response to the Motion for Observation. Paper 34 ("Obs. Resp."). We have reviewed Mr. Zatarain's testimony in light of Vivint's observations and Alarm.com's responses (Obs. 1–13; Obs. Resp. 1–13), and have accorded his testimony appropriate weight in rendering this Decision.

IV. CONCLUSION

Based on the evidence and arguments, Alarm.com has demonstrated by a preponderance of the evidence that claims 1, 2, 4, 6, 10–13, 15, 17, 22, 23, 25, 29, and 38 of the '601 patent are unpatentable over Shetty; that claim 7 is unpatentable over Shetty and Levac; and that claims 14, 17, 18, and 38 are unpatentable over Shetty and French. Alarm.com has not demonstrated that claims 5, 8, 9, 19–21, 26–28, 30, 31, 37, and 39–41 are unpatentable on any of the instituted grounds.

V. ORDER

Accordingly, it is

ORDERED that claims 1, 2, 4, 6, 7, 10–15, 17, 18, 22, 23, 25, 29, and 38 of the '601 patent have been shown to be unpatentable;

FURTHER ORDERED that claims 5, 8, 9, 19–21, 26–28, 30, 31, 33–37, and 39–41 of the ’601 patent have not been shown to be unpatentable; and

FURTHER ORDERED that, because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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