

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

UNILOC 2017 LLC,
Patent Owner.

Case 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.*

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

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.”). Institution of an *inter partes* review is authorized by statute when “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). Upon consideration of the Petition and Preliminary Response, we conclude the information presented shows that there is a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of at least one of claims 1–20 of the ’925 patent.

A. *Related Matters*

Petitioner and Patent Owner indicate that the ’925 patent is the subject of the following currently pending court proceedings: *Uniloc USA, Inc., et al. v. Apple Inc.*, Case No. 1:18-cv-00166-LY (W.D. Tex.); and *Uniloc USA, Inc. et al. v. Apple Inc.*, Case No. 4:19-cv-01696 (N.D. Cal.). Pet. 1–2; Prelim. Resp. 6.

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.

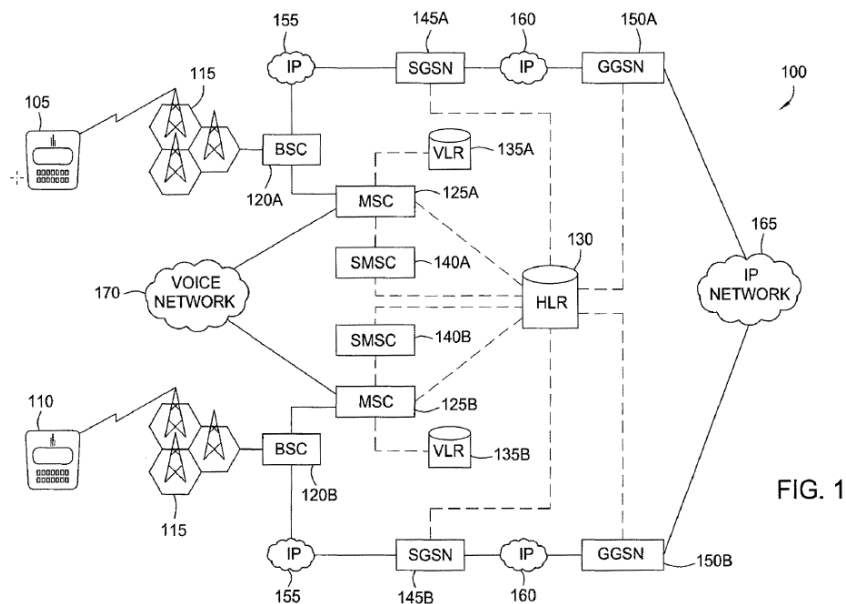


Figure 1 is a diagram of a Global System for Mobile communications (GSM) mobile networking system 100 including a first mobile device 105 and a second mobile device 110. *Id.* at 2:21–27. As disclosed in the

'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.

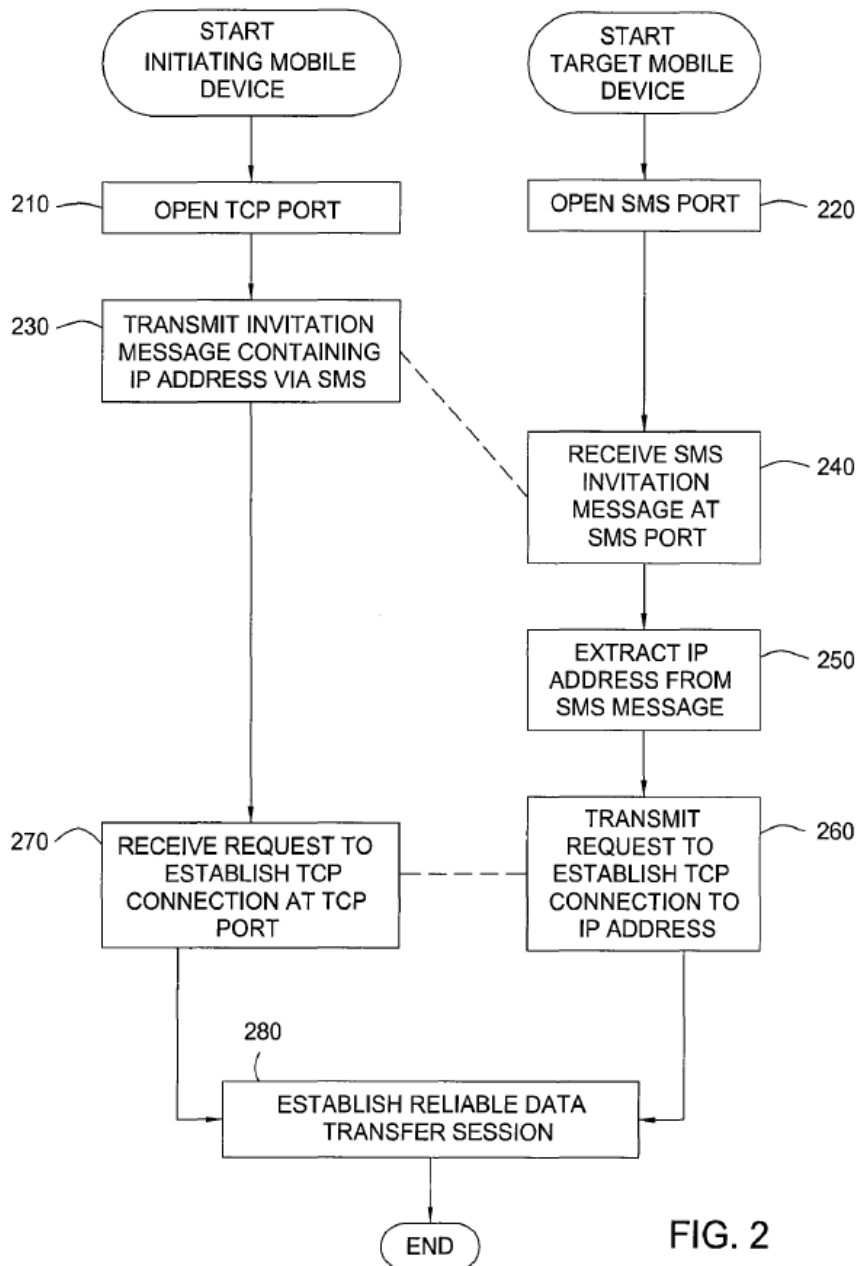


Figure 2 is a flow chart depicting the steps taken by an initiating and target mobile device to establish a direct data transfer session. *Id.* at 4:35–38. At 210, the initiating mobile device opens a TCP port to listen for communications from the target mobile device. *Id.* at 4:38–40. At 220, the target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

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. Asserted Grounds of Unpatentability

Petitioner asserts that claims 1–20 are unpatentable based on the following grounds. Pet. 6:

References	Basis ¹	Challenged Claims
Alos ² and RFC793 ³	§ 103	1, 3–8, 10–15, and 17–20

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”).

References	Basis ¹	Challenged Claims
Alos, RFC793, SMS Specification ⁴ , and WMA ⁵	§ 103	2, 9, and 16
Cordenier ⁶ and RFC793	§ 103	1, 3–8, 10–15, and 17–20
Cordenier, RFC793, and Dorenbosch ⁷	§ 103	2, 9, and 16
Lee ⁸ , RFC793, and SMS Specification	§ 103	1, 3–8, 10–15, and 17–20
Lee, RFC793, SMS Specification, and WMA	§ 103	2, 9, and 16

II. DISCUSSION

A. Claim Construction

In this *inter partes* review, claims are 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). 37 C.F.R. § 42.100(b) (2019). The claim construction standard includes construing 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 id.*; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005).

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

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”).

F.3d 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).

B. Principles of Law

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art;⁹ and (4) when in evidence, objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

⁹ Relying on the testimony of Dr. Henry H. Houh, Petitioner offers an assessment as to the level of skill in the art at the time of the ’925 patent. Pet. 9 (citing Ex. 1002 ¶ 35). At this time, Patent Owner does not propose an alternative assessment. Prelim. Resp. 6. To the extent necessary, and for purposes of this Decision, we accept the assessment offered by Petitioner as it is consistent with the ’925 patent and the asserted prior art.

C. Asserted Obviousness of Claims 1, 3–8, 10–15, and 17–20 over Alos and RFC793

Petitioner contends claims 1, 3–8, 10–15, and 17–20 are unpatentable under 35 U.S.C. § 103(a) as obvious over Alos and RFC793. Pet. 23–35. In support of its showing, Petitioner relies upon the declaration of Dr. Houh. *Id.* (citing Ex. 1002).

1. Alos

Alos describes a method for establishing communication through an Internet-type computer network with two Internet information transmission elements. Ex. 1005 ¶ 6. An example network including two information transmission elements is illustrated in Figure 1 reproduced below.

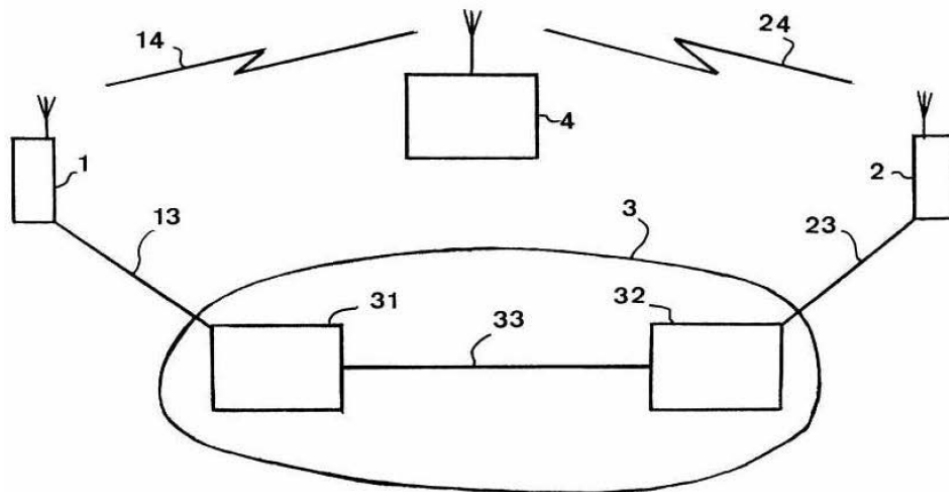
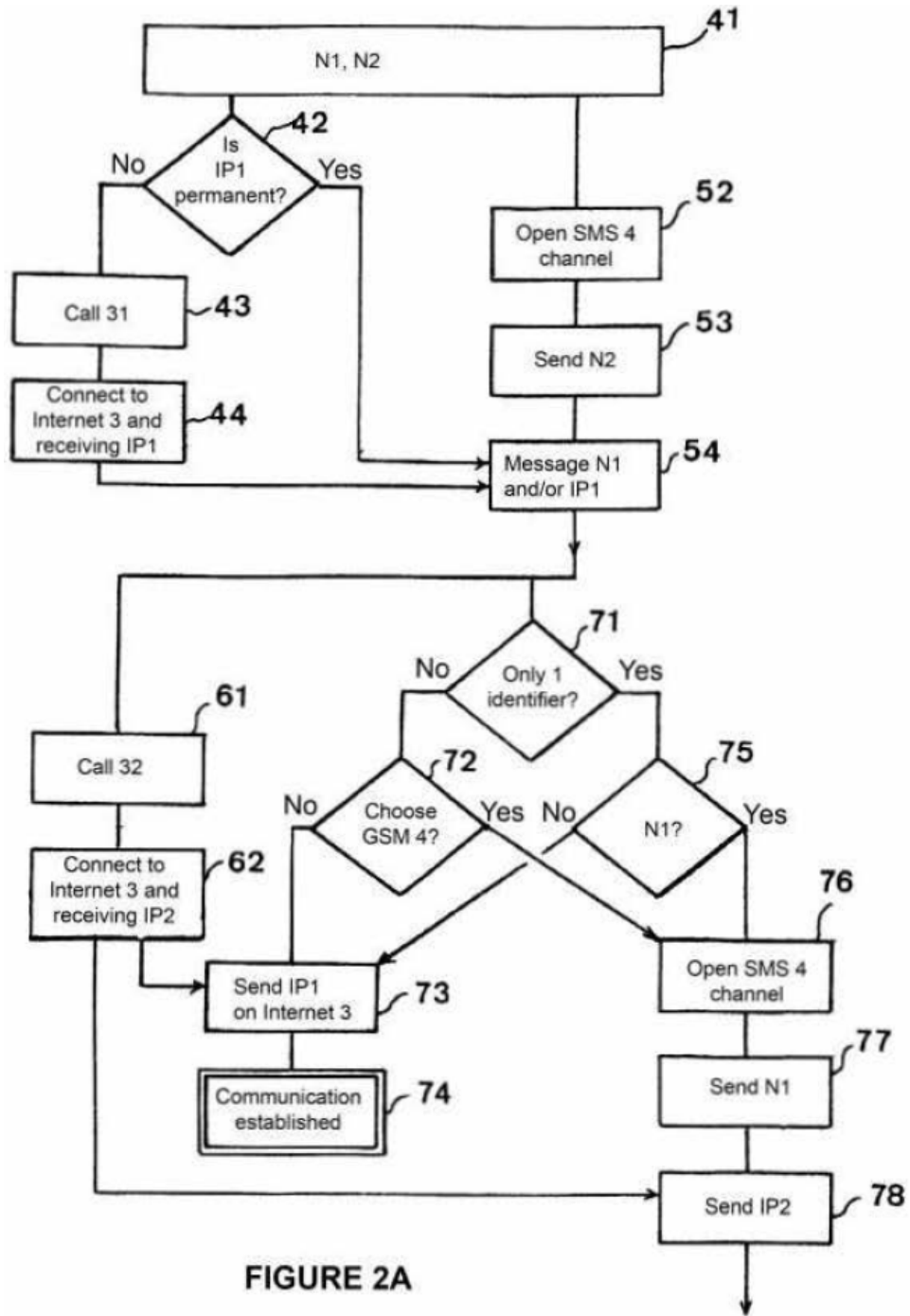


FIGURE 1

Figure 1 shows two information transmission elements in a GSM cellular radio telephone network connected to the Internet. *Id.* ¶ 13. Alos describes that the information transmission elements are two mobile telephone stations 1 and 2 connected to a direct communication network (*i.e.*, GSM cellular radio telephone network) 4 via radio links 14 and 24. *Id.* ¶ 14. Stations 1 and 2 are further connected to a computer network (*i.e.*, the Internet) 3. *Id.*

¶ 15. More specifically, station 1 is connected by a connector to a line 13 of a switched telephone network (STN) with which it can reach an access server provider 31. *Id.* Station 2 is similarly connected by line 23 to an access provider 32. *Id.* ¶ 16.

An example flow diagram is illustrated in Figures 2A and 2B reproduced below.



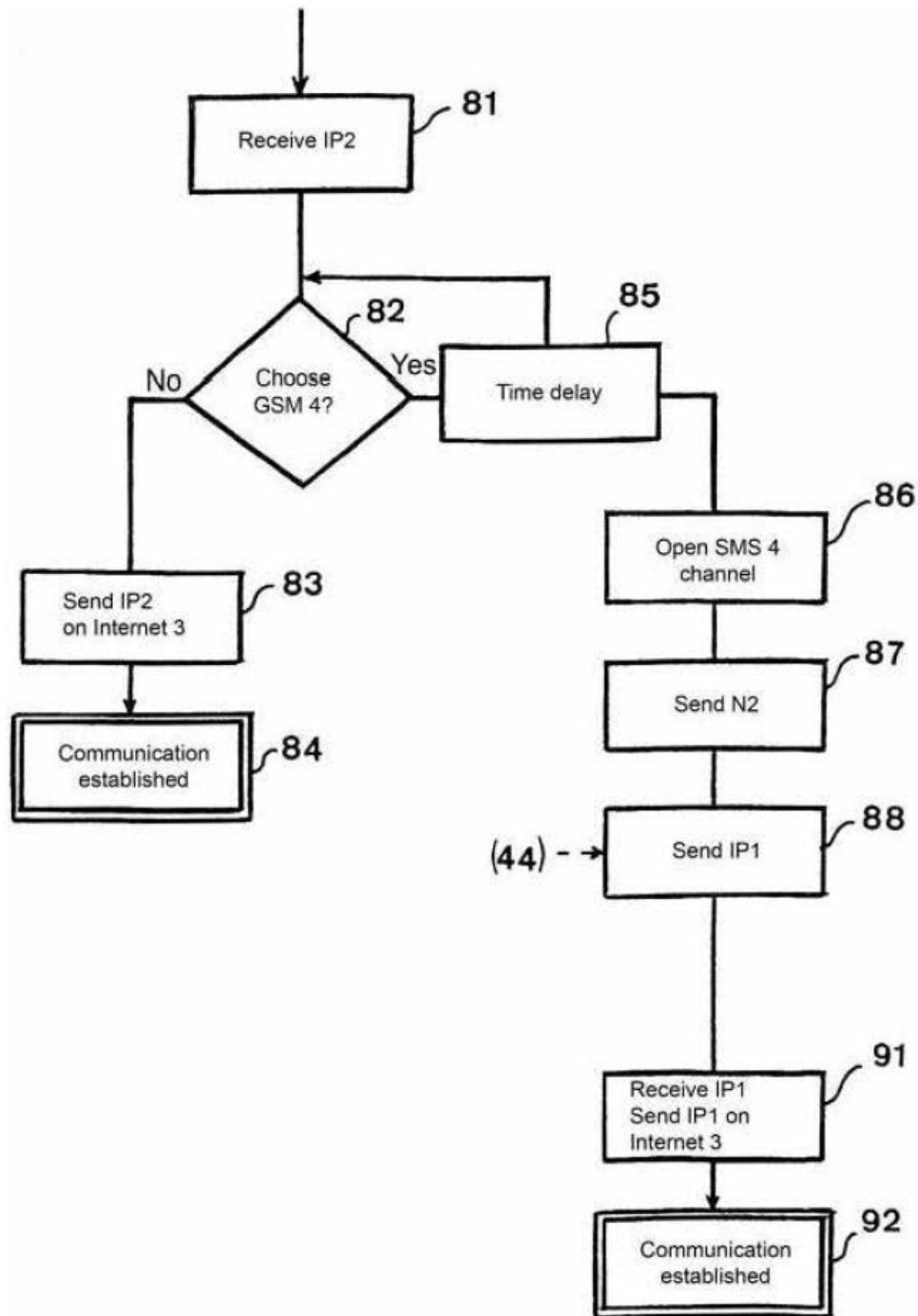


FIGURE 2B

Figures 2A and 2B collectively show a flow chart illustrating various possible cases for establishing communication through the Internet 3. *Id.* ¶ 23. In step 41, two call numbers N1 and N2 are obtained for respective

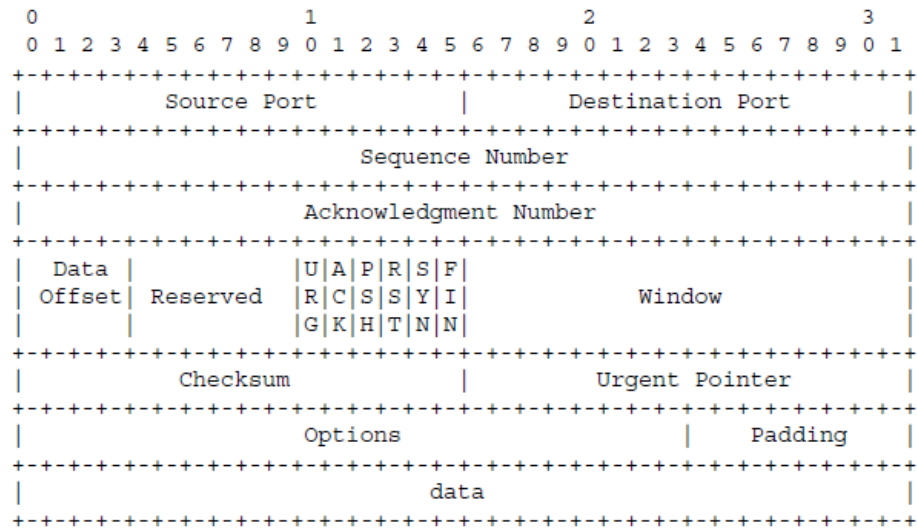
stations 1 and 2 in GSM network 4. *Id.* ¶ 24. In step 42, it is determined whether the calling station 1 has a permanent IP address. *Id.* ¶ 25. If the calling station 1 does not have a permanent IP address, then in step 43, the provider 31 is called over the line 13, and, in step 44, the station 1 is connected to the Internet 3 and provided with a required temporary IP address. *Id.* ¶ 25. Further: in step 52, an SMS signaling channel is opened from the calling station 1; in step 53, a called number N2 is sent over the GSM network 4; and, in step 54, a message is sent over the channel to the called station 2 with a message specifying that the station 2 must connect to the Internet 3, and providing an identifier for station 1. *Id.* ¶ 26. After subsequent steps, the communication between the stations 1 and 2 is established. *Id.* ¶¶ 27–34.

2. RFC793

RFC793 is a technical specification that describes the functions performed by the Transmission Control Protocol (TCP). Ex. 1010, 10.¹⁰ 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.

¹⁰ Petitioner 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 the 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).

3. Discussion

Claim 1 recites “establishing a direct data transfer session between mobile devices that support a data packet-based communications service over a digital mobile network system.” Ex. 1001, 5:45–48. Petitioner contends that Alos describes a method of establishing a direct data transfer session between mobile devices (mobile phones 1 and 2) that support a data packet-based communications service (IP) over a digital mobile network

system (Internet 3 accessed over wireless network 4). Pet. 29–31 (Ex. 1005 ¶¶ 1, 15, 35–36, Figs. 2A, 2B).

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 Alos in combination with RFC793 renders the limitation obvious. Pet. 31. Petitioner contends that Alos describes that a response from phone 2 is sent to phone 1 as an IP-based response message over Internet 3, but does not specify a transport layer protocol for that message. *Id.* (citing Ex. 1005 ¶ 28, Fig. 2A). Petitioner further contends that it would have been obvious to use TCP as the transport layer because TCP/IP was well-known at the time of the invention. Petitioner argues, directing attention to the teachings of RFC793, that it would have been obvious to a person having ordinary skill in the art “to configure phone 1 to passively open a TCP port in a listening state with an unspecified foreign host so that the TCP/IP response message from the as-yet unknown socket address at phone 2 could be received at phone 1.” Pet. 28, 31 (citing Ex. 1010, 45; Ex. 1002 ¶¶ 65, 69).

Patent Owner argues that RFC793 discloses using “well-known sockets” that are “permanently assigned to a particular socket” and made available “a priori,” and that one of the “well-known sockets” is “reserved for File Transfer.” Prelim. Resp. 14 (quoting Ex. 1010, 20). Patent Owner further argues that because of such disclosure from RFC793, “there is no reason for . . . the hypothetical combination[] of Alos . . . with RFC793 to not simply use one of the ‘well-known sockets’ which are ‘permanently assigned’ and made available ‘a priori’, and specifically include a socket that is specifically ‘reserved’ for ‘file transfer’.” *Id.* at 14–15. Patent Owner

contends that using the pre-existing “permanently assigned” socket reserved for file transfer would be the simplest and most common sense solution, which would not require “opening a listening software port” because “there is nothing to open.” *Id.* at 15–16. Patent Owner faults Petitioner for not addressing RFC793’s description of such well-known sockets, such as for file transfer, and argues that Petitioner “provides no evidence or analysis that a POSITA would ignore this ‘well-known socket.’” *Id.*

Patent Owner’s attorney arguments are unpersuasive. In contrast, Petitioner provides reasons for modifying Alos with RFC793. Pet. 26–29. Those reasons are supported by testimony that is in turn supported by record evidence. For example, Petitioner argues that it would have been obvious to a person having ordinary skill in the art “to configure phone 1 to passively open a TCP port in a listening state with an unspecified foreign host so that the TCP/IP response message from the as-yet unknown socket address at phone 2 could be received at phone 1.” *Id.* at 28, 31 (citing Ex. 1010, 45; Ex. 1002 ¶¶ 65, 69). Dr. Hough opines that a person having ordinary skill in the art would have understood that a passively opened listening port would be required to receive any messages, otherwise any incoming message would be rejected. Ex. 1002 ¶¶ 44–45 (citing Ex. 1010, 18–21, 32, 45–46, 54, 79; Ex. 1015, 84–85). He further explains that a person having ordinary skill in the art would have been motivated to configure phone 1 to make a passive OPEN call to open a TCP port in a listen mode; otherwise a message from phone 2 could not be received and processed. *Id.* ¶ 65 (citing Ex. 1010, 20, 45).¹¹

¹¹ Patent Owner argues that paragraph 65 of Dr. Hough’s testimony is conclusory, but it is not because it is supported by RFC793 itself. *See, e.g.*, Ex. 1010, 20, 45.

Patent Owner, however, has failed to explain why a person having ordinary skill in the art (1) would have understood that a well-known socket would not require “opening a listening port,” or (2) would have only used well-known sockets. Patent Owner relies only on attorney argument, which cannot take the place of record evidence. Patent Owner fails to direct us to a description in RFC793 that supports its assertions that a well-known socket would not require opening a listening software port or that a person having ordinary skill in the art would have only used well-known sockets in combining Alos with RFC793. Accordingly, at this juncture of the proceeding, we are not persuaded by Patent Owner’s arguments.

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 Alos describes initiating mobile device (phone 1) transmitting an invitation message (an SMS message) to a target mobile device (phone 2) through a page-mode messaging service (the SMS service on the GSM network 4). Pet. 32 (citing Ex. 1005 ¶¶ 20, 26, Figs. 2A, 2B; Ex. 1002 ¶ 70). Petitioner further contends that Alos describes that SMS message includes IP1, the network address of phone 1 on Internet 3. *Id.* (citing Ex. 1005 ¶¶ 20, 26, Figs. 2A, 2B; Ex. 1002 ¶ 71). Petitioner argues that Alos discloses that phone 2 is located by providing a unique identifier (telephone number N2) to the page-mode messaging service (SMS). *Id.* (citing Ex. 1005 ¶¶ 18, 26; Ex. 1014, 42–43, 48–51; Ex. 1002 ¶ 72). Petitioner contends that it would have been obvious to a person having ordinary skill in the art to include a TCP port number in the SMS

invitation message along with the network address IP1 to ensure that the TCP/IP response message from phone 2 was directed to the correct TCP port on phone 1. *Id.* at 32–33 (citing Ex. 1002 ¶ 73).

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 Alos in combination with RFC793 renders this limitation obvious. Pet. 33. In particular, Petitioner argues that Alos describes phone 1 receiving, at IP1, a response to the SMS invitation message from phone 2 via the Internet 3. *Id.* (citing Ex. 1005 ¶¶ 20–21, 28–29, Figs. 2A, 2B). Petitioner contends that it would have been obvious to implement the response using TCP/IP and to receive the response at the previously opened TCP listening port. *Id.* (citing Ex. 1002 ¶ 74).

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 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 that Alos in combination with RFC793 renders this limitation obvious. Pet. 33. Petitioner contends that Alos describes establishing voice and data transfer sessions through Internet 3 using the respective IP addresses of the mobile phones. *Id.* at 33–34 (citing Ex. 1005 ¶¶ 1, 6–8, 21, 28, 30–35). Petitioner argues that in the combination of Alos and RFC793, the data transfer session uses TCP/IP as explained earlier in the Petition and that because the devices address the TCP/IP packets to each other using their actual IP addresses, this is a peer-to-peer communication without an intermediating server. *Id.* (citing Ex. 1005 ¶ 8; Ex. 1002 ¶ 75).

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. 23–34. Patent Owner's arguments for claims 8 and 15 are the same as its arguments for claim 1, which we have addressed above. We also have reviewed Petitioner's showing for dependent claims 3–7, 10–14, and 17–20. *Id.* at 34–35. Patent Owner does not contest those claims separately. Prelim. Resp. 16.

Based on the current record before us, we are persuaded by Petitioner's showing that the asserted prior art references teach or suggest each limitation of claims 1, 3–8, 10–15, and 17–20, and that a person of ordinary skill in the art would have had reason, with rational underpinning, to combine the references in the manner Petitioner proposes. *See* Pet. 23–35. Accordingly, we determine the information presented shows a reasonable likelihood that Petitioner would prevail in establishing that claims 1, 3–8, 10–15, and 17–20 are unpatentable under § 103 as obvious over Alos and RFC793.

D. Asserted Obviousness of Claims 2, 9, and 16 over Alos, RFC793, SMS Specification, and WMA

Petitioner contends claims 2, 9, and 16 are unpatentable under 35 U.S.C. § 103(a) as obvious over Alos, RFC793, SMS Specification, and WMA. Pet. 35–41. In support of its showing, Petitioner relies upon the declaration of Dr. Houh. *Id.* (citing Ex. 1002).

1. 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, 12.¹² 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.

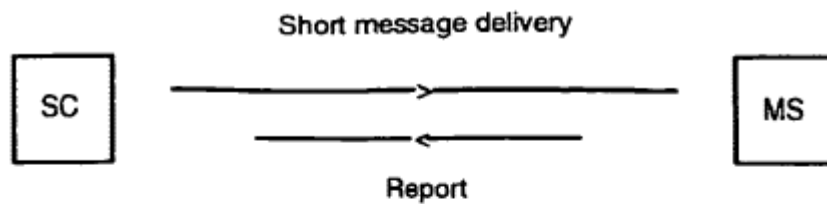


Figure 1: The Short Message Service mobile terminated

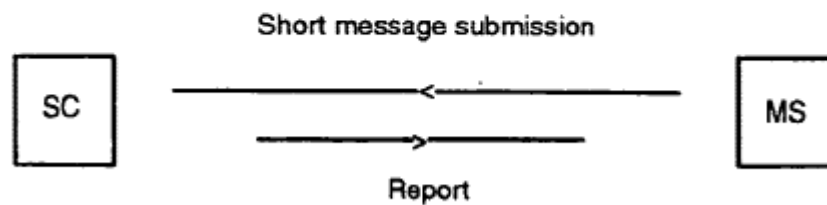


Figure 2: The Short Message Service mobile originated

¹² 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.

2. 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, 11.¹³ 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.*

3. 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. Pet. 35–41. For example, 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. 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.

¹³ Petitioner cites to page numbers added by Petitioner in the lowest right corner. We cite to the same.

Petitioner contends that Alos describes that phone 1 (initiating mobile device) can receive invitation messages (SMS invitations) through the page-mode messaging service and that the invitation can order the recipient to respond, but does not disclose how the functionality would have been implemented between SMS application and other software. *Id.* at 39 (citing Ex. 1005 ¶¶ 20, 22; Ex. 1002 ¶¶ 86–87, 89). Petitioner further contends that Alos describes wherein the SMS invitation comprises a network address (IP address IP2) associated with phone 2. *Id.* at 40 (citing Ex. 1005 ¶ 22; Ex. 1002 ¶ 90). Petitioner contends that it would have been obvious to configure Alos’ phones to open a passive listener on an SMS port (e.g., WDP Port) as taught in the SMS Specification and WMA to ensure that an incoming SMS invitation message is received by the standard SMS application and routed to the Alos application configured to respond to such invitation messages. *Id.* at 39–40 (citing Ex. 1014, 66–69, 72–73; Ex. 1018, 21, 27, 30–34, 37–45; Ex. 1002 ¶¶ 88–89).

Petitioner also accounts for the claim 2 limitation of “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.” *Id.* at 40–41 (citing Ex. 1005 ¶¶ 20–22, 28–29, Figs. 2A, 2B; Ex. 1010, Fig. 7; Ex. 1002 ¶ 92). Patent Owner does not contest claims 2, 9, and 16 separately. Prelim. Resp. 16.

Based on the current record before us, we are persuaded by Petitioner’s showing that the asserted prior art references teach or suggest each limitation of claims 2, 9, and 16, and that a person of ordinary skill in the art would have had reason, with rational underpinning, to combine the references in the manner Petitioner proposes. Pet. 35–41. Accordingly, we determine the information presented shows a reasonable likelihood that

Petitioner would prevail in establishing that claims 2, 9, and 16 are unpatentable under § 103 as obvious over Alos, RFC793, WMA, and the SMS Specification.

E. Asserted Obviousness of Claims 1, 3–8, 10–15, and 17–20 over Cordenier and RFC793

Petitioner contends claims 1, 3–8, 10–15, and 17–20 are unpatentable under 35 U.S.C. § 103(a) as obvious over Cordenier and RFC793. Pet. 41–51. In support of its showing, Petitioner relies upon the declaration of Dr. Houh. *Id.* (citing Ex. 1002).

1. Cordenier

Cordenier describes a system for exchanging information between a first and a second terminal. Ex. 1007 ¶ 6. An example network including two terminals is illustrated in Figure 6 reproduced below.

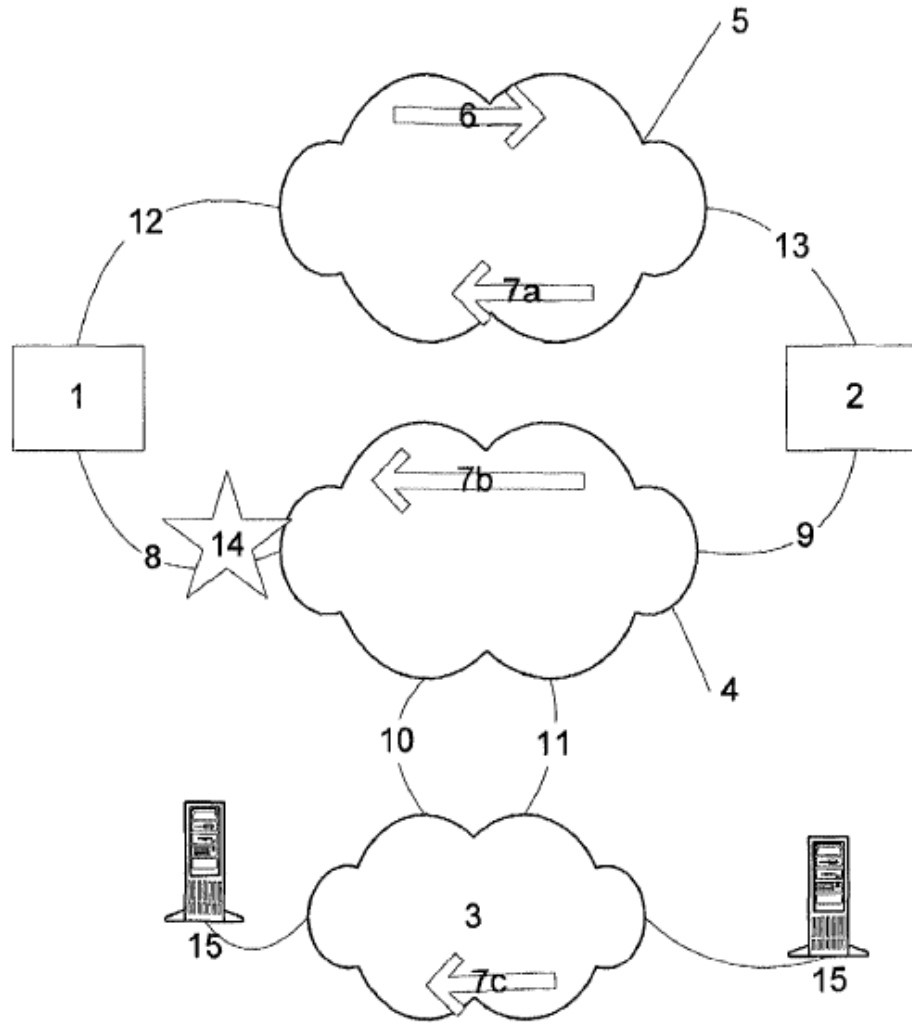


Fig 6

Figure 6 illustrates a telecommunications network 4 including a first and a second terminal 1, 2. *Id.* ¶ 16. The terminals 1 and 2 (e.g., wireless telephones) are connected to the telecommunications network 4 via communication channels 8 and 9. *Id.* The telecommunications network 4 provides access to a data network 3 via a first communication channel 10 and second communication channel 11 for the first terminal 1 and second terminal 2 respectively. *Id.* Figure 6 further illustrates a signaling network

5, where terminals 1 and 2 also are connected to the signaling network 5 via communication channels 12 and 13. *Id.* Cordenier describes that the first terminal 1 communicates with the data network 3 via the telecom network 4 and has a first message 6 containing a first network address that is sent to the second terminal 2 using the signaling network 5. *Id.* Cordenier further describes that the first message 6 is an SMS message, where the first network address is coded as a hidden code within the first message 6. *Id.* In response, the second terminal 2 sends one of second messages 7a, 7b, or 7c to the first terminal 1. *Id.* ¶¶ 16–17.

2. Discussion

Petitioner contends that Cordenier meets most limitations, but “is silent as to the transport layer protocol for response 7c and the ensuing data exchange.” Pet. 43. Similar to the challenge based on Alos and RFC793, Petitioner relies on RFC793 in this challenge to teach the well-known TCP/IP protocol and “opening a listening software port.” *Id.* at 43–45.

For example, and with respect to the claim 1 limitation of “opening a software listening port on an initiating mobile device to receive communications through the data packet-based communications service,” Petitioner argues that Cordenier describes that a response message 7c from terminal 2 is sent to terminal 1 as an IP-based response message over the Internet, but does not specify a transport layer protocol for that message. *Id.* at 47 (citing Ex. 1007, 7:20–37). Petitioner argues, directing attention to the teachings of RFC793, that it would have been obvious to a person having ordinary skill in the art “to configure terminal 1 to passively open a TCP port in a listening state with an unspecified foreign host so that the TCP/IP response message from the as-yet unknown socket address at terminal 2

could be received at terminal 1.” *Id.* (citing Ex. 1010, 20, 45; Ex. 1002 ¶ 100). Petitioner relies on Cordenier to teach the majority of the remaining limitations of claims 1, 3–8, 10–15, and 17–20. *Id.* at 41–51. Patent Owner’s arguments, directed to independent claims 1, 8, and 15, are the same as addressed above regarding RFC793 and “opening a listening software port.” Prelim. Resp. 14–16.

Based on the current record before us, we are persuaded by Petitioner’s showing that the asserted prior art references teach or suggest each limitation of claims 1, 3–8, 10–15, and 17–20, and that a person of ordinary skill in the art would have had reason, with rational underpinning, to combine the references in the manner Petitioner proposes. Pet. 41–51. Accordingly, we determine the information presented shows a reasonable likelihood that Petitioner would prevail in establishing that claims 1, 3–8, 10–15, and 17–20 are unpatentable under § 103 as obvious over Cordenier and RFC793.

F. Asserted Obviousness of Claims 2, 9, and 16 over Cordenier, RFC793, and Dorenbosch

Petitioner contends claims 2, 9, and 16 are unpatentable under 35 U.S.C. § 103(a) as obvious over Cordenier, RFC793, and Dorenbosch. Pet. 51–55. In support of its showing, Petitioner relies upon the declaration of Dr. Houh. *Id.* (citing Ex. 1002).

1. Dorenbosch

Dorenbosch describes an apparatus and method for establishing an IP session between a host 105 using a session initiation protocol and a device or mobile station (MS) 103 without an IP address. Ex. 1011, Abstract. A

method of establishing an IP session is illustrated in Figure 3 reproduced below.

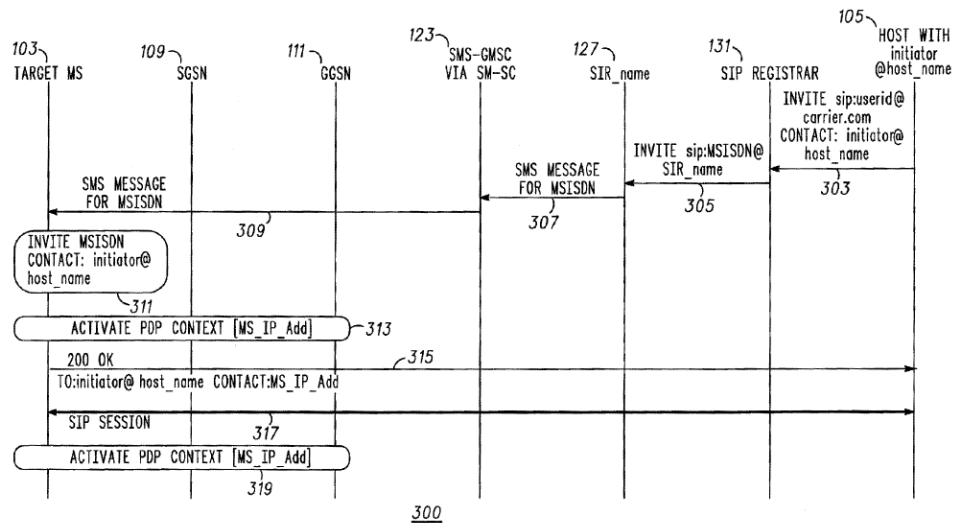


FIG. 3

Figure 3 is a ladder diagram illustrating a method of establishing an IP session when the MS does not have an IP address. *Id.* ¶ 27. As part of the method, a session initiation relay (SIR), upon receiving a session request, prepares a SMS message (including the session request) for a target MS, and forwards the SMS message to the target MS. *Id.* ¶¶ 29–32.

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. Pet. 51–55. Patent Owner does not contest claims 2, 9, and 16 separately. Prelim. Resp. 16.

Based on the current record before us, we are persuaded by Petitioner’s showing that the asserted prior art references teach or suggest each limitation of claims 2, 9, and 16, and that a person of ordinary skill in the art would have had reason, with rational underpinning, to combine the references in the manner Petitioner proposes. Pet. 51–55. Accordingly, we

determine the information presented shows a reasonable likelihood that Petitioner would prevail in establishing that claims 2, 9, and 16 are unpatentable under § 103 as obvious over Cordenier, RFC793, and Dorenbosch.

G. 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. 55–65. In support of its showing, Petitioner relies upon the declaration of Dr. Houh. *Id.* (citing Ex. 1002).

1. Lee

Lee describes a digital cellular headset capable of supporting voice communications over the Internet. Ex. 1006, 1:66–2:4. 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.

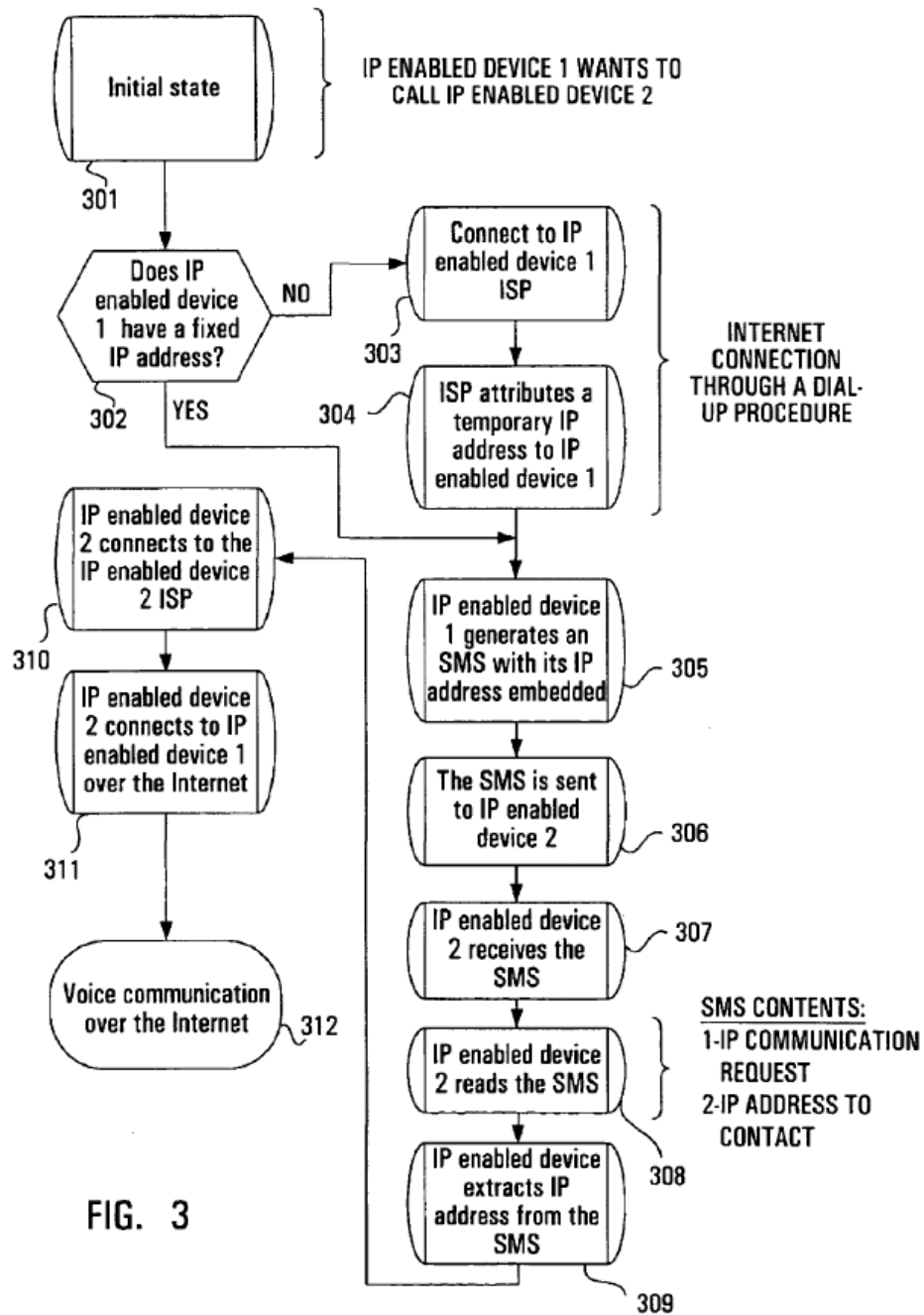


Figure 3 is a flowchart of steps showing how an SMS message is used to establish a digital cellular call over the Internet. *Id.* at 8:13–15. At step 301, an IP enabled device 1 wishes to reach IP enabled device 2 using an Internet

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. Discussion

Petitioner contends that Lee meets most limitations of the challenged claims. Pet. 55–65. Similar to the challenge based on Alos and RFC793, Petitioner relies on RFC793 in this challenge for the well-known TCP/IP protocol and “opening a listening software port.” *Id.* Petitioner contends that Lee describes transmitting an invitation message (SMS message) to a target mobile device where the message includes the network address associated with the initiating device. *Id.* at 60. Petitioner relies on the SMS Specification for its teaching of addressing Lee’s SMS message with the telephone number of IWEH2, so that the SMS service could locate IWEH2. *Id.* at 60–61. Petitioner relies on Lee to teach the majority of the remaining limitations of claims 1, 3–8, 10–15, and 17–20. *Id.* at 55–64. Patent Owner’s arguments, directed to independent claims 1, 8, and 15, are the same as addressed above regarding RFC793 and “opening a listening software port.” Prelim. Resp. 14–16.

Based on the current record before us, we are persuaded by Petitioner’s showing that the asserted prior art references teach or suggest

each limitation of claims 1, 3–8, 10–15, and 17–20, and that a person of ordinary skill in the art would have had reason, with rational underpinning, to combine the references in the manner Petitioner proposes. Pet. 55–64. Accordingly, we determine the information presented shows a reasonable likelihood that Petitioner would prevail in establishing that claims 1, 3–8, 10–15, and 17–20 are unpatentable under § 103 as obvious over Lee, RFC793, and the SMS Specification.

H. 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. 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. Patent Owner does not contest claims 2, 9, and 16 separately. Prelim. Resp. 16.

Based on the current record before us, we are persuaded by Petitioner’s showing that the asserted prior art references teach or suggest each limitation of claims 2, 9, and 16, and that a person of ordinary skill in the art would have had reason, with rational underpinning, to combine the references in the manner Petitioner proposes. *See* Pet. 65–68. Accordingly, we determine the information presented shows a reasonable likelihood that Petitioner would prevail in establishing that claims 2, 9, and 16 are

unpatentable under § 103 as obvious over Lee, RFC793, the SMS Specification and WMA.

I. Redundant Challenges

Patent Owner contends Petitioner redundantly challenges claims 1–20 of the '925 patent without providing any alleged justification for such inefficient redundancies. Prelim. Resp. 3–6. Patent Owner argues, for example, that if one of the alternative grounds is better than the others, then we should only consider the stronger ground and not burden the Patent Owner and the Board with the weaker grounds. *Id.* at 4. We are unpersuaded by such arguments, because Patent Owner fails to address *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348 (2018), the subsequent “Guidance on the Impact of SAS on AIA Trial Proceedings,” issued by the Office, April 26, 2018 (“Office Guidance”), or any of the United States for the Federal Circuit cases remanding back to the Board to institute review on all *grounds*. *See, e.g., Bidelivery Scis. Int’l, Inc. v. Aquestive Therapeutics, Inc.*, 898 F.3d 1205 (Fed. Cir. 2018).

J. Constitutional Challenge to Inter Partes Review

Patent Owner contends, in a pending appeal to the Federal Circuit, *Polaris Innovations Ltd. v. Kingston Technology*, the patent owner Polaris argued that the Board’s appointments of administrative patent judges is unconstitutional, and that their decisions must be set aside. Prelim. Resp. 17. “Patent Owner . . . adopts this constitutional challenge . . . to ensure the issue is preserved pending the appeal.” *Id.*

The Board previously has declined to consider constitutional challenges because “generally, ‘administrative agencies do not have jurisdiction to decide the constitutionality of congressional enactments.’”

Square Inc. v. Unwired Planet LLC, Case IPR2014-01165, slip op. at 25 (PTAB Oct. 30, 2015) (Paper 32) (quoting *Riggin v. Office of Senate Fair Emp't Practices*, 61 F.3d 1563, 1569 (Fed. Cir. 1995)). We likewise decline to consider the merits of Patent Owner's constitutional challenge.

III. CONCLUSION

For the foregoing reasons, we determine that the information presented establishes a reasonable likelihood that Petitioner would prevail in showing at least one of claims 1–20 of the '925 patent are unpatentable under 35 U.S.C. § 103(a).

IV. ORDER

Accordingly, it is:

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review is hereby instituted as to claims 1–20 of the '925 patent on the grounds set forth in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial; the trial will commence on the entry date of this decision.

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For PETITIONER:

Brian Erickson
James M. Heintz
DLA PIPER LLP (US)
brian.erickson@dlapiper.com
jim.heintz@dlapiper.com

For PATENT OWNER:

Ryan Loveless
Brett Mangrum
James Etheridge
Jeffrey Huang
ETHERIDGE LAW GROUP
ryan@etheridgelaw.com
brett@etheridgelaw.com
jim@etheridgelaw.com
jeff@etheridgelaw.com