

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

CORE WIRELESS LICENSING S.A.R.L.,
Patent Owner.

Case IPR2015-01896
Patent 7,072,667 B2

Before LYNNE E. PETTIGREW, CHRISTA P. ZADO, and
JESSICA C. KAISER, *Administrative Patent Judges*.

ZADO, *Administrative Patent Judge*.

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

I. INTRODUCTION

We have authority to hear this *inter partes* review under 35 U.S.C. § 6, and this Final Written Decision (“Decision”) is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Apple Inc. (“Petitioner”) has shown claims 12–15 of U.S. Patent No. 7,072,667 B2 (Ex. 1001, “the ’667 patent”) to be unpatentable. See 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

A. Procedural History

Petitioner filed a Petition (Paper 2, “Pet.”) to institute *inter partes* review, and Core Wireless Licensing S.A.R.L. (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”). On March 18, 2016, we instituted an *inter partes* review of claims 12–15 of the ’667 patent. Paper 7 (“Dec. to Inst.”). Patent Owner filed a Response (Paper 10, “PO Resp.” or “Response”), and Petitioner filed a Reply (Paper 12, “Reply”). A transcript of an oral hearing held on November 14, 2016 (Paper 19, “Tr.”) has been entered into the record.

B. Related Proceedings

The parties inform us that the ’667 patent is at issue in the following proceedings: *Core Wireless Licensing S.a.r.l. v. Apple Inc.*, 6:14-cv-00751 (E.D. Tex.); *Core Wireless Licensing S.a.r.l. v. LG Electronics, Inc.*, 2:14-cv-00911 (E.D. Tex.). Pet. 1; Paper 5, 2. The parties also inform us of two petitions for *inter partes* review of the ’667 patent filed by different petitioners (IPR2015-01714 and IPR2015-01715).¹ Pet. 1; Paper 5, 2.

¹ The Board has issued final decisions in both proceedings. IPR2015-01714, Paper 21; IPR2015-01715, Paper 21.

C. The '667 Patent

The '667 patent is titled “Location Information Service For A Cellular Telecommunications Network,” and generally relates to a method and system for providing location finding information to a mobile station independently of a vendor. Ex. 1001, 1:52–65. Figure 1 of the '667 patent is reproduced below:

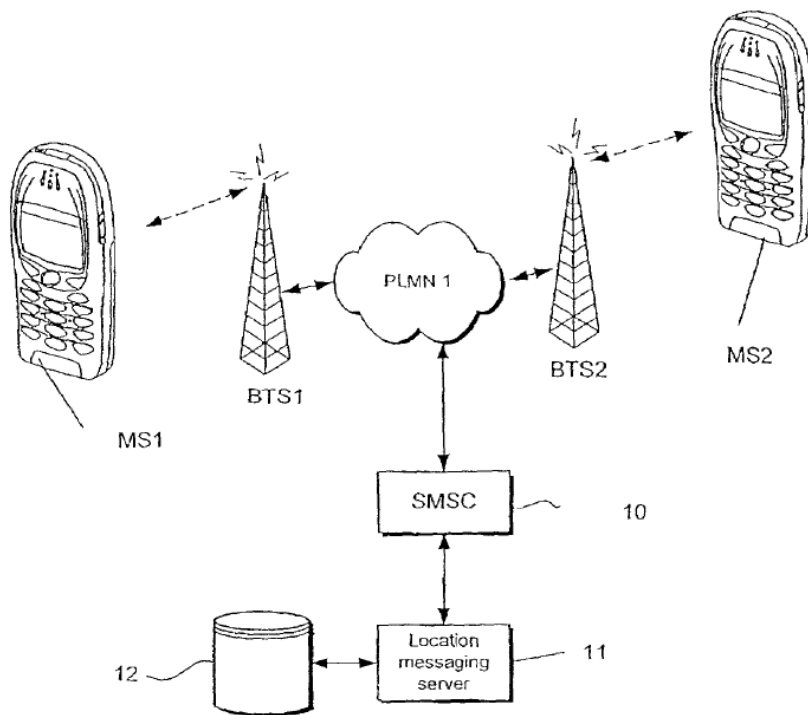


Fig. 1

Figure 1 depicts a cellular telecommunications network including public land mobile network PLMN1 that provides cellular service to mobile stations MS1 and MS2 via base transmitter stations BTS1 and BTS2. Ex. 1001, 2:62–3:3. Figure 1 further depicts short message service (SMS) center SMSC 10 connected to PLMN1 for processing SMS messages containing location information requests and responses, location messaging server 11, and database 12. *Id.* at 3:8–16. As shown in a timing diagram

depicted in Figure 2, mobile station MS1 sends request 15, containing MS1's telephone number and data category D1, D2, or D3 (corresponding to landmark data, railway stations, and restaurant data, respectively) to PLMN1 via BTS1. *Id.* at 3:41–65. PLMN1 generates and sends request 16, containing the identity of the cell (i.e., C1) in which MS1 is located, to SMSC 10. *Id.* SMSC 10 refers the request to location messaging server 11, which retrieves data stored in database 12 corresponding to cell C1 and data category D1, D2, or D3. *Id.* SMSC 10 then creates an SMS text message containing the retrieved data from database 12, and the text is routed back to the original requesting mobile station MS1. *Id.* at 3:66–4:12. The '667 patent discloses that “[i]t will be understood that with the described system, there is no need to pre-register with the location service that may be provided free of charge by the network operator, or at the usual tariff for SMS messages.” *Id.* at 5:24–27. The '667 specification describes additional optional features and embodiments.

D. Illustrative Claims

Claims 12 and 13 are independent, and claims 14 and 15 depend directly or indirectly from claim 13. Claim 12 is reproduced below:

12. A method of operating a mobile station to receive location information from a location finding service in a cellular telecommunications network, comprising:

sending a request for location finding information from a mobile station as a message through the network to a location message server; and

receiving from the location message server, a message containing the location finding information based on the cell occupied by at least one mobile station; and wherein

the method is performed without pre-registering the mobile station for the location finding service.

Claim 13 recites an apparatus, namely a mobile station, comprising circuitry operable to perform steps similar to those recited in claim 12. Claims 14 and 15, which depend from claim 13, further recite a display operable to display a message and circuitry operable to send a received message to another mobile station, respectively.

E. Art Cited in Petitioner's Challenges

Petitioner cites the following references in its challenges to patentability:

Reference	Designation	Exhibit No.
U.S. Patent No. 6,108,533	Brohoff	1017
U.S. Publ. No. 2002/0137530 A1	Karve	1020

F. Grounds of Institution

We previously instituted trial on the following grounds:

Claims 12–14 of the '667 patent under 35 U.S.C. § 103(a) as unpatentable over Brohoff; and

Claim 15 of the '667 patent under 35 U.S.C. § 103(a) as unpatentable over Brohoff and Karve.

Dec. to Inst. 17.

II. DISCUSSION

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their “broadest reasonable construction in light of the specification of the patent” in which they appear. 37 C.F.R. § 42.100(b); *see also Cuozzo Speed Techs., LLC, v. Lee*, 136 S. Ct. 2131, 2141–46 (2016). The terms also 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 disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). For purposes of this decision, we determine no claim terms require construction. *See Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) (“[C]laim 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)).

B. Principles of Law

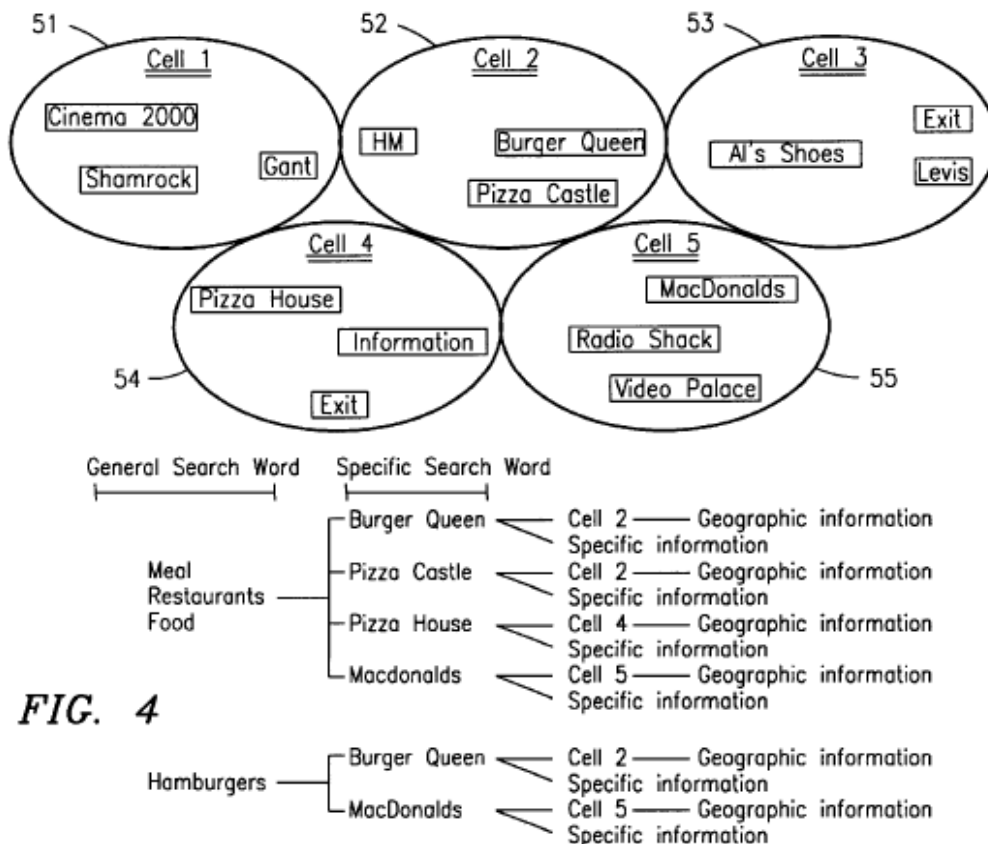
To prevail in its challenges to the patentability of the claims, Petitioner must prove its proposition by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). “Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting 35 U.S.C. § 103).

C. Asserted Obviousness Based on Brohoff

Petitioner asserts that claims 12–14 of the ’667 patent are unpatentable as obvious over Brohoff. Pet. 15–25; Reply 3–22. Petitioner proffers a Declaration of Kevin S. Judge to support its assertions. Ex. 1002. Patent Owner disputes Petitioner’s contentions, arguing that the claims would not have been obvious over Brohoff. PO Resp. 8–24. We have reviewed the record, and we determine that Petitioner has shown by a preponderance of the evidence that claims 12–14 of the ’667 patent are unpatentable as obvious over Brohoff.

1. Overview of Brohoff (Ex. 1017)

Brohoff is titled “Geographical Database For Radio System,” and teaches using a mobile station’s current location and search key words to search a database and return to the mobile phone information about available consumer services within the mobile phone’s geographic area. Ex. 1017, Abstract. As shown in Figure 1 of Brohoff, cellular radio telecommunications system 10 includes a plurality of cells 11–13, each served by base stations 14–16, respectively. *Id.* at 3:66–4:2. Base stations 14–16 are connected to mobile switching center 18, which includes geographic database (“GDB”) 21 and interface 22 that allows GDB 21 to be searched and accessed by mobile station 19 moving within cellular system 10. *Id.* at 4:2–9. Figure 4 of Brohoff is reproduced below.



Ex. 1017, Fig. 4. Figure 4 depicts geographic elements, i.e., businesses,

associated with cells 51–55. *Id.* at 6:5–9, Fig. 4. For example, Cell 51 includes “Cinema 2000,” “Shamrock,” and “Gant.” *Id.* An inquiry for information may be for a service area comprising multiple cells, i.e., cells 51–55. *Id.* at 6:9–11. Figure 3 further shows general search words, i.e., “Meal,” “Restaurants,” “Food,” and “Hamburgers,” as well as specific search words, i.e., “Burger Queen,” “Pizza Castle,” “Pizza House,” and “MacDonalds.” *Id.* at Fig. 4. Entry by a mobile station user of the general search word “Food,” for example, provides the following hits from GDB 21: “Burger Queen,” “Pizza Castle,” “Pizza House,” and “McDonalds.” *Id.* at 6:11–14, Fig. 4. Additional information provided by GDB 21 may include, e.g., geographical information on how to get to each business’s location or special offers currently being extended by each business. *Id.* at 6:14–19.

2. *Analysis*

In the Petition, Petitioner specifies where Brohoff teaches or suggests a mobile station sending a request for location finding information to a location message server and receiving a message based on the cell occupied by the mobile station containing the requested information from the location message server, wherein these steps are performed without the mobile station having to register for a location finding service, as recited in claim 12. Pet. 19–24. Central to our decision is whether Brohoff teaches or suggests the “without-registering” claim limitation. In particular, Petitioner argues that Brohoff discloses the steps recited in claim 12, and that Brohoff teaches or suggests that these steps are performed “without pre-registering the mobile station for the location finding service.” *Id.* at 22. Patent Owner does not dispute that Brohoff discloses the steps recited in claim 12, but

instead disputes whether Brohoff teaches or suggests performing the recited steps “without pre-registering.” PO Resp. 1.

With respect to the step of “sending a request for location finding information from a mobile station as a message through the network to a location message server,” Petitioner relies on Brohoff’s disclosure of a mobile station sending a message requesting a geographical location service to a mobile switch center (“MSC”) within a network. Pet. 23 (citing Ex. 1017, 2:29–33, 2:48–51, 3:3–6, 4:64–66, 7:13–20, 7:54–58, 7:62–64, 10:62–66, 12:13–15, 13:48–50, 14:47–49, 16:15–17, 17:41–42, 17:45–46, 18:28–29, 18:32–34). We agree and find the portions of Brohoff cited by Petitioner disclose sending a request from a mobile station as a message through a network to a location message server.

Claim 12 further requires that the requested information be for “location finding information.” For this limitation, Petitioner relies on Brohoff’s disclosure that a request for geographical location services includes requests for information such as “locations of stores and restaurants in a shopping mall.” *Id.* at 16 (citing Ex. 1017, 5:66–6:27). We determine the information requested in Brohoff (Ex. 1017, 5:66–6:27) is similar to the types of location finding information described in the ’667 patent specification, such as restaurant data (e.g., local restaurants) (Ex. 1001, 3:52–65), and we therefore find that requests for geographical location services in Brohoff includes requests for location finding information. Patent Owner does not raise any arguments regarding “sending a request for location finding information from a mobile station as a message through the network to a location message server,” as recited in claim 12. We are

satisfied that Petitioner has met its burden to show that Brohoff discloses this step of claim 12.

With respect to the step of “receiving from the location message server, a message containing the location finding information based on the cell occupied by at least one mobile station,” Petitioner relies on Brohoff’s disclosure that, in response to a request for geographical location finding services, a geographical database returns a message containing the requested information to the mobile station through the MSC. Pet. 23 (citing Ex. 1017 4:56–60, Figs. 7, 8). We agree and find the portions of Brohoff cited by Petitioner disclose receiving from the location message server (i.e., the MSC) a message containing the location finding information (i.e., the locations of stores and restaurants).

For the claimed requirement that the receipt of the message containing the location finding information be “based on the cell occupied by the at least one mobile station,” Petitioner relies on Brohoff’s disclosure that the information in the response message “may require that the database know the current geographic location of the mobile station,” wherein the geographic information “can be obtained . . . from knowledge as to the existing location or registration facilities, *i.e.*, cells or location areas.” *Id.* at 24 (citing Ex. 1017, 4:17–19, 5:59–63). We are persuaded that receipt of the message containing the location finding information is based on the cell occupied by the mobile station. Petitioner’s arguments are supported by Figure 4 of Brohoff, in which the geographical database is organized by cell such that each portion of the database corresponding to a cell includes entries for geographical elements (e.g., stores and restaurants) located within that cell. Ex. 1017, Fig. 4. Patent Owner does not raise any arguments

regarding “receiving from the location message server, a message containing the location finding information based on the cell occupied by at least one mobile station,” as recited in claim 12. We are satisfied that Petitioner has met its burden to show that Brohoff discloses this step of claim 12.

Claim 12 recites that the steps discussed above are performed “without pre-registering the mobile station for the location finding service.” The parties dispute whether a mobile station subscriber in Brohoff must pre-register in order to use the geographical location services. As an initial matter, the parties agree that in Brohoff, the mobile station subscribes to basic services with a network service provider and is registered in a home location register (“HLR”), so that the mobile station may communicate within the network; the parties further agree that subscribing with a service provider for standard services and registering in an HLR are not pre-registering with a location finding service. Reply 15; PO Resp. 12. The dispute is over whether, in order to use the geographical location services (i.e., location finding services) described in Brohoff, a subscriber must separately pre-register for such services.

In particular, Petitioner acknowledges Brohoff does not expressly disclose that adjunctive services, such as geographical location services, are provided without “pre-registering.” Pet. 20. Petitioner argues, however, that “lack of a pre-registration requirement would have been obvious to one of ordinary skill in the art.” *Id.* According to Petitioner, Brohoff neither requires nor even refers to pre-registering, and that, as with the ’667 patent, there is no technology-related reason that would require pre-registration. *Id.*; Ex. 1002 ¶ 30. Based on our review of Brohoff, we agree with Petitioner that Brohoff does not expressly require pre-registering for

geographical location services. Moreover, as discussed below, the '667 patent specification describes achieving the “without pre-registering” limitation by having the location finding services be provided independently of a vendor. Ex. 1001, 1:52–54; 2:62–3:7, 5:24–27. Brohoff similarly involves having a service provider, independently of any vendor, provide location finding services, thus supporting Petitioner’s argument that there is no technology-related reason to require pre-registering in Brohoff. Ex. 1017, 11:7–15.

In the “Description of the Prior Art,” the '667 patent specification describes methods of locating the position of a mobile station, i.e., cellular telephone, within a cellular communications network. Ex. 1001, 1:13–48. The '667 patent specification describes one method as involving a location finding service offered by a vendor in which users define lists of friends they want to be able to locate, be seen by, or communicate with. *Id.* at 1:31–45. The '667 patent specification discloses that a disadvantage of this method is that in order for a user to define lists, pre-registration with the vendor is required. *Id.* at 1:46–48. The '667 patent specification further discloses that the solution to this problem is to provide a location information service that is independent of a vendor so that pre-registration will not be required. *Id.* at 1:52–54.

The '667 patent specification describes an embodiment of the alleged invention in the context of a GSM cellular network, a type of network the specification acknowledges was well known in the art. *Id.* at 2:62–3:7. Mobile station users within the GSM network necessarily subscribe to the GSM network, and are registered with a home location register (“HLR”). *Id.* (“The network . . . includes . . . a home location register as well known in the

art.”); *see also* Ex. 1005, 4:30–49 (disclosing that each mobile station with a subscription to a mobile communications system GSM is registered with a home location register). Subscription to the GSM network and registration in the HLR are not described in the ’667 patent specification as forms of “pre-registering” for location finding services. On the contrary, the ’667 patent specification describes mobile stations within the GSM network as using location finding services without pre-registering for such services. Ex. 1001, 2:62–3:7, 5:24–27. The ’667 patent specification discloses that “[i]t will be understood that with the described system, there is no need to pre-register with the location service that may be provided free of charge by the network operator, or at the usual tariff for SMS messages.” *Id.* at 5:25–27. Accordingly, the ’667 patent specification describes accomplishing the “without pre-registering” feature by having a network operator (i.e., service provider), rather than a vendor, provide location finding services.

Because Brohoff does not expressly require pre-registering, and, as in the ’667 patent specification, Brohoff describes a service provider, not a vendor, providing geographical location services, we find Petitioner’s argument persuasive that there is no technical need in Brohoff for pre-registering. Ex. 1017, 11:7–15. The systems and methods described in Brohoff do not suffer from the problem described in the ’667 patent, namely the need to pre-register, because the services in Brohoff, like in the ’667 patent, are provided independently of a vendor. Ex. 1001, 1:52–2:2; Ex. 1017, 11:7–15. Patent Owner does not dispute that Brohoff describes a service provider as providing location finding services. PO Resp. 14–15 (“In the system described by Brohoff, it is the cellular network operator that is providing the location finding service to its subscribers.”) (citing

Ex. 1017, 11:7–15). Brohoff’s description of a service provider providing location finding services, combined with Brohoff’s lack of any express pre-registration requirement, supports a finding that the systems and methods in Brohoff do not require pre-registering a mobile station for location finding services.

Petitioner further argues that offering adjunctive services, such as geographical location services, without pre-registration would have been an obvious choice. According to Petitioner, Brohoff suggests service providers may provide adjunctive services, such as geographical location services, as part of a standard subscription agreement, without a need to separately pre-register the subscriber’s mobile telephone for such services. Pet. 20–21 (citing Ex. 1017, 1:22–34). In pertinent part, Brohoff discloses that service providers invest significantly in infrastructure in order to service the areas for which they have a license, and therefore service providers seek to “provide as many value added adjunctive services as possible to [their] subscribers in order to retain those subscribers and to attract new ones.” Ex. 1017, 1:22–34. Petitioner’s expert, Mr. Judge, opines that charging a separate fee and requiring pre-registration would limit the number of customers. Ex. 1002 ¶¶ 32–33. Petitioner also argues that Brohoff discloses providing geographical location services, namely information about restaurants in a particular geographical area, and because Brohoff teaches providing those services to retain and attract subscribers, a person of ordinary skill would have understood the desirability of providing those services free of charge without requiring pre-registering. Pet. 20–21; Ex. 1017, 1:22–34, 6:9–17; Ex. 1002 ¶ 32–33. We are persuaded a skilled artisan would have understood that offering services for free, without extra

requirements such as pre-registering, would have been attractive to customers because it would offer more features to customers without the inconvenience of paying a fee and pre-registering. Ex. 1002 ¶ 32–33. Accordingly, we determine it would have been obvious to a person of ordinary skill in the art at the time of alleged invention to offer adjunctive services, such as geographical location services, free of charge and without requiring pre-registering in order to retain customers and to attract new ones as taught in Brohoff (Ex. 1017, 1:22–34).

Patent Owner’s arguments do not persuade us otherwise. Patent Owner counters that Brohoff, contrary to Petitioner’s arguments, expressly discloses pre-registering for location finding services. PO Resp. 16. In particular, Patent Owner argues Brohoff discloses a “first database” that includes cross-referencing data indicating whether a subscriber has access to a geographic database in the geographic area in which the subscriber is physically located. *Id.* at 15 (citing Ex. 1017, 11:30–34; Ex. 2001, 17:2–18:1, 18:14–25, 19:15–20:8; 21:25–22:6; Ex. 2002 ¶ 45). According to Patent Owner, such cross-referencing is “pre-registration for the location finding services.” PO Resp. 15 (citing Ex. 2002 ¶ 46). Furthermore, Patent Owner interprets the description of cross-referencing in Brohoff to mean that access to location finding services necessarily requires pre-registering. *Id.* (citing Ex. 2002 ¶ 46). Patent Owner’s arguments are unpersuasive for several reasons.

First, we agree with Petitioner that, contrary to Patent Owner’s arguments, the cross-referencing described in Brohoff does not indicate pre-registering for geographical location services. Reply 11–15. In particular, Brohoff discloses that in a wired (i.e., landline) network, a subscriber station

(i.e., a wired or landline telephone) is identified by an identifier called an “A-number.” Ex. 1017, 11:23–30. The wired network includes a “first database” that “cross-references each subscriber having access to the geographic database to a geographic area where it is physically located.” *Id.* at 11:29–33. In other words, of the subscribers who have access to the geographic database, the first database cross-references those subscribers to the geographic area where they are physically located. There is no indication in Brohoff that access to the geographic database is predicated on a pre-registration requirement. *See* Reply 11–15. Patent Owner assumes that a subscriber in Brohoff may only access a geographic database if it has pre-registered to do so, whereas Brohoff makes no mention of this.

Next, as we discussed above, Brohoff describes cross-referencing only in the context of a wired communication network, rather than a wireless cellular communication network. Reply 7. This distinction is pertinent because Petitioner relies on embodiments of Brohoff relating to wireless cellular networks for its obviousness arguments. Patent Owner argues, nonetheless, that a skilled artisan would have understood that in Brohoff, the HLR and visitor location register (“VLR”) in wireless networks, by analogy, include the same kind of cross-references as the first database in the wired network. PO Resp. 5. This argument is unavailing because Patent Owner mistakenly assumes that the first database and the HLR and VLR are analogous by virtue of containing cross-references. Reply 8. Petitioner argues the HLR and VLR are analogous to the first database because they are used to identify the location of a subscriber, not because they use a cross-reference database. *Id.* at 9. With respect to a wireless network, an HLR contains a subscriber’s identity and directory number, and a VLR contains

information about subscribers roaming in an area. Ex. 1024 § 2.1.1; Ex. 1023 ¶ 9. In the wired network described in Brohoff, the first database contains a subscriber's "A-number," which is used to identify the subscriber. Ex. 2017, 11:26–34; Ex. 1023 ¶ 10. Reply 8–9. Accordingly, the HLR, VLR, and first database all contain information identifying subscribers. It is in this manner that Petitioner argues the HLR, VLR, and first database are analogous. *Id.* at 9.

Moreover, according to Petitioner, the cross-referencing at issue is not needed in wireless networks. *Id.* at 10. In Brohoff, the first database in the wired network cross-references a subscriber's A-number to a geographic area where the subscriber's wired telephone is physically located. *Id.* at 9 (citing Ex. 1017, 11:26–33). In Brohoff's wireless network the geographic location of a subscriber's mobile telephone is determined using techniques such as triangulation (Ex. 1017, 4:18–39, 9:15–17), rather than cross-referencing used in the wired embodiment. Reply 9–10. Patent Owner does not explain persuasively why a mobile subscriber's identifier would need to be cross-referenced to a database entry of a subscriber's location in a wireless system. A wireless subscriber's location is not fixed (unlike the fixed telephone in a wired network) and is determined using techniques such as triangulation, rather than by cross-referencing a database entry. *Id.*

Accordingly, we are not persuaded that Brohoff discloses pre-registering for geographical location services.

Patent Owner argues also that, contrary to Petitioner's arguments, it would not have been obvious to offer adjunctive services free of charge without pre-registration. PO Resp. 20–21. In support of its argument, Patent Owner makes a series of assumptions, without citing evidence, other

than unsupported testimony of its expert. In particular, Patent Owner asserts it would have been equally likely that businesses who wanted to advertise through location finding services would be charged a fee by service providers; that in exchange for the fee, businesses would expect service providers to give them information about the subscribers who viewed their ads; and, that pre-registration would have been required for such information about subscribers to be collected. PO Resp. 21 (citing; Ex. 2002 ¶ 47). We are not persuaded by Patent Owner's arguments because the only evidence Patent Owner cites is unsupported testimony by its expert. *See, e.g.*, PO Resp. 21 (citing Ex. 2002 ¶ 47). Also, Patent Owner's arguments do not undercut Petitioner's showing that it would have been obvious to not require pre-registering. Patent Owner acknowledges that the scenario it sets forth requiring pre-registering would have been equally likely as the scenario described by Petitioner that would not require pre-registering. PO Resp. 21. We find a skilled artisan at the time of alleged invention would have understood the various considerations in deciding whether to require pre-registration for location finding services, and that both would have been obvious choices.

Patent Owner also argues, contrary to Petitioner's arguments, that Brohoff suggests service providers would have been incentivized to charge a fee for location finding services as a way for service providers to increase revenue. PO Resp. 21 (citing Ex. 1017, 1:27–34 (stating that service providers seek “to increase revenue from both basic telecommunications services and the provision of additional adjunctive communication services to its subscribers”))). We agree Brohoff discloses that increasing revenue from both basic and adjunctive services was a goal of service providers, but

we find this goal could be achieved either by providing services free of charge or by charging a fee for such services. See Tr. 11:1–3 (arguing that service providers could have pursued different options). Brohoff does not expressly disclose whether adjunctive services would have been offered free of charge, or whether a separate fee would have applied. For reasons we discussed above, however, Brohoff suggests that providing adjunctive services free of charge would attract new customers (see Ex. 1017, 1:29–32), and we find that at the time of alleged invention it was well known to persons of ordinary skill in the art that revenue increases when you have more customers (Ex. 1002 ¶32; Tr. 11:4–8 (“more customers is also more revenue . . . if you’re reducing customer churn and you’re also attracting customers to your service without requiring that they register, you can also increase the overall revenue for the cellular network provider”)). We agree with Patent Owner that charging a fee for adjunctive services would have been an alternative way potentially to increase revenue. Charging a fee for adjunctive services, however, could also have lowered revenue if subscribers canceled their subscriptions in favor of another service provider who did not charge a separate fee for adjunctive services. Ex. 1002 ¶ 32. The evidence, therefore, shows that a skilled artisan at the time would have understood that both methods had pros and cons, but that both were known methods of attempting to increase revenue. We conclude, therefore, that both methods would have been obvious to one of ordinary skill as ways to achieve the goal of increasing revenue.

We have reviewed the parties’ arguments and the evidence of record, and for the reasons discussed above, we determine that Petitioner has

demonstrated, by a preponderance of the evidence, that Brohoff renders claim 12 of the '667 patent unpatentable.

With respect to claim 13, which recites a mobile station comprising circuitry operable to perform steps similar to those recited in claim 12, Petitioner relies on the discussion in the Petition regarding claim 12. Pet. 24–25. For example, with respect to claim 13's recitation of "circuitry operable to send a request for location finding information from a mobile station as a message through the network to a location message server," Petitioner relies on discussion in the Petition concerning the step in claim 12 of "sending a request for location finding information from a mobile station as a message through the network to a location message server." *Id.* With respect to claim 13's recitation of "circuitry operable to receive from the location message server, a message containing location finding information based on the cell occupied by at least one mobile station," Petitioner relies on discussion in the Petition concerning the step in claim 12 of "receiv[ing], from the location message server, a message containing location finding information based on the cell occupied by at least one mobile station." *Id.* at 25. As to claim 13's recitation of "provision of the location finding information being made without pre-registering the mobile station with the location finding service," Petitioner relies on discussion in the Petition concerning the recitation in claim 12 that "the method is performed without pre-registering the mobile station for the location finding service." *Id.*

Petitioner argues that the mobile station in Brohoff, which performs the functions recited in claim 13, includes circuitry operable to perform the claimed functions. *Id.* at 24–25. For reasons we discussed with respect to claim 12, we are persuaded by Petitioner's arguments that Brohoff teaches

or suggests a mobile station that performs the functions recited in claim 13. We are persuaded also by Petitioner's evidence and arguments that the mobile stations in Brohoff contain circuitry to perform the functions described in Brohoff. Otherwise, the mobile stations in Brohoff would not have been able to perform the described functions. With respect to claim 13, Patent Owner does not raise any arguments other than those it raised regarding claim 12.

We have reviewed the parties' arguments and the evidence of record, and for the reasons discussed above, we determine that Petitioner has demonstrated, by a preponderance of the evidence, that Brohoff renders claim 13 of the '667 patent unpatentable.

Claim 14 depends from claim 13, and further recites that the mobile station includes "a display operable to display the message." Petitioner relies on Brohoff's disclosure that the message received in response to a request for geographical location services is "conveyed back to the inquiring party either as text or as a voice message in response to the inquiry" and Brohoff's disclosure that the inquiring party's mobile station has a display. Pet. 25 (citing Ex. 1017, 4:56–60; Fig. 1). We are satisfied that a text message received by the inquiring party's mobile station would have been displayed on the mobile station's display so that the requester could view the message. With respect to claim 14, Patent Owner does not raise any arguments other than those it raised regarding claim 12.

We have reviewed the parties' arguments and the evidence of record, and for the reasons discussed above, we determine that Petitioner has demonstrated, by a preponderance of the evidence, that Brohoff renders claim 14 of the '667 patent unpatentable.

D. Asserted Obviousness Based on the Combination of Brohoff And Karve

Petitioner asserts claim 15 of the '667 patent is unpatentable as obvious over Brohoff and Karve. Pet. 28–30. Petitioner proffers a Declaration of Mr. Judge to support its assertions. Ex. 1002. Patent Owner disputes Petitioner's contentions, arguing that the claims are patentable over Brohoff and Karve. PO Resp. 23–24. We have reviewed the record, and we determine that Petitioner has shown by a preponderance of the evidence that claim 15 of the '667 patent is unpatentable as obvious over Brohoff and Karve.

1. Overview of Karve (Ex. 1020)

Karve is titled “Cellular Telephone With SMS Message Forwarding,” and teaches a cellular telephone that supports an SMS messaging feature that allows received SMS messages to be forwarded to another telephone number or cellular device. Ex. 1020, Abstract.

2. Analysis

Claim 15 depends from claim 14, and further recites that the mobile station includes “circuitry operable to send the received message to another mobile station.” Petitioner argues this feature would have been obvious in view of Karve. Pet. 28–30. In particular, Brohoff discloses a mobile station receiving messages containing location-dependent information (Ex. 1017, 8:22–23, 7:13–24; Ex. 1002 ¶ 35), and Karve discloses cellular telephone users requesting and receiving information, such as the weather, using SMS text messages, and forwarding a received SMS text message to another cellular device (Ex. 1020 ¶¶ 11–12, 29, Figs. 3–4). Pet. 29–30. Petitioner argues it would have been obvious to modify the mobile station in Brohoff,

which receives messages containing location-dependent information, to include SMS text message forwarding capabilities to allow mobile station users to quickly and easily share information about that user's location. *Id.* at 29. We are satisfied that, in view of Karve, SMS message forwarding circuitry in cellular telephones was well known to skilled artisans at the time of the alleged invention, and that it would have been obvious to include such circuitry in the mobile stations in Brohoff because it would allow users to share information with other users. Patent Owner does not raise any arguments other than those it raised with respect to claim 12.

We have reviewed the parties' arguments and the evidence of record. Upon review, we determine that Petitioner has demonstrated, by a preponderance of the evidence, that the combination of Brohoff and Karve renders claim 15 of the '667 patent unpatentable.

III. SUMMARY

For the foregoing reasons, we determine that Petitioner has demonstrated, by a preponderance of the evidence, that claims 12–14 are unpatentable under 35 U.S.C. § 103(a) over Brohoff. We determine further that Petitioner has demonstrated, by a preponderance of the evidence, that claim 15 is unpatentable under 35 U.S.C. § 103(a) over Brohoff and Karve.

IV. ORDER

Accordingly, it is:

ORDERED that claims 12–15 are held unpatentable; and

FURTHER ORDERED that, because this Decision is final, a party 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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