

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

UNILOC 2017 LLC,
Patent Owner.

IPR2019-00702
Patent 7,969,925 B2

Before SALLY C. MEDLEY, JEFFREY S. SMITH, and GARTH D. BAER,
Administrative Patent Judges.

MEDLEY, *Administrative Patent Judge.*

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Apple Inc. (“Petitioner”) filed a Petition for *inter partes* review of claims 1–20 of U.S. Patent No. 7,969,925 B2 (Ex. 1001, “the ’925 patent”). Paper 1 (“Pet.”). Uniloc 2017 LLC (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). Upon consideration of the Petition and Preliminary Response, we instituted *inter partes* review, pursuant to 35 U.S.C. § 314, as to claims 1–20 based on all challenges set forth in the Petition. Paper 7 (“Decision to Institute” or “Dec.”).

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 9, “PO Resp.”), Petitioner filed a Reply to Patent Owner’s Response (Paper 10, “Pet. Reply”), and Patent Owner filed a Sur-reply (Paper 11, “Sur-reply”). On May 21, 2020, we held an oral hearing. A transcript of the hearing is of record. Paper 16 (“Tr.”).

In our Scheduling Order, we notified the parties that “any arguments not raised in the [Patent Owner] response may be deemed waived.” *See* Paper 8, 7; *see also* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012) (“The patent owner response . . . should identify all the involved claims that are believed to be patentable and state the basis for that belief.”). Patent Owner argues that it “does not concede, and specifically denies, that there is any legitimacy to any arguments in the instant Petition that are not specifically addressed” in its Patent Owner Response. PO Resp. 21 n.11. We decline to speculate as to what arguments Patent Owner considers illegitimate in the Petition. Any arguments for patentability not raised in the Patent Owner Response are deemed waived.

For the reasons that follow, we conclude that Petitioner has proven by a preponderance of the evidence that claims 1–20 of the ’925 patent are unpatentable.

A. Related Matters

Patent Owner indicates that the '925 patent is the subject of the following currently pending court proceeding: *Uniloc USA, Inc. et al. v. Apple Inc.*, Case No. 4-19-cv-01696 (N.D. Cal.). PO Resp. 3.

B. The '925 Patent

The specification of the '925 patent describes “a method for establishing a direct data transfer session between mobile devices over a digital mobile network system that supports data packet-based communications.” Ex. 1001, 1:61–64. According to the '925 patent, a separate data server is not required to provide a known location from which a recipient retrieves data. *Id.* at 1:64–67. Rather, “a mobile device initiating a data transfer opens a listening port defined by an underlying data packet based network protocol.” *Id.* at 1:67–2:2. Initiating mobile device sends an invitation message containing the network address, including the listening port of the initiating device, to a target mobile device through a page-mode messaging service supported by the digital mobile network system. *Id.* at 2:2–7. Initiating mobile device further utilizes and incorporates a unique identification number associated with the target mobile device into the invitation message to locate and contact the target mobile device within the wireless mobile network. *Id.* at 2:7–11. “Once the initiating mobile device receives a response from the target mobile device at the listening port, the two mobile devices are able to establish a reliable virtual connection through the underlying data packet-based network protocol in order to transfer data directly between the two mobile devices.” *Id.* at 2:12–17.

An example digital mobile network system is illustrated in Figure 1 reproduced below.

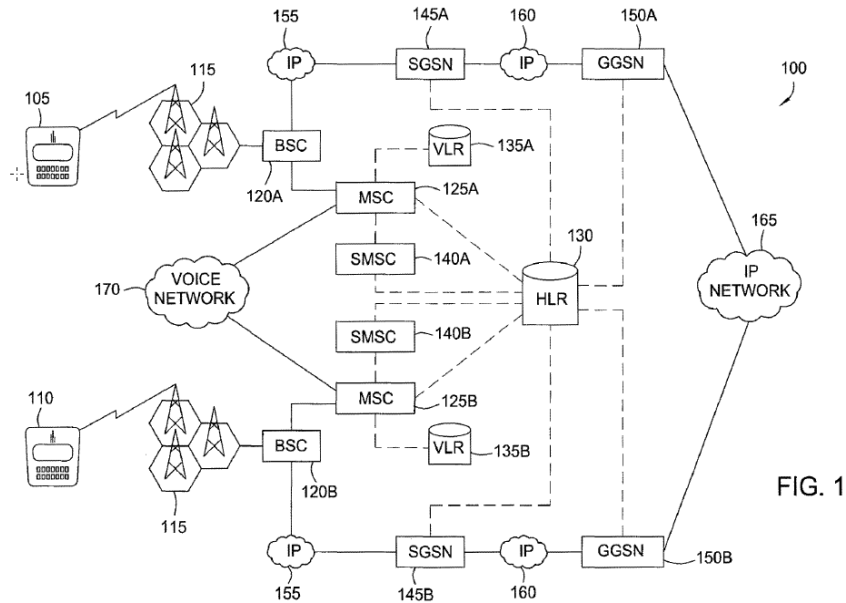


Figure 1 is a diagram of a Global System for Mobile communications (GSM) mobile networking system 100 including a first mobile device 105 and a second mobile device 110. *Id.* at 2:21–27. As disclosed in the '925 patent, each of the mobile devices 105 and 110 includes a Subscriber Information Module (SIM) card that contains unique identification information that enables the GSM system 100 to locate the mobile devices within the network and route data to them. *Id.* at 2:40–44. The '925 patent further discloses that the GSM system 100 supports a page-mode messaging service, such as Short Message Service (SMS), that relies upon the underlying GSM mechanisms to resolve routing information to locate destination mobile devices. *Id.* at 3:14–18. Through use of a page-mode messaging service, such as SMS, an initiating mobile device transmits its IP address (and a listening port) in an invitation message to a target mobile device through the target device's telephone number. *Id.* at 4:26–31. When the target device receives the invitation message, it is able to contact the initiating mobile device through the received IP address and the two devices can establish a connection for a data transfer session. *Id.* at 4:31–35.

An example flow chart for establishing a data transfer session is illustrated in Figure 2 reproduced below.

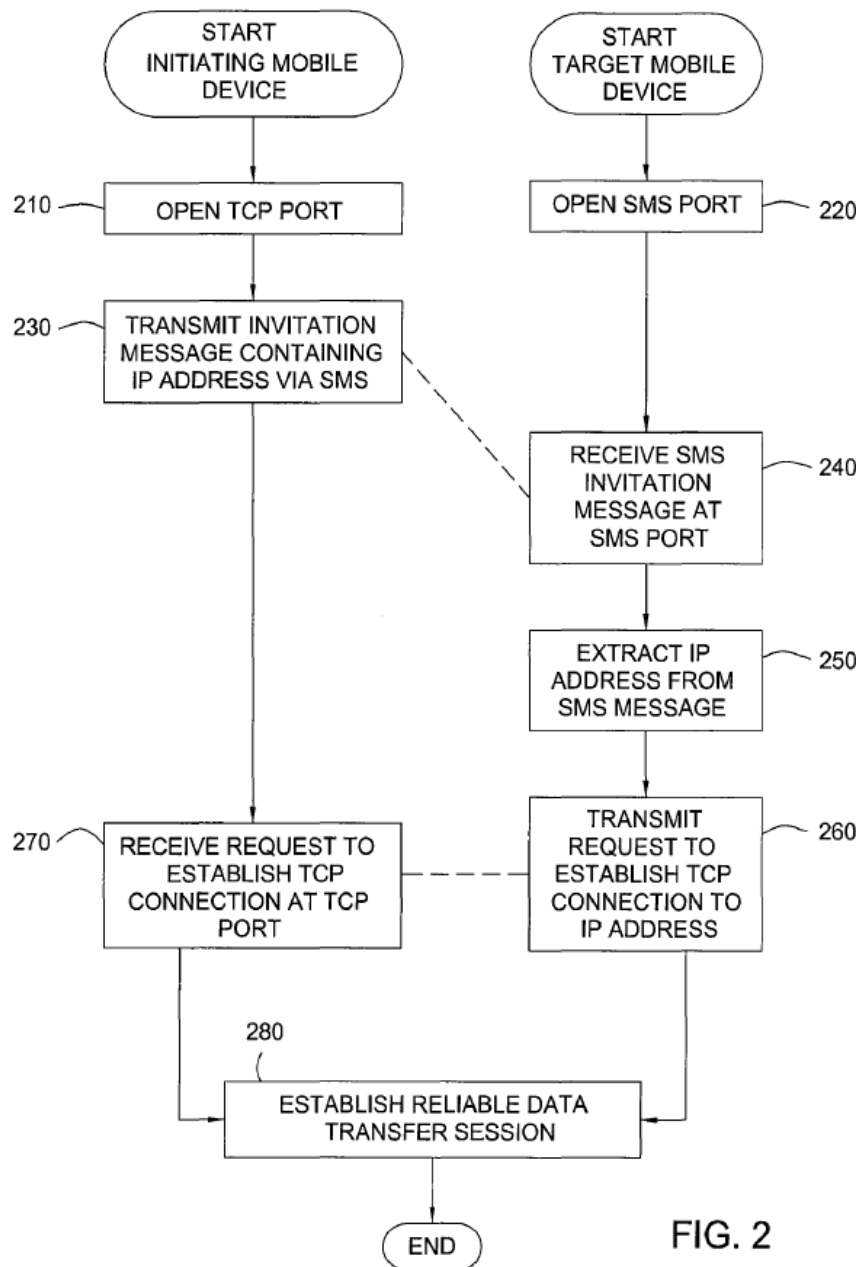


Figure 2 is a flow chart depicting the steps taken by an initiating and target mobile device to establish a direct data transfer session. *Id.* at 4:35–38. At 210, the initiating mobile device opens a TCP port to listen for communications from the target mobile device. *Id.* at 4:38–40. At 220, the

target mobile device similarly opens an SMS listening port to receive invitation SMS text messages at the specified SMS port. *Id.* at 4:40–42. At 230, the initiating mobile device transmits its IP address and TCP port in an invitation SMS text message to the telephone number and a specified SMS port of the target mobile device. *Id.* at 4:43–46. At 240, the target mobile device receives the SMS text message containing the initiating mobile device’s IP address and TCP port at the specified SMS port. *Id.* at 4:46–48. At 250, the target mobile device extracts the IP address and TCP port from the SMS text messages and opens its own TCP port. *Id.* at 4:48–50. At 260, the target mobile device transmits a request to establish a TCP connection to the initiating mobile device’s IP address and TCP port. *Id.* at 4:50–53. At 270, the initiating mobile device receives the request and a TCP connection is established between the IP addresses and TCP ports of the initiating and listening mobile devices. *Id.* at 4:53–56. At 280, the initiating and listening mobile devices engage in a data transfer session over a reliable virtual connection. *Id.* at 4:56–57.

C. Illustrative Claim

Petitioner challenges claims 1–20 of the ’925 patent. Claims 1, 8, and 15 are independent. Claims 2–7 depend directly from claim 1; claims 9–14 depend directly from claim 8; and claims 16–20 depend directly from claim 15. Claim 1 is reproduced below.

1. A method of establishing a direct data transfer session between mobile devices that support a data packet-based communications service over a digital mobile network system, the method comprising:

opening a listening software port on an initiating mobile device to receive communications through the data packet-based communications service;

transmitting an invitation message to a target mobile device through a page-mode messaging service, wherein the invitation message comprises a network address associated with the initiating mobile device, and wherein the target mobile device is located by providing a unique identifier to the page-mode messaging service;

receiving a response from the target mobile device at the listening software port on the initiating mobile device; and

establishing a data transfer session through the data packet-based communications service between the initiating mobile device and the target mobile device, wherein the data transfer session is established in a peer-to-peer fashion without a server intermediating communications through the established data transfer session between the initiating mobile device and the target mobile device.

Ex. 1001, 5:45–67.

D. Instituted Grounds of Unpatentability

We instituted trial based on all asserted grounds of unpatentability under 35 U.S.C.¹ as follows (Dec. 7–8, 34):

Claims Challenged	35 U.S.C. §	References
1, 3–8, 10–15, 17–20	103(a)	Alos ² , RFC793 ³

¹ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. §§ 102 and 103. Because the ’925 patent has an effective filing date before the effective date of the applicable AIA amendments, we refer to the pre-AIA versions of 35 U.S.C. §§ 102 and 103.

² Translation of EP Application Publication No. 1009153 A1, published June 14, 2000 (Ex. 1005, “Alos”).

³ RFC 793, “Transmission Control Protocol,” DARPA Internet Program Protocol Specification, September 1981, and Declaration of Sandy Ginoza (Ex. 1010, “RFC793”).

Claims Challenged	35 U.S.C. §	References
2, 9, 16	103(a)	Alos, RFC793, SMS Specification ⁴ , WMA ⁵
1, 3–8, 10–15, 17–20	103(a)	Cordenier ⁶ , RFC793
2, 9, 16	103(a)	Cordenier, RFC793, Dorenbosch ⁷
1, 3–8, 10–15, 17–20	103(a)	Lee ⁸ , RFC793, SMS Specification
2, 9, 16	103(a)	Lee, RFC793, SMS Specification, WMA

II. ANALYSIS

A. Principles of Law

To prevail in its challenge to Patent Owner’s claims, Petitioner must demonstrate by a preponderance of the evidence⁹ that the claims are unpatentable. 35 U.S.C. § 316(e) (2012); 37 C.F.R. § 42.1(d) (2018). A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences

⁴ 3GPP TS 23.040 version 3.5.0, “Universal Mobile Telecommunication System (UMTS), Technical Realization of the Short Message Service (SMS),” and Information Disclosure Statement citing aforementioned specification, submitted August 15, 2002 (Ex. 1014, “SMS Specification”).

⁵ Wireless Messaging API (WMA) for Java™ 2 Micro Edition Version 1.0, August 21, 2002, and Declaration of Harold Ogle (Ex. 1018, “WMA”).

⁶ EP Application Publication No. 1385323 A1, published January 28, 2004 (Ex. 1007, “Cordenier”).

⁷ U.S. Patent Application Publication No. 2003/0217174 A1, published November 20, 2003 (Ex. 1011, “Dorenbosch”).

⁸ U.S. Patent No. 6,847,632 B1, issued January 25, 2005 (Ex. 1006, “Lee”).

⁹ The burden of showing something by a preponderance of the evidence requires the trier of fact to believe that the existence of a fact is more probable than its nonexistence before the trier of fact may find in favor of the party who carries the burden. *Concrete Pipe & Prods. of Cal., Inc. v. Constr. Laborers Pension Tr. for S. Cal.*, 508 U.S. 602, 622 (1993).

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 ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness.¹⁰ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted). Petitioner relies on the testimony of Dr. Henry Houh, who testifies that a person with ordinary skill in the art would have had “a Bachelor’s degree in computer science or a comparable field of study, plus approximately two to three years of professional experience with cellular phone and IP networks, or other relevant industry experience” and that “[a]dditional graduate education could substitute for professional experience and significant experience in the field could substitute for formal education.” Pet. 9 (citing Ex. 1002 ¶ 35). Patent Owner does not propose an alternative assessment. PO Resp. 3.

¹⁰ Patent Owner does not present any objective evidence of nonobviousness as to the challenged claims.

We adopt Dr. Houh’s assessment of a person with ordinary skill in the art as it is consistent with the ’925 patent and the asserted prior art. We further note that the prior art of record in the instant proceeding reflects the appropriate level of ordinary skill in the art. *Cf. Okajima v. Bourdeau*, 261 F.3d 1350, 1354–55 (Fed. Cir. 2001) (holding the Board may omit specific findings as to the level of ordinary skill in the art “where the prior art itself reflects an appropriate level and a need for testimony is not shown”).

C. Claim Construction

In an *inter partes* review for a petition filed on or after November 13, 2018, “[claims] of a patent . . . shall be construed using the same claim construction standard that would be used to construe the [claims] in a civil action under 35 U.S.C. § 282(b), including construing the [claims] in accordance with the ordinary and customary meaning of such [claims] as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340, 51,358 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018) (now codified at 37 C.F.R. § 42.100(b) (2019)); *see also Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005).

Order of Steps

Petitioner argues that independent claims 1, 8, and 15 “are each directed to an initiating device that sends an invitation to a target mobile device and then establishes a connection with that device” and that respective dependent claims 2, 9, and 16 each add limitations “related to an invitation received by the initiating mobile device from ‘another’ mobile

device.” Pet. 20. Petitioner argues that there is “no claimed relationship between the timing of any of the steps in these independent claims vis-à-vis the steps in these dependent claims, such that the steps of the dependent claims can be performed at any time before or after the steps of the independent claims” and that the ’925 patent does not require any temporal relationship. *Id.* at 20–21 (citing Ex. 1002 ¶ 50; *Altiris Inc. v. Symantec Corp.*, 318 F.3d 1363, 1371 (Fed. Cir. 2003)). Patent Owner argues that Petitioner has failed to explain why there is no claimed relationship between the claims in terms of ordered steps, such as an explanation of how opening a second listening software port (e.g., recited in claim 2) should be understood, without reference to the same initiating mobile device having first opened the listening software port recited in claim 1. PO Resp. 9–10.

It is necessary for us to resolve this issue, because Patent Owner argues that claims 2, 9, and 16 require an order or timing to the steps, such that “opening a second software port” must be subsequent to “opening a listening software port” recited in independent claims 1, 8, and 15. *Id.* at 9–11, 21. As such, Patent Owner argues that Petitioner’s showing for claims 2, 9, and 16 fails to recognize “at least implicit (if not explicit) order between the antecedent timing of the ‘opening’ step of claim 1 vis-à-vis the opening step of claim 2.” *Id.* at 10, 21.

Claim 2 depends from claim 1. Claim 9, which depends from claim 8, and claim 16, which depends from claim 15, are similar in scope to claim 2. For purposes of discussion, we focus our analysis on claim 2. Claim 2 recites “opening a second listening software port on the initiating mobile device to receive invitation messages through the page-mode messaging service,” and “receiving, at the second listening software port” “a message from another mobile device.” Ex. 1001, 6:2–7. There is nothing in claim 2

that requires that the “opening” of the “second listening software port” be subsequent to “opening a listening software port” recited in claim 1. The limitation “second” is descriptive of the “listening software port” of claim 2 that is being opened, for the purpose of distinguishing the “second listening software port” from the “listening software port” recited in claim 1. That is, the “second listening software port” is different from the claim 1 “listening software port.” Claim 2 does not require, however, that *opening* the second listening software port must be performed after opening the claim 1 listening software port, as Patent Owner asserts. We agree with Petitioner that the steps of claim 2 do not necessarily require any temporal relationship with respect to the steps of claim 1. We further agree with Petitioner that there is nothing in the ’925 patent that describes a temporal relationship with respect to the steps of claims 1 and 2 and Patent Owner directs us to no such description. Indeed, the only description we find of “opening a second listening software port” is in the claim language. For these reasons, we are not persuaded by Patent Owner’s arguments that claim 2 requires an order or timing to the steps, such that “opening a second software port” must be subsequent to “opening a listening software port” recited in claim 1.

“opening a listening software port”

Independent claims 1, 8, and 15 recite “opening a listening software port on an initiating mobile device to receive communications through the data packet-based communications service.” Dependent claims 2, 9, and 16 recite “opening a second listening software port.” Petitioner proposes that “[e]ach of these limitations means ‘associating a port identifier with a process.’” Pet. 21. Petitioner argues that we “should reject any proposed construction that attempts to narrow this phrase to require that the port be opened exclusively for receiving a response from only the target device.”

Id. at 22. Petitioner directs attention to the prosecution history of a related application, where applicant argued that additional claim language which is not present in the claims of the '925 patent excluded the use of well-known ports. *Id.* (citing Ex. 1004, 414–416).

Patent Owner argues that “the port must [be] opened for a specific ‘*target* mobile device,’” and “the claimed ‘opening’ must be directed to a specified ‘*target* mobile device.’” PO Resp. 7, 8, 12. We understand that Patent Owner is proposing a construction that would require that the port be opened exclusively for receiving a response from *only* the target device. *Id.*; Sur-reply 10 (“the listening software port is opened only for the target device”). It is necessary for us to resolve this issue, because there is a dispute about whether the prior art (RFC793) describes “opening a listening software port.” In particular, Patent Owner apparently agrees that RFC793 describes passively opening a listening software port with an unspecified foreign host as Petitioner asserts, but disagrees that Petitioner has shown that RFC793 describes opening a listening software port directed only to a specified “target mobile device.” *See, e.g.*, PO Resp. 12. For the following reasons, we determine that “opening a listening software port” does not require opening a listening software port for receiving a response from only the target mobile device.

The parties focus on the “opening” limitation recited in the independent claims, as do we. Claims 1, 8, and 15 each recite “opening a listening software port on an initiating mobile device to receive communications through the data packet-based communications service.” Nowhere do the claims recite that the opening is directed to a specific target mobile device (to receive communications from only the target mobile device). Patent Owner argues that the “‘opening’ of the listening software

port is at least expressly tied to ‘receiv[ing] communications through the data packet-based communications service’” that is “introduced in the preamble.” *Id.* at 7; Sur-reply 5, 9–10. Patent Owner, however, fails to explain how the language of “receiv[ing] communications through the data packet-based communications service” or anything in the preamble supports its narrow construction. Merely underlining certain words of the preamble or repeating words of the preamble is insufficient to show how those words support Patent Owner’s proposed construction. *See, e.g.*, Sur-reply 5 (underlining “establishing a direct data transfer session¹¹ between mobile devices” without explaining how such language supports Patent Owner’s proposed narrow construction of “opening a listening software port”). We will not speculate as to what Patent Owner means to the detriment of Petitioner. It is incumbent upon a party proposing a narrow construction to articulate reasons why its proposed construction is warranted. Here, Patent Owner has failed to show that any of the words in claim 1, for example, support construing the disputed phrase to mean “opening a listening software port on an initiating mobile device to receive communications *from only a specific target mobile device* through the data packet-based communications service.”

Next, Patent Owner points to two descriptions in the ’925 patent in support of its proposed construction. PO Resp. 8. The two descriptions are similar and describe that “the initiating mobile device opens a TCP port to

¹¹ The ’925 patent describes the “direct data transfer session” between mobile devices in the context of not needing a separate server. Ex. 1001, (code 57), 1:51–57, 1:61–67. The ’925 patent does not describe “direct data transfer session” between mobile devices in the context of being a data transfer session whereby *only* the two mobile devices can communicate on the opened listening software port as Patent Owner may be implying. *Id.*

listen for communications from the target mobile device.” Ex. 1001, 4:38–40, 4:58–62. Patent Owner does not explain how such description necessitates us construing the disputed limitation as proposed. We do not find that the description to which Patent Owner directs attention is a definition of “opening a listening software port,” and Patent Owner has failed to make the case that it is. The description is different from the proposed construction. The description is to open a TCP port to listen for communications from the target mobile device; not to listen for communications *from only* the target mobile device. We find that the description does not necessarily mean that the initiating mobile device opens a TCP port to listen for communications only from the target mobile device and no other device. Thus, we are not persuaded that such description supports Patent Owner’s proposed construction.

Still, there are other descriptions in the ’925 patent that Patent Owner does not discuss that would seemingly contradict Patent Owner’s proposed construction. For example, the ’925 patent describes the following:

[A] mobile device initiating a data transfer *opens a listening port defined by an underlying data packet based network protocol*. The initiating mobile device sends an *invitation message containing the network address, including the listening port, of the initiating device to a target mobile device* through a page-mode messaging service (e.g., text based service) supported by the digital mobile network system. The initiating mobile device further utilizes and incorporates a unique identification number (e.g., telephone number, PIN number, etc.) associated with the target mobile device into the invitation message to locate and contact the target mobile device within the wireless mobile network. Once the initiating mobile device receives a response from the target mobile device at the listening port, the two mobile devices are able to establish a reliable virtual connection through the underlying data

packet-based network protocol in order to transfer data directly between the two mobile devices.

Id. at 1:67–2:17. The above describes opening a listening port defined by an underlying data packet based network protocol. The port that is opened is defined by a network based network protocol, but is not otherwise specified. The mobile device sends an invitation message “including the listening port” to the target mobile device using the target device’s phone number, for example, so that the target mobile device can receive such information (e.g., the listening port) to then later communicate with the initiating device. Patent Owner fails to discuss such description. If the listening port were opened such as to receive communications only from the target mobile device, as Patent Owner argues, it would appear necessary for the initiating device to know some identifier associated with the target mobile device to specify the port to only listen for communications from the target mobile device. The ’925 patent, however, never describes such an identifier, but only describes identifiers such as the target mobile device’s phone number that is used for sending an SMS message from the initiating mobile device. Patent Owner, however, never addresses this, or any other portion of the ’925 patent that seems to contradict Patent Owner’s narrow construction. *See, e.g., id.* at 4:12–31.

Petitioner points this out too (that Patent Owner’s proposed construction contradicts what is described in the ’925 patent). Pet. Reply 6–8. Petitioner argues that “it is impossible to implement” Patent Owner’s proposed “construction under the conditions discussed in the 925 patent using a TCP connection, which is the only type of connection disclosed in the 925 patent used for implementing ports on the claimed data packet-based communications service and which is specifically required by dependent

claims 7, 14 and 20.” *Id.* at 6 (citing Ex. 1001, Figs. 2–3, 1:23–42, 2:21–27, 3:53–4:11, 4:31–5:20; Ex. 1028 ¶ 13). Dr. Houh testifies that “if a port is to be restricted to a particular foreign process, the OPEN call must specify the foreign socket address (both the IP address of the foreign host and the port number for the process on that host).” Ex. 1028 ¶ 14 (citing Ex. 1010, 11¹²). He further testifies that

[I]f Patent Owner were correct that “opening a listening software port” requires opening the port only for the target device, the initiating device would need to know the target device’s socket address (IP address and port number) in order to specify those arguments in the TCP OPEN call. However, this is inconsistent with the problem the 925 patent purports to solve, which is that initiating device does not know the target device’s network (e.g., IP) address or port number . . . Therefore, in the embodiments described in the specification and specifically required in dependent claims 7, 14 and 20, Patent Owner’s construction is simply not possible.

Id. ¶ 15. We give substantial weight to Dr. Houh’s testimony and find that a person having ordinary skill in the art at the time of the invention would have considered Patent Owner’s proposed construction to be inconsistent with the ’925 patent.¹³ Dr. Houh’s testimony stands unrebutted. He was not cross-examined and Patent Owner did not file testimony of its own to show

¹² In the Petition, Petitioner cites to page numbers added by Petitioner in the lowest right corner. However, in the Reply and in Dr. Houh’s Reply Declaration, citations are to the internal page numbers. Internal page number 11, for example is the same as “Page 20” located in the lower right corner.

¹³ We disagree with Patent Owner that Dr. Houh’s testimony is conclusory and entitled to no weight. PO Resp. 20–21; Sur-reply 11. Dr. Houh’s first and second declarations provide well-reasoned analysis, are not based on hindsight reconstruction, and provide a basis for us to conclude that the particular facts to which he attests are more likely than not.

that Dr. Houh is incorrect that a person having ordinary skill in the art at the time of the invention would have considered Patent Owner's proposed construction to be inconsistent with the '925 patent.

We have considered Patent Owner's arguments that its proposed construction is consistent with the '925 patent because opening a listening port for a target device can be implemented using TCP/IP, but are not persuaded by such arguments. Sur-reply 2–4. First, Patent Owner argues that Petitioner's Reply ignores “that a passive OPEN call is not required to use all zeroes for the port number in order to open a passive TCP port” and that a “TCP port can be opened with a passive OPEN call in which an ephemeral port number is used.” *Id.* at 2–3. Patent Owner goes on to argue that

Thus, any TCP port of a first device that is opened with the passive OPEN call and an ephemeral port number can be dedicated to (e.g., tightly coupled to) another target device to which an invitation message may be sent. Owing to the temporary nature of an ephemeral port-based session, such as data transfer session as recited in the independent claims, it is highly unlikely that an arbitrary third party device could accidentally or even purposefully (i.e., maliciously) identify what the ephemeral port number is, much less identify an IP address that is associated with the ephemeral port number during the relatively short time that the opened port may be active.

Sur-reply 3. First, nothing in the '925 patent describes opening a listening software port with an ephemeral port number and transmitting the ephemeral port number to the target mobile device. Second, Patent Owner has failed to demonstrate that opening a listening software port with an ephemeral port number would result in receiving communications *from only a specific target mobile device*. To that end, all we have before us is unsworn attorney argument informing us that “an ephemeral port number can be dedicated to

(e.g., tightly coupled to) another target device,” and that “it is highly unlikely that an arbitrary third party device” could identify the ephemeral port number. *Id.* Patent Owner directs us to no evidence in support of its assertions as to what a person having ordinary skill in the art would have known at the time of the invention. *See Estee Lauder Inc. v. L'Oreal, S.A.*, 129 F.3d 588, 595 (Fed. Cir. 1997) (argument of counsel cannot take the place of evidence lacking in the record). Here, for example, we do not have before us a declarant on behalf of Patent Owner to inform us what a person having ordinary skill in the art would have known about ephemeral port numbers and whether an arbitrary third party device could identify the ephemeral port number as asserted. We cannot take the unsworn word of an attorney, who, on this record has not been shown to be a person having ordinary skill in the art. Accordingly, we credit the unrebutted testimony of Dr. Houh over Patent Owner’s attorney arguments, and, therefore, find that the ’925 patent does not support, and seemingly contradicts, Patent Owner’s proposed construction.

We next address Patent Owner’s argument that it’s proposed construction “is also unambiguously confirmed by the patentee’s remarks offered during prosecution of a parent application of the ’925 patent.” PO Resp. 8 (citing Ex. 1004). Application 12/832,576 was filed July 8, 2010 and issued as the ’925 patent, but claims the benefit of application 11/042,620, filed January 24, 2005, which “is a continuation-in-part” of application 10/817,994 (“the ’994 application”), filed April 5, 2004. Ex. 1001, codes (21) (63), 1:6–11. The ’994 application issued as U.S. Patent No. 7,961,663 B2 (“the ’663 patent”). It is the prosecution history of the ’663 patent that Patent Owner argues supports its proposed narrow construction. PO Resp. 8 (citing Ex. 1004). In particular, Patent Owner

argues that when addressing the same claim limitation, “the patentee [of the ’663 patent] explained that this claim language ‘requires opening a listening software port on an initiating mobile device *every time* the initiating mobile device desires to establish communications *with a particular target mobile device.*’” *Id.* at 8–9 (citing Ex. 1004, 316). Patent Owner further argues that the patentee of the ’663 patent distinguished the same claim limitation “from, for example, (1) opening a port that indiscriminately ‘serves any and all mobile terminals that desire setting up a connection’ and (2) ‘leav[ing] open one known connection to allow any number of devices to communicate with it.’” *Id.* at 9 (citing Ex. 1004, 316–317).

We have reviewed the portions of the prosecution history of the ’663 patent to which Patent Owner directs attention (Ex. 1004, 316–317), but such portions are equivocal, and do not persuade us of a clear and unmistakable disavowal or disclaimer of the scope of the disputed limitation to require opening a listening software port for receiving a response from only the target device. *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1325–26 (Fed. Cir. 2003). First, the patentee¹⁴ of the ’663 patent argued that the prior art does not teach or suggest “opening a listening software port on an initiating mobile device” for “‘establishing a virtual connection through the data packet-based communications service for the session-based instant messaging session between the initiating mobile device and the target mobile device’ as claimed by Applicant.” Ex. 1004, 316. Contrary to Patent Owner’s assertions that the patentee of the ’663 patent addressed the exact same claim language, the arguments suggest otherwise. The patentee argued

¹⁴ We use the same nomenclature as Patent Owner to refer to the then applicant of the ’663 patent as “the patentee.”

that the opening is for “establishing a virtual connection ... for the session-based instant messaging session.” Such words are not included in the disputed limitation. We are not persuaded that the patentee was necessarily arguing about the same disputed limitation.

In any event, the patentee of the ’663 patent argued that the “invention requires opening a listening software port on an initiating mobile device *every time* the initiating device desires to establish communications with a particular target mobile device.” *Id.* The argument is not commensurate in scope with Patent Owner’s proposed construction of the disputed limitation, as Patent Owner does not argue that the opening occur every time the initiating device desires to establish communications with a target mobile device. Sur-reply 6 (“Patent Owner did not assert that the claim language requires opening a listening software port every time the initiating mobile device desires to establish communications”). Accordingly, we are not persuaded that the patentee of the ’663 patent distinguished the same claim limitation “from, for example, (1) opening a port that indiscriminately ‘serves any and all mobile terminals that desire setting up a connection’ and (2) ‘leav[ing] open one known connection to allow any number of devices to communicate with it,’” because such arguments were tethered to the argument that the claim language requires opening a listening software port *every time*.

Lastly, we have considered Patent Owner’s arguments regarding pages 414 to 416 of the prosecution history of the ’663 patent. PO Resp. 14–18. In particular, Patent Owner argues that the patentee of the ’663 patent explained in an appeal brief before the Patent Trial and Appeal Board (PTAB), that a well-known port is distinguishable from the claimed invention (e.g., that requires opening a listening software port for a specific

target mobile device) because such well-known ports are available to any foreign computer. *Id.* (citing Ex. 1004, 414–416). Patent Owner, however, never addresses that the patentee of the ’663 patent amended the claims to “opening a listening software port for the target mobile device,” and relied on the added language (which is not part of the disputed limitation before us) to argue that the port must be opened for a specific target mobile device. Ex. 1004, 350, 414–416, 425. Patent Owner never explains why the ’663 patentee’s arguments regarding claim language that is different than the language before us is relevant to this proceeding. We determine that it is not.

For all of the above reasons, we determine that “opening a listening software port” does not require opening a listening software port for receiving a response from only the target mobile device. We need not otherwise construe the limitation.¹⁵

For purposes of this decision, we need not expressly construe any other claim term. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d

¹⁵ In our Decision to Institute, we determined that it was not necessary to adopt Petitioner’s proposed construction of this term (Dec. 8–9) and, here, we also determine that it is not necessary to adopt Petitioner’s proposed construction. Patent Owner argues that Petitioner’s reliance on an “incorrect claim construction for the ‘opening’ limitations taints the entirety of the Petition and provides an independent and fully dispositive basis for denial.” PO Resp. 6. We disagree that Petitioner’s proposed construction taints its Petition. Patent Owner has failed to articulate any reason why Petitioner’s construction would result in a tainted Petition. *See also* Pet. Reply 12 (explaining that Patent Owner’s arguments regarding Petitioner’s construction are irrelevant and that there is no need for us to consider Petitioner’s proposed construction). Indeed, the Petition shows how RFC793 meets the actual claim language of the claims (“opening a listening software port”); not how RFC793 meets Petitioner’s proposed construction. *See, e.g.*, Pet. 31–32, 59–60.

795, 803 (Fed. Cir. 1999) (holding that “only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy”); *see also Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Matal*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs.* in the context of an *inter partes* review).

*D. Asserted Obviousness of Claims 1, 3–8, 10–15, and 17–20
over Lee, RFC793, and SMS Specification*

Petitioner contends claims 1, 3–8, 10–15, and 17–20 are unpatentable under 35 U.S.C. § 103(a) as obvious over Lee, RFC793, and SMS Specification. Pet. 55–64. In support of its showing, Petitioner relies upon the declaration of Dr. Houh. *Id.* (citing Ex. 1002).

1. Lee

Lee describes a digital cellular communication system facilitating voice communications over the Internet. Ex. 1006, 1:6–10. In particular, Lee describes a method that allows an Internet Wireless Enabled Handset (IWEH1) to establish voice communications over the Internet (VoIP call) with a second Internet Wireless Enabled Handset (IWEH2). *Id.* at 1:66–2:4, 5:14–22. According to Lee, the use of SMS with PCS digital cellular communication systems is provided to allow call alerting for call-setup, initiation, and establishment. *Id.* at 2:6–9. Lee further describes that the digital cellular handset establishes a normal data call through a digital cellular network and into the Internet, where the data call establishes a data link between the handset and an Internet-enabled terminating device (*e.g.*, computer or Internet phone) on the Internet. *Id.* at 2:15–20. Once the Internet-enabled terminating device and the digital cellular handset have established a data connection, both units exchange voice telephone

information over the data link. *Id.* at 2:20–23. Steps showing how SMS is used to establish a digital cellular call over the Internet are illustrated in Figure 3, which is reproduced below.

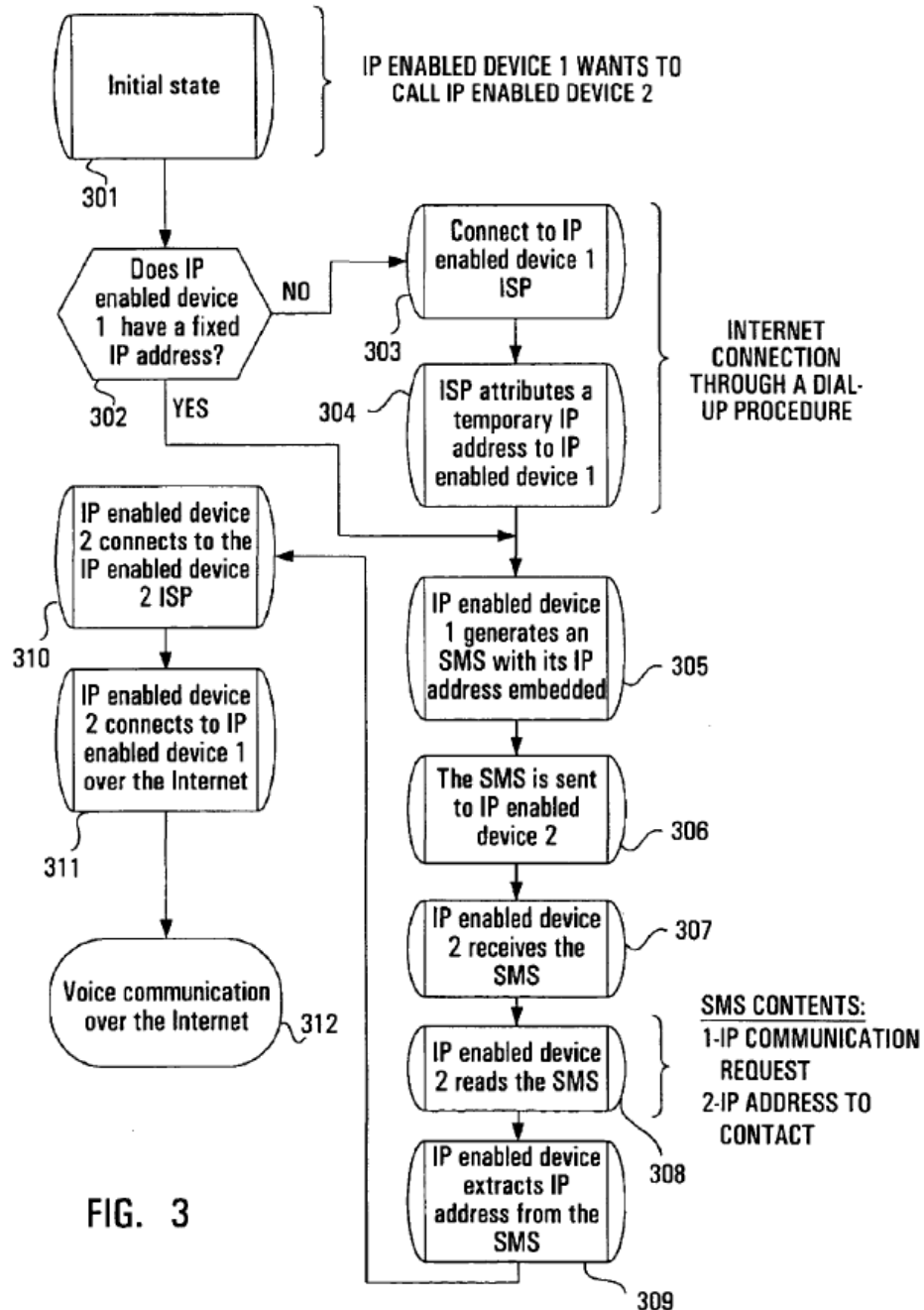


FIG. 3

Figure 3 is a flowchart of steps showing how an SMS message is used to establish a digital cellular call over the Internet. *Id.* at 8:13–15. At step 301,

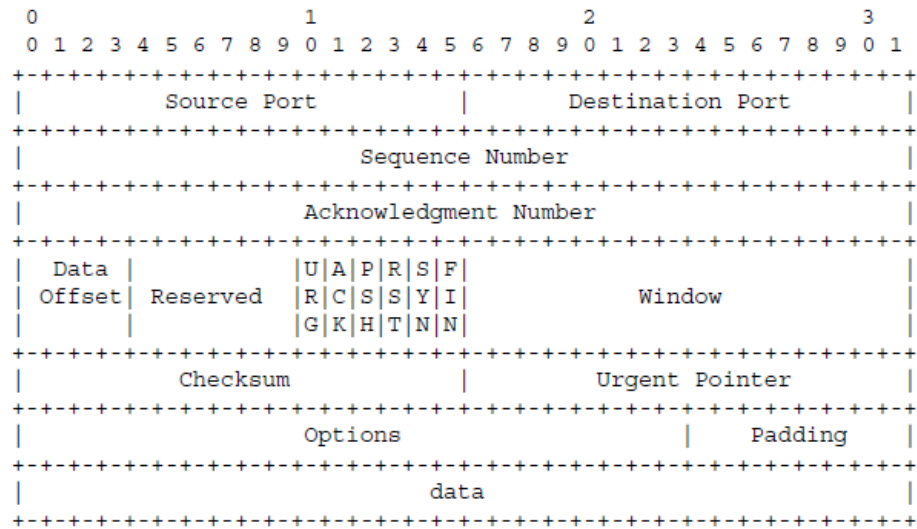
an IP enabled device 1 reaches IP enabled device 2 using an Internet digital cellular connection, where IP enabled device 2 is a mobile device having no fixed IP address. *Id.* at 8:19–23. At step 305, the IP enabled device 1 generates an SMS with an IP communication request, with its IP address embedded therein. *Id.* at 8:39–42. At step 306, the SMS is sent over the digital cellular network to IP enabled device 2. *Id.* at 9:47–48. At step 307, IP enabled device 2 receives the SMS containing the IP communication request and IP address of IP enabled device 1. *Id.* at 9:57–60. At steps 308 and 309, IP enabled device 2 recognizes the IP communication request, and extracts the IP address of IP enabled device 1 from the SMS. *Id.* at 9:60–63.

2. RFC793

RFC793 is a technical specification that describes the functions performed by the Transmission Control Protocol (TCP). Ex. 1010, 10.¹⁶ RFC793 describes that TCP segments are sent as Internet Protocol (IP) datagrams, where an IP datagram includes a header and a field, where an IP header carries several information fields (including source and destination host addresses), and a TCP header follows the IP header format and additionally supplies information specific to the TCP protocol. *Id.* at 24. A TCP header format is illustrated in Figure 3 reproduced below.

¹⁶ The Petition cites to page numbers added by Petitioner in the lowest right corner. We cite to the same.

TCP Header Format



TCP Header Format

Note that one tick mark represents one bit position.

Figure 3.

Figure 3 shows a TCP header format. *Id.* RFC793 describes that the TCP header format includes a source port number and a destination port number. *Id.* RFC793 further describes that the operation of TCP involves a connection progressing through a series of states during its lifetime, where one of the states is “LISTEN,” and where the “LISTEN” state represents waiting for a connection request from any remote TCP and port. *Id.* at 30, 32 (Figure 6). RFC793 describes that a passive OPEN call “is a call to LISTEN for an incoming connection.” *Id.* at 54, see also *id.* at 32 (showing a transition from CLOSED to LISTEN when performing a passive open of a TCP port).

3. SMS Specification

SMS Specification is a technical specification that describes the Short Message Service (SMS), where the SMS provides a means of sending

messages to and from GSM/UTMS mobiles. Ex. 1014, 12.¹⁷ SMS Specification describes that SMS comprises two basic services: Short Message Mobile Terminated (SM MT) and Short Message Mobile Originated (SM MO). *Id.* at 17. SM MT denotes the capability of the GSM/UMTS system to transfer a short message from a service center (SC) to a mobile station (MS), and to provide information about the delivery of the short message either by a delivery report or a failure report with a specific mechanism for later delivery. *Id.* SM MO denotes the capability of the GSM/UMTS system to transfer a short message submitted by the MS to a short message entity (SME) via an SC, and to provide information about the delivery of the short message either by a delivery report or a failure report. *Id.* The SM MT and SM MO services are illustrated in Figures 1 and 2 reproduced below.

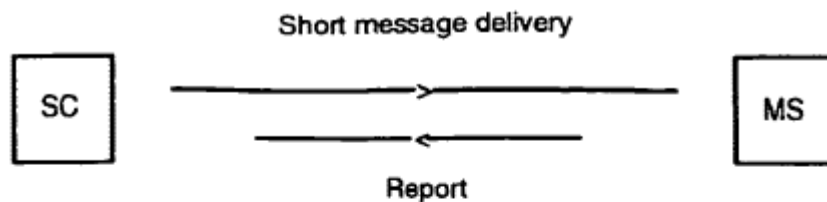


Figure 1: The Short Message Service mobile terminated

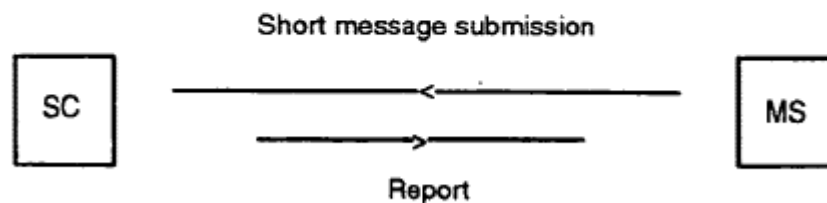


Figure 2: The Short Message Service mobile originated

¹⁷ Petitioner cites to page numbers added by Petitioner in the lowest right corner. We cite to the same.

Figure 1 illustrates the SM MT service, where a short message can be transmitted from an SC to an MS, and Figure 2 illustrates the SM MO service, where a short message can be transmitted from an MS to an SME via an SC. *Id.* at 17–18.

4. Discussion

Claim 1 recites “[a] method of establishing a direct data transfer session between mobile devices that support a data packet-based communications service over a digital mobile network system.”¹⁸ Ex. 1001, 5:45–48. Petitioner contends, and we are persuaded, that Lee describes a method of establishing a direct data transfer session (VoIP call) between mobile devices (IWEH1, IWEH2) that support a data packet-based communications service (TCP/IP) over a digital mobile network system (wireless network 62 and Internet 66). Pet. 58–59 (Ex. 1006, 5:14–21, 7:57–8:11, 14:58–62, Figs. 1, 2). Patent Owner does not dispute Petitioner’s showing with respect to Lee meeting the preamble. *See generally* PO Resp.

Claim 1 further recites “opening a listening software port on an initiating mobile device to receive communications through the data packet-based communications service.” Ex. 1001, 5:49–51. Petitioner contends that Lee in combination with RFC793 meets this limitation. Pet. 59. Petitioner contends, and we find, that Lee describes that IWEH1 transmits an SMS message to IWEH2 to initiate a VoIP call, and that IWEH1 will be listening for a response from IWEH2 in the form of a TCP/IP H.225 call control message. *Id.* at 59–60 (citing Ex. 1006 at Fig. 1 (step 26), Fig. 3 (step 311), 5:64–66, 6:7–9, 7:56–8:11, 9:67–10:1, 14:48–15:24, 15:48–63,

¹⁸ We need not resolve the issue of whether the preamble is limiting because, regardless of whether the preamble is limiting, Petitioner shows that Lee meets the preamble.

16:61–17:1). We further find that RFC793 describes opening a software listening port in order to receive messages and that doing so was well known at the time of the invention. Ex. 1010, 20, 32¹⁹, 45; Ex. 1002 ¶¶ 44–45, 121–122, 124; *see also* Pet. 10–17. Petitioner further contends, and we agree, that it would have been obvious to a person having ordinary skill in the art “to open a software listening port on IWEH1 as taught by RFC793 to receive and process the TCP/IP H.225 call control message as taught by Lee, as the failure to do so would result in the response being rejected.” *Id.* at 60 (citing Ex. 1010, 20, 45; Section V.C.2 (establishing how RFC793 teaches that TCP ports must be opened to receive messages and applicant’s admissions during prosecution that opening such ports was well known); Ex. 1002 ¶ 124); 57–58 (citing Ex. 1002 ¶¶ 121–122).

In light of Patent Owner’s briefs, we understand that Patent Owner does not dispute that RFC793 describes passively opening a listening software port or that it would have been obvious to combine Lee and RFC793. *See generally* PO Resp. and Sur-reply; PO Resp. 12. Rather, Patent Owner’s arguments are based on its proposed claim construction requiring opening a listening software port directed to a specified target mobile device such that the initiating mobile device communicates only with the target mobile device and no other device. *Id.* at 12–18; Sur-reply 6, 10. As explained above, we do not adopt Patent Owner’s proposed construction.

¹⁹ The figure on page 32 of RFC793 appears very similar, if not identical to, the figure on page 85 of Exhibit 1015, cited on page 16 of the Petition. We find that a person having ordinary skill in the art at the time of the invention would have understood that either figure clearly shows “opening” a listening port. Ex. 1002 ¶ 44 (citing Ex. 1010, 18–21, 32, 45–46, 54, 79; Ex. 1015, 84–85).

Patent Owner also argues that “[a] port that is *permanently* assigned and made available *a priori* to all devices in general is not one that even available for ‘opening’ as claimed.” PO Resp. 13–14 (citing *id.* at § V.A.1). We understand this argument also to be tethered to Patent Owner’s proposed claim construction, and for that reason, we are not persuaded by such argument. To the extent Patent Owner is arguing that a well-known socket is never opened, such argument is in direct contrast with statements the patentee of the ’663 patent made during prosecution. Ex. 1004, 415 (“It is well-known in the art that any general computer system may open different types of default or well-known listening software ports for specific purposes.”), 416 (“well-known TCP ports are not opened by default on mobile devices because mobile devices do not run servers for data packet based communications services by default”). *See also* Ex. 1002 ¶¶ 38–39. Moreover, Patent Owner directs us to no evidence in support of its argument that a person having ordinary skill in the art would have understood that a well-known socket would not require ever “opening.” All we have before us is attorney argument, which is not sufficient. Again, we cannot take the unsworn word of an attorney, who, on this record has not been shown to be a person having ordinary skill in the art. We give substantial weight to Dr. Houh’s testimony that a person having ordinary skill in the art would have understood that well-known ports “must be opened if they are to be used, just like any other port.” Ex. 1028 ¶ 26. Such statement is consistent with admissions the patentee of the ’663 patent made during prosecution as explained above. Ex. 1014, 415–416; *see also* Ex. 1010, 20, 32 (figure clearly showing “opening” from once “closed” state), 45; Ex. 1002 ¶¶ 38–39, 44–45, 121–122, 124; Pet. 10–17. Accordingly, all of Patent Owner’s arguments regarding the above limitation, are not persuasive.

Claim 1 further recites “transmitting an invitation message to a target mobile device through a page-mode messaging service, wherein the invitation message comprises a network address associated with the initiating mobile device, and wherein the target mobile device is located by providing a unique identifier to the page-mode messaging service.”

Ex. 1001, 5:52–57. Petitioner contends that Lee in combination with SMS Specification meets this limitation. Pet. 60. Petitioner contends, and we find, that Lee discloses the initiating mobile device (IWEH1) transmitting an invitation message (SMS message) to a target mobile device (IWEH2) that includes the network IP address associated with IWEH1. *Id.* (citing Ex. 1006 at Fig. 1 (step 23), Fig. 3 (steps 305–306), 5:57–61, 6:7–9, 7:16–35, 7:66–8:2, 8:39–9:57, 21:5–12, 22:24–26; Ex. 1002 ¶ 126). Petitioner argues that Lee discloses that the SMS service forwards the message to IWEH2, but does not disclose how the SMS is addressed to accomplish that function (“providing a unique identifier to the page-mode messaging service”). *Id.* at 61 (citing Ex. 1006, 1:25–35, 9:47–57). Petitioner argues, and we agree, that “it would have been obvious to a POSITA to address the SMS message with the telephone number of IWEH2, so that the SMS service could locate IWEH2 as taught by the SMS Specification and known in the art.” *Id.* (citing Ex. 1014, 16, 42–43, 48–51, 58; Ex. 1002 ¶ 127). Petitioner further contends, and we agree, that Lee discloses that its SMS message can be adapted to include more than an IP address, and that a “POSITA would have been motivated to include the [TCP] port number in an SMS message when the port was not known in advance, to identify the responsive application, and to provide robustness and flexibility for future implementations.” *Id.* (citing Section VI.C; Ex. 1006, 9:39–46; Ex. 1002

¶ 128). Patent Owner does not dispute Petitioner’s showing with respect to this limitation. *See generally* PO Resp.

Claim 1 recites “receiving a response from the target mobile device at the listening software port on the initiating mobile device.” Ex. 1001, 5:58–60. Petitioner contends that Lee in combination with RFC793²⁰ meets this limitation. Pet. 62. In particular, Petitioner argues, and we agree, that Lee’s initiating mobile device IWEH1 receives a response (TCP/IP H.225 call control message) from target mobile device IWEH2. *Id.* (citing Ex. 1006 at Fig. 1 (step 26), Fig. 3 (step 311), 5:64–66, 6:7–9, 7:56–8:11, 9:67–10:1, 14:48–15:24, 15:48–63, 16:61–17:1 (H.225 response)). Petitioner contends, and we agree, that it would have been obvious to receive the TCP/IP H.225 message taught by Lee at the listening software port opened on IWEH1 as taught by RFC793. *Id.* (citing Ex. 1002 ¶ 129). Patent Owner does not dispute Petitioner’s showing with respect to this limitation. *See generally* PO Resp.

Claim 1 recites “establishing a data transfer session through the data packet-based communications service between the initiating mobile device and the target mobile device, wherein the data transfer session is established

²⁰ Although Petitioner argues that Lee in combination with SMS Specification renders this limitation obvious, we understand that to be a typographical error. Pet. 62. Instead, we understand Petitioner’s position to be that Lee in combination with RFC793 renders the limitation obvious. In particular, Petitioner contends that it would have been obvious “to receive the TCP/IP H.225 message taught by Lee at the listening software port (TCP port) opened on IWEH1 as taught by the SMS Specification as established above for claim 1.a.” *Id.* The Petition, however, relies on RFC793 for opening a listening software port for claim 1.a. *Id.* at 59–60. Accordingly, we construe Petitioner’s reference to the SMS Specification to mean RFC793 for this limitation.

in a peer-to-peer fashion without a server intermediating communications through the established data transfer session between the initiating mobile device and the target mobile device.” Ex. 1001, 5:61–67. Petitioner contends, and we agree, that Lee describes establishing a data transfer session (a VoIP call including a call setup exchange using TCP/IP) through a data packet-based communications service (wireless network 62 and Internet 66) between IWEH1 and IWEH2. *Id.* at 62–63 (citing Ex. 1006 at Fig. 1 (step 15), Fig. 3 (step 312), 6:7–9, 7:57–8:11, 14:48–15:24, 15:48–63, 16:65–17:6; Ex. 1002 ¶ 130). Petitioner further argues, and we agree, that Lee describes the VoIP call as using TCP/IP sessions for the call and system control information (H.225 and H.245) which are addressed using the IP addresses for IWEH1 and IWEH2, “which is precisely how the TCP/IP session is established in a peer-to-peer fashion without an intermediating server in the 925 patent.” *Id.* at 63 (citing Ex. 1002 ¶ 131). Patent Owner does not dispute Petitioner’s showing with respect to this limitation. *See generally* PO Resp.

Independent claims 8 and 15 are similar to claim 1. Petitioner’s showings for claims 8 and 15 are nearly the same as that for claim 1, while sufficiently accounting for differences between claims 8 and 15 and claim 1. *See* Pet. 58–63. Patent Owner’s arguments for claims 8 and 15 are the same as its arguments for claim 1, which we have addressed above. Accordingly, for the reasons given above, having considered Petitioner’s and Patent Owner’s arguments and evidence, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 8, and 15 of the ’925 patent would have been obvious over Lee, RFC793, and SMS Specification.

Claims 3, 10, and 17 depend from claims 1, 8, and 15 respectively and include “wherein the network address of the initiating mobile device is an IP

address.” Ex. 1001, 6:16–17, 6:66–67, 8:19–21. Petitioner contends, and we agree, that Lee describes that the network address of the initiating device is an IP address. Pet. 63 (citing Ex. 1006, 7:66–8:2, 8:39–9:57; Ex. 1002 ¶ 132). Patent Owner does not make separate arguments with respect to claims 3, 10, and 17. PO Resp. 21. We are persuaded by Petitioner’s showing, which we adopt, that claims 3, 10, and 17 would have been obvious over Lee, RFC793, and SMS Specification.

Claims 4, 11, and 18 depend from claims 1, 8, and 15 respectively and include “wherein the page-mode messaging service is SMS.” Ex. 1001, 6:18–19, 7:1–2, 8:22–24. Petitioner contends, and we agree, that Lee describes that the page-mode messaging service is SMS. Pet. 63 (citing Ex. 1006, 7:66–8:2, 8:39–9:57; Ex. 1002 ¶ 133). Patent Owner does not make separate arguments with respect to claims 4, 11, and 18. PO Resp. 21. We are persuaded by Petitioner’s showing, which we adopt, that claims 4, 11, and 18 would have been obvious over Lee, RFC793, and SMS Specification.

Claims 5 and 12 depend from claims 1 and 8 respectively and include “wherein the page-mode messaging service is a PIN-to-PIN messaging service.” Ex. 1001, 6:20–21, 7:3–4. Petitioner contends, and we agree, that Lee describes that the page-mode messaging service is SMS and that SMS is a species of the claimed genus of “PIN-to-PIN messaging service” as properly construed, because SMS uses the unique phone number of the target device to transmit information over the wireless network. Pet. 64 (citing Ex. 1006, 7:66–8:2, 8:39–9:57; Ex. 1017, 21; Ex. 1002 ¶ 134). Patent Owner does not make separate arguments with respect to claims 5 and 12. PO Resp. 21. We are persuaded by Petitioner’s showing, which we

adopt, that claims 5 and 12 would have been obvious over Lee, RFC793, and SMS Specification.

Claims 6, 13, and 19 depend from claims 1, 8, and 15 respectively and include “wherein the unique identifier is a telephone number.” Ex. 1001, 6:22–23, 7:5–6, 8:25–27. Petitioner contends, and we agree, that it would have been obvious to a person having ordinary skill in the art to implement the SMS message disclosed in Lee by addressing the SMS message with the telephone number of IWEH2 as taught by SMS Specification. Pet. 64 (citing Ex. 1014, 16, 42–43, 48–55, 58; Ex. 1002 ¶ 135). Patent Owner does not make separate arguments with respect to claims 6, 13, and 19. PO Resp. 21. We are persuaded by Petitioner’s showing, which we adopt, that claims 6, 13, and 19 would have been obvious over Lee, RFC793, and SMS Specification.

Claims 7, 14, and 20 depend from claims 1, 8, and 15 respectively and include “wherein the data transfer session utilizes a TCP connection.” Ex. 1001, 6:24–25, 7:7–8, 8:28–30. Petitioner contends, and we agree, that Lee describes that the data transfer session (with VoIP call setup exchange) utilizes a TCP connection for H.225 call and H.245 system information. Pet. 64 (citing Ex. 1006, 14:48–15:24, 15:48–63, 16:65–17:6; Ex. 1002 ¶ 136). Patent Owner does not make separate arguments with respect to claims 7, 14, and 20. PO Resp. 21. We are persuaded by Petitioner’s showing, which we adopt, that claims 7, 14, and 20 would have been obvious over Lee, RFC793, and SMS Specification.

In sum, having considered Petitioner’s and Patent Owner’s arguments and evidence, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 3–8, 10–15, and 17–20 of the ’925 patent would have been obvious over Lee, RFC793, and SMS Specification.

E. Asserted Obviousness of Claims 2, 9, and 16 over Lee, RFC793, SMS Specification, and WMA

Petitioner contends claims 2, 9, and 16 are unpatentable under 35 U.S.C. § 103(a) as obvious over Lee, RFC793, SMS Specification, and WMA. Pet. 65–68. In support of its showing, Petitioner relies upon the declaration of Dr. Houh. *Id.* (citing Ex. 1002).

1. WMA

WMA is a technical specification that describes a messaging application programming interface (API) that is part of an overall specification for the Java programming language. Ex. 1018, 11.²¹ WMA describes that the API provides the functionality of opening a connection based on a string address, and further provides message sending and receiving functionality. *Id.*

2. Discussion

Claim 2 depends from claim 1. Claim 9, which depends from claim 8, and claim 16, which depends from claim 15, are similar in scope to claim 2. Petitioner accounts for the limitations of these claims. *See* Pet. 65–68. For instance, claim 2 recites “opening a second listening software port on the initiating mobile device to receive invitation messages through the page-mode messaging service.” Ex. 1001, 6:2–4. Petitioner contends, and we agree, that Lee describes that IWEH1 and IWEH2 are identical and that a “POSITA would understand that Lee’s disclosure of IEWH1 as the initiating device is only exemplary, and that IWEH1 . . . has the identical capability to

²¹ Petitioner cites to page numbers added by Petitioner in the lowest right corner. We cite to the same.

receive and respond to invitations from IWEH2.” Pet. 65–66 (citing Ex. 1006, Fig. 5, 10:4–15:63; Ex. 1002 ¶ 138).

Petitioner further contends, and we agree, that a person having ordinary skill in the art would have found it obvious that Lee’s initiating device (IWEH1) can utilize the disclosed capability to receive an invitation message (SMS) through the page-mode messaging service (SMS). *Id.* at 66 (citing showing for claim 1.b element; Ex. 1002 ¶ 139). Petitioner argues that while Lee does not explicitly describe opening an SMS port to receive an SMS invitation message, it would have been obvious to do so in light of the teachings of SMS Specification and WMA. *Id.* In particular, Petitioner contends, and we agree, that Lee describes a non-standard “type field” of “IPCALLRQ” that the receiving device must recognize to route the VoIP call request to the responding VoIP application. *Id.* (citing Ex. 1006, 9:33–36). Petitioner further argues, and we are persuaded, that a “POSITA would have understood that this implementation would require modifying the SMS application to support that non-standard field” and that the “POSITA would have known, as established in Section V.C.3, that standard SMS applications already support SMS ports which could perform this function.” *Id.* (citing Ex. 1014, 66–69, 72–73; Ex. 1018, 21, 27, 30–34, 37–45).

Petitioner further contends, and we agree, that a “POSITA would have been motivated to configure IWEH1 to open an SMS port in a listen mode as taught by WMA in order to receive and route incoming SMS call request messages to the responding VoIP application” to make Lee’s implementation compatible with Standard SMS application, which would maximize the deployment potential of Lee’s application in SMS phones and to make the SMS application and VoIP application code bases independent.

Id. at 66–67 (citing Ex. 1006, 4:45–64, 10:4–12; Ex. 1010, 12, 17–18; Ex. 1002 ¶¶ 140–141).

Claim 2 further recites “receiving, at the second listening software port and through the page-mode messaging service, a message from another mobile device inviting the initiating mobile device to establish a data transfer session, wherein such message comprises a network address associated with the other mobile device.” Ex. 1001, 6:5–10. Petitioner argues, and we agree, that the combined teachings of Lee, SMS Specification, and WMA teaches the limitation, since IWEH1 receives, at the second listening software port (WDP Port) and through SMS a message from another mobile device (IWEH2 or any other mobile device) that invites IWEH1 to establish a data transfer session and includes the network address of the other mobile device. Pet. 67–68 (citing Ex. 1002 ¶ 142).

Claim 2 also recites “transmitting a response to the network address associated with the other mobile device, wherein the response acknowledges the ability to establish a data transfer session.” Ex. 1001, 6:11–14. Petitioner contends, and we agree, that Lee describes transmitting a response (IWEH1 transmitting H.225 TCP/IP call control and setup information for a VoIP call) to the network address associated with the other mobile device acknowledging the ability to establish a data transfer session (VoIP call). Pet. 68 (citing Ex. 1002 ¶ 143).

Patent Owner argues that claims 2, 9, and 16 require an order or timing to the steps, such that “opening a second software port” must be subsequent to “opening a listening software port” recited in independent claims 1, 8, and 15. PO Resp. 9–11, 21. As such, Patent Owner argues, Petitioner’s showing for claims 2, 9, and 16 fails to recognize “at least implicit (if not explicit) order between the antecedent timing of the

‘opening’ step of claim 1 vis-à-vis the opening step of claim 2.” *Id.* at 10, 21. As explained above in the claim construction section, we agree with Petitioner that “opening a second software port” recited in claims 2, 9, and 16 does not necessarily require such opening to be subsequent to “opening a listening software port” recited in independent claims 1, 8, and 15. Accordingly, Patent Owner’s argument that Petitioner failed to address the order between the antecedent timing of the ‘opening’ step of claim 1 vis-à-vis the opening step of claim 2 is not persuasive, because Petitioner need not have addressed something not required by the claim language.

Accordingly, for the reasons given above, having considered Petitioner’s and Patent Owner’s arguments and evidence, we determine that Petitioner has shown by a preponderance of the evidence that claims 2, 9, and 16 of the ’925 patent would have been obvious over Lee, RFC793, SMS Specification, and WMA.

F. Remaining Grounds Challenging Claims 1–20 of the ’925 Patent

For the reasons discussed above, Petitioner has shown, by a preponderance of the evidence, that claims 1, 3–8, 10–15, and 17–20 of the ’925 patent are unpatentable as obvious over Lee, RFC793, and SMS Specification and that claims 2, 9, and 16 are unpatentable as obvious over Lee, RFC793, SMS Specification, and WMA. In addressing these grounds, we have addressed all of the challenged claims. *See* 35 U.S.C. § 318(a) (requiring the Board to “issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d)”); *see also SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359 (2108) (holding that a petitioner “is entitled to a final written decision addressing all of the claims it has challenged”). Accordingly, we

need not and do not decide whether Petitioner has shown by a preponderance of the evidence that (1) claims 1, 3–8, 10–15, and 17–20 are unpatentable as obvious over Alos and RFC793; (2) claims 2, 9, and 16 are unpatentable as obvious over Alos, RFC793, SMS Specification, and WMA; (3) claims 1, 3–8, 10–15, and 17–20 are unpatentable as obvious over Cordenier and RFC793; and (4) claims 2, 9, and 16 are unpatentable as obvious over Cordenier, RFC793, and Dorenbosch. *Cf. In re Gleave*, 560 F.3d 1331, 1338 (Fed. Cir. 2009) (not reaching other grounds of unpatentability after affirming the anticipation ground); *see also Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed. Cir. 1984) (holding that once a dispositive issue is decided, there is no need to decide other issues).

III. CONCLUSION²²

For the foregoing reasons, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–20 of the '925 patent are unpatentable, as summarized in the following table:

²² Should Patent Owner wish to pursue amendment of the challenged claim in a reissue or reexamination proceeding subsequent to the issuance of this Decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

Claims	35 U.S.C. §	References	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 3–8, 10–15, 17–20	103(a) ²³	Alos, RFC793		
2, 9, 16	103(a)	Alos, RFC793, SMS Specification, WMA		
1, 3–8, 10–15, 17–20	103(a)	Cordenier, RFC793		
2, 9, 16	103(a)	Cordenier, RFC793, Dorenbosch		
1, 3–8, 10–15, 17–20	103(a)	Lee, RFC793, SMS Specification	1, 3–8, 10–15, 17–20	
2, 9, 16	103(a)	Lee, RFC793, SMS Specification, WMA	2, 9, 16	
Overall Outcome			1–20	

²³ As explained immediately above, we need not and do not decide whether Petitioner has shown by a preponderance of the evidence that claims 1–20 also would have been obvious based on the remaining grounds not addressed in this Decision.

IV. ORDER

Accordingly, it is:

ORDERED that claims 1–20 of the '925 patent have 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.

IPR2019-00702
Patent 7,969,925 B2

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