

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DISH NETWORK CORPORATION, DISH DBS CORPORATION,
DISH NETWORK L.L.C., ECHOSTAR CORPORATION, and
ECHOSTAR TECHNOLOGIES L.L.C.,
Petitioner,

v.

CRFD RESEARCH, INC.,
Patent Owner.

Case IPR2015-00627
Patent 7,191,233 B2

Before JUSTIN T. ARBES, THOMAS L. GIANNETTI, and
CHARLES J. BOUDREAU, *Administrative Patent Judges*.

ARBES, *Administrative Patent Judge*.

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

I. BACKGROUND

Petitioners DISH Network Corporation, DISH DBS Corporation, DISH Network L.L.C., EchoStar Corporation, and EchoStar Technologies L.L.C. (collectively, “Petitioner”) filed a Petition (Paper 1, “Pet.”) seeking *inter partes* review of claims 1, 4, 23, and 25 of U.S. Patent No. 7,191,233 B2 (Ex. 1001, “the ’233 patent”) pursuant to 35 U.S.C. §§ 311–319. On June 3, 2015, we instituted an *inter partes* review of claims 1, 4, 23, and 25 on four grounds of unpatentability (Paper 9, “Dec. on Inst.”). Patent Owner CRFD Research, Inc. filed a Patent Owner Response (Paper 14, “PO Resp.”), and Petitioner filed a Reply (Paper 16, “Reply”). An oral hearing was held on January 19, 2016, and a transcript of the hearing is included in the record (Paper 23, “Tr.”).

We have jurisdiction under 35 U.S.C. § 6(c). This final written decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 4, 23, and 25 are unpatentable.

A. *The ’233 Patent*¹

The ’233 patent describes a system and method for “user-directed transfer of an on-going software-based session from one device to another

¹ The ’233 patent also is the subject of Cases IPR2015-00055 and IPR2015-00259, in which *inter partes* reviews were instituted, and was the subject of Case IPR2015-00157, in which the request for *inter partes* review was denied. On April 22, 2016, we issued a final written decision in Case IPR2015-00055 determining that claims 1, 4–6, and 8–11 of the ’233 patent had been shown to be unpatentable.

device.” Ex. 1001, col. 1, ll. 8–11. A user may have a number of communication-enabled devices (e.g., cellular telephone, wireless personal digital assistant (PDA), laptop computer, desktop computer) through which the user conducts software application sessions. *Id.* at col. 1, ll. 15–52. The user may conduct a session on one device and then decide to switch to another device. *Id.* at col. 1, ll. 53–59. For example, the user may want to switch from a stationary device to a mobile device, or to switch to a device with a different graphical user interface. *Id.* According to the ’233 patent, conventional systems that required the user to “discontinue the current session on the first device and reinitiate a new session on the second device” could entail inconveniences such as the history of the original session being lost or time delays involved in logging off and reinitiating. *Id.* at col. 1, ll. 59–66.

Figure 1 of the ’233 patent is reproduced below.

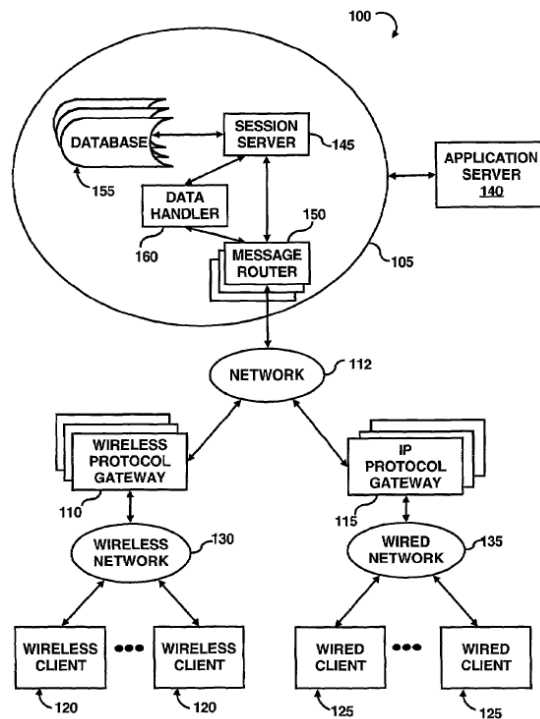


Fig. 1

Figure 1 depicts wireless clients 120 (e.g., a cellular telephone or PDA) and wired clients 125 (e.g., a desktop or laptop computer) of a user that connect over various networks to application services network 105. *Id.* at col. 4, ll. 4–11, 30–33, col. 5, ll. 3–6. Wireless clients 120 and wired clients 125 execute client programs that support session services for the respective devices, and are “configured to have a preferred mode of interaction, i.e., modality,” such as a graphical user interface for transferring sessions between devices. *Id.* at col. 4, ll. 33–50. Application services network 105 provides session-based services (e.g., instant messaging, database querying), and application server 140 provides applications for those services (e.g., instant messaging application, database querying application), to wireless clients 120 and wired clients 125. *Id.* at col. 5, ll. 21–30.

The ’233 patent describes the method of session transfer as follows: (1) a “redirect or transfer command” is sent from a first device (wireless client 120 or wired client 125); (2) session server 145 begins intercepting messages destined for the first device; (3) the first device transmits a “transaction or session history” to session server 145; (4) session server 145 retrieves the previously stored “device profile” of the second device to which the session is to be redirected, “convert[s] the stored messages [of the session history] into a data format” and/or modality compatible with the second device, and converts the “state” of the session to a state compatible with the second device; and (5) when the user activates the second device, session server 145 “pushes the converted session to the redirected device over the network 100 as a normal session with the converted transaction log.” *Id.* at col. 7, l. 46–col. 8, l. 58, Figs. 3A–3B.

B. Illustrative Claim

Claim 1 of the '233 patent recites:

1. A method for redirecting an on-going, software based session comprising:

conducting a session with a first device;

specifying a second device;

discontinuing said session on said first device; and

transmitting a session history of said first device from said first device to a session transfer module after said session is discontinued on said first device; and

resuming said session on said second device with said session history.

C. Prior Art

The pending grounds of unpatentability in the instant *inter partes* review are based on the following prior art:

U.S. Patent No. 6,963,901 B1, filed July 24, 2000, issued Nov. 8, 2005 (Ex. 1004, "Bates");

Mun Choon Chan & Thomas Y. C. Woo, *Next-Generation Wireless Data Services: Architecture and Experience*, IEEE PERS. COMM., Feb. 1999, 20 (Ex. 1005, "Chan");

Thomas Phan et al., *A New TWIST on Mobile Computing: Two-Way Interactive Session Transfer*, PROC. SECOND IEEE WORKSHOP ON INTERNET APPLICATIONS (WIAPP 2001) (Ex. 1019, "Phan San Jose"); and

Thomas Phan et al., *Handoff of Application Sessions Across Time and Space*, IEEE INT'L CONF. ON COMM. (ICC 2001) (Ex. 1020, "Phan Helsinki").²

² Petitioner refers to Phan San Jose as "Phan WIAPP," and refers to Phan Helsinki as "Phan ICC." Because the two references were discussed

D. Pending Grounds of Unpatentability

The instant *inter partes* review involves the following grounds of unpatentability:

Reference(s)	Basis	Claim(s)
Phan Helsinki	35 U.S.C. § 102(a)	1, 4, 23, and 25
Phan Helsinki and Phan San Jose	35 U.S.C. § 103(a)	4 and 25
Bates	35 U.S.C. § 102(e)	1 and 23
Bates and Chan	35 U.S.C. § 103(a)	1, 4, 23, and 25

II. ANALYSIS

A. Claim Interpretation

The Board interprets claims using the “broadest reasonable construction in light of the specification of the patent in which [they] appear[.]” 37 C.F.R. § 42.100(b); *see In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1278–79 (Fed. Cir. 2015), *cert. granted sub nom. Cuozzo*

previously in Case IPR2015-00055, we use the same nomenclature as the earlier proceeding for consistency. The copies of Phan San Jose and Phan Helsinki submitted by Petitioner include Library of Congress date stamps of August 28, 2001, and July 31, 2001, respectively. Petitioner argues that the references were publicly available “at least as early as” August 18, 2001 (presumably August 28, 2001), and July 31, 2001, respectively. Pet. 3. Patent Owner does not dispute Petitioner’s contentions. Based on the record presented, we are persuaded that Phan San Jose and Phan Helsinki are prior art printed publications under 35 U.S.C. § 102(a). *See Kyocera Wireless Corp. v. ITC*, 545 F.3d 1340, 1350–51 (Fed. Cir. 2008). Also, when citing Phan San Jose and Phan Helsinki, we refer to the page numbers added by Petitioner in the bottom-right corner of each page. *See* 37 C.F.R. § 42.63(d)(2).

Speed Techs. LLC v. Lee, 136 S. Ct. 890 (mem.) (2016). Under this standard, we interpret claim terms using “the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant’s specification.” *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). We presume that claim terms have their ordinary and customary meaning. *See Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016) (“Under a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history.”); *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007) (“The ordinary and customary meaning is the meaning that the term would have to a person of ordinary skill in the art in question.” (internal quotation marks omitted)). A patentee, however, may rebut this presumption by acting as his or her own lexicographer, providing a definition of the term in the specification with “reasonable clarity, deliberateness, and precision.” *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

1. Previously Interpreted Terms

In the Decisions on Institution in Cases IPR2015-00055, IPR2015-00157, IPR2015-00259, and IPR2015-00627, we interpreted various claim terms of the ’233 patent as follows:

Claim Term	Interpretation
“modality”	a preferred mode of interaction

Claim Term	Interpretation
“device profile”	information pertaining to the operation of a device, such as the data format or modality of the device
“in response to . . . activation of said second device”	in response to the second device being made active, such as by a user logging on to the second device
“session”	a series of information transactions between communicating devices during a particular time period
“discontinuing”	terminating or otherwise stopping, with the ability to be resumed
“discontinued”	terminated or otherwise stopped, with the ability to be resumed
“session transfer module”	computer hardware and/or software that participates in the transfer of a session

See Dec. on Inst. 6–9; *Hulu, LLC v. CRFD Research, Inc.*, Case IPR2015-00259, slip op. at 6–9 (PTAB June 3, 2015) (Paper 8); *Unified Patents Inc. v. CRFD Research, Inc.*, Case IPR2015-00157, slip op. at 6–9 (PTAB Apr. 30, 2015) (Paper 8); *Iron Dome LLC v. CRFD Research, Inc.*, Case IPR2015-00055, slip op. at 6–10 (PTAB Apr. 27, 2015) (Paper 10). The parties do not dispute these interpretations in their Patent Owner Response and Reply. We do not perceive any reason or evidence that compels any deviation from these interpretations. Accordingly, we adopt our previous analysis for purposes of this Decision. We also interpret one other limitation.

2. Ordering of the “Specifying” Step³

Although the parties do not address specifically how “specifying a second device” in claims 1 and 23 should be interpreted, the parties disagree as to whether the step must occur in a specific order with respect to the step of “discontinuing said session on said first device.” Patent Owner argues in its Response that Phan Helsinki, in describing the “pull mode” that is further explained in Phan San Jose, fails to disclose the “specifying” step because the user merely clicks “Suspend” to discontinue the session and then chooses a particular device on which to resume the session at a later time. PO Resp. 16–31. At the hearing, Patent Owner argued that the “specifying” step must occur before the “discontinuing” step, and that it must be the user or the first device that performs the specifying, citing as support an embodiment described in the Specification of the ’233 patent. Tr. 21:1–23:18. Petitioner disagreed, arguing that nothing in the claim language itself requires the “specifying” step to occur before the “discontinuing” step. Reply 4–5; Tr. 18:1–22. We agree with Petitioner.

To determine whether the steps of a method claim that do not otherwise recite an order must nonetheless be performed in a particular order, we first “look to the claim language to determine if, as a matter of logic or grammar, they must be performed in the order written.” *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1369 (Fed. Cir. 2003). “If not, we next look to the rest of the specification to determine whether it ‘directly or

³ In the final written decision in Case IPR2015-00055, we interpreted claim 1 not to require that the “specifying” step take place before the “discontinuing” step. *Iron Dome LLC v. CRFD Research, Inc.*, Case IPR2015-00055, slip op. at 8–10 (PTAB Apr. 22, 2016) (Paper 30). Our analysis herein is similar to that in Case IPR2015-00055.

implicitly requires such a narrow construction.” *Id.* at 1370 (citation and emphasis omitted); *see also Mformation Techs., Inc. v. Research In Motion Ltd.*, 764 F.3d 1392, 1398–99 (Fed. Cir. 2014) (“a claim ‘requires an ordering of steps when the claim language, as a matter of logic or grammar, requires that the steps be performed in the order written, or the specification directly or implicitly requires’ an order of steps” (citation omitted)).

Claims 1 and 23 require certain steps to be performed before others. For example, the “transmitting” step must take place “*after* said session is discontinued on said first device” (emphasis added). Likewise, “conducting a session with a first device” logically must take place before “discontinuing said session on said first device.” There is nothing in the language of the claims, however, expressly requiring “specifying a second device” to take place before “discontinuing said session on said first device” or requiring such an order as a matter of logic or grammar. *See Altiris*, 318 F.3d at 1370–71 (concluding that the claim at issue required “several of the steps” to take place in order, but not the particular step argued by the plaintiff). The “discontinuing” step, as well as the subsequent “transmitting” step, do not even refer to the second device.

Thus, we look to the Specification to determine whether it expressly or implicitly requires a particular order. The Specification discloses that “[t]he client software of the wireless/wired client devices, 120 and 125 may be . . . configured to provide a selection of devices that a transferring session may be redirected thereto,” and “[t]he selection of the redirected device may . . . be forwarded from the user of a wireless/wired client device, 120 and 125 to the session server [145].” Ex. 1001, col. 4, ll. 53–61. Also, as shown in Figures 3A and 3B, session server 145 receives a “redirect or transfer

command” from the first client device (step 305) before it begins intercepting messages destined for the first client device (step 310) and “access[es] the device profile of the selected second client (or redirected device)” (step 320). *Id.* at col. 7, l. 49–col. 8, l. 13. These portions of the Specification, however, describe only “exemplary” embodiments of the invention. *Id.* at col. 4, ll. 4–6, col. 7, ll. 46–49. They do not show, expressly or implicitly, that the “specifying” step of the claims must occur before the “discontinuing” step. Moreover, the Specification indicates the opposite, stating that “although the method of the present invention has been described by examples, the steps of the method may be performed in a different order than illustrated or simultaneously.” *Id.* at col. 9, ll. 22–25.

Applying the broadest reasonable interpretation of the claims in light of the Specification, we do not interpret claims 1 and 23 to require that the “specifying” step take place before the “discontinuing” step.

B. Grounds Based on Phan Helsinki and Phan San Jose

Petitioner argues that claims 1, 4, 23, and 25 are anticipated by Phan Helsinki under 35 U.S.C. § 102(a), and that claims 4 and 25 are unpatentable over Phan Helsinki and Phan San Jose under 35 U.S.C. § 103(a), relying on the supporting testimony of W. Leo Hoarty. Pet. 40–56 (citing Ex. 1018).⁴ We have reviewed the Petition, Patent Owner Response, and Reply, as well

⁴ In numerous paragraphs of his Declaration, Mr. Hoarty repeats the testimony of Mark Claypool, Ph.D., from Case IPR2015-00259, states that he agrees with Dr. Claypool’s analysis and conclusions, and adopts them “as [his] own.” *See, e.g.*, Ex. 1018 ¶¶ 43, 52, 55–64. Petitioner filed a copy of Dr. Claypool’s declaration from Case IPR2015-00259 in this proceeding as Exhibit 1003.

as the evidence discussed in each of those papers, and are persuaded, by a preponderance of the evidence, that claims 1, 4, 23, and 25 are anticipated by Phan Helsinki, and that claims 4 and 25 are unpatentable over Phan Helsinki and Phan San Jose.

1. Phan Helsinki

Phan Helsinki describes a research project called the “Interactive Mobile Application Support for Heterogeneous Clients (iMASH),” which allows medical practitioners at a hospital to use different types of devices (e.g., desktop computers, PDAs) and “experience uninterrupted and seamless data access across multiple devices by performing application session handoff.” Ex. 1020, 7 (emphasis omitted). The system provides for session handoff by placing a set of middleware servers between the client devices and the application server, storing state data on the middleware servers for the user’s session on a first device (e.g., user preferences, URL history), and transferring the data to the second device upon session handoff. *Id.* at 8–10. Figure 1 of Phan Helsinki is reproduced below.

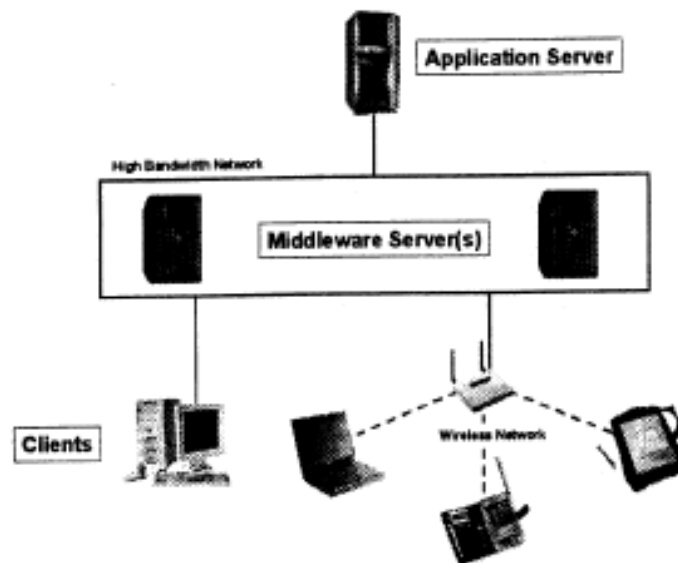


Figure 1 depicts wired and wireless client devices, a “distributed set of middleware servers” that is “the source for all services for clients,” and an application server. *Id.* at 8. A client device “contacts only the local middleware server for all services,” and the middleware server “takes responsibility for getting the data from the right [application] servers, and makes necessary conversion to fit the clients’ needs.” *Id.* at 9. Figure 2 of Phan Helsinki is reproduced below.

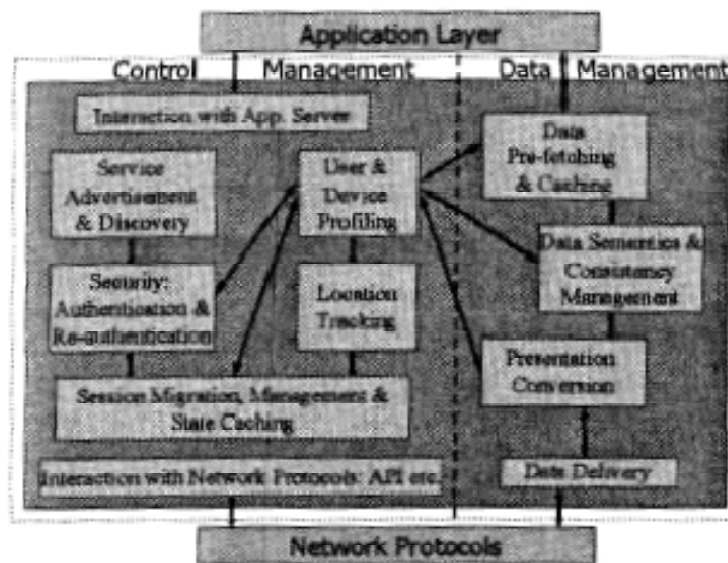


Figure 2 depicts functionality provided by the middleware server, such as user authentication and profiling, data caching, and presentation conversion (i.e., converting data for the particular client device requesting it). *Id.* “When a user moves an on-going application session from one device to another, middleware servers act as a ‘home’ for the application state (including active connections, cached data, etc.) to facilitate migration between devices.” *Id.*

Phan Helsinki also describes the “Middleware-Aware Remote Code” (MARC) on the client device that facilitates “session saving and

restoration,” and the process by which a session is transferred using MARC and a web browser. *Id.* at 9–10. Specifically, Phan Helsinki describes the following steps:

1. The user starts the client application and provides it with a unique user id.

2. The MARC within the application discovers and contacts the middleware server using Jini and begins a new session using the user id. The last saved state, if it exists, is retrieved from the middleware server. This step uses Java [Remote Method Invocation (RMI)] to acquire the most recently saved bookmarks, history, and user preferences, all of which are stored on and transported from the middleware as serialised Java Objects.

3. The returned data from the middleware is received by the MARC and then incorporated into the client before the user’s current interactive application session begins. Within Mozilla, the data is deserialised by the MARC and then read into Mozilla’s bookmark, history, and user preference dataspace. . . .

4. As the user changes the current session state, the state is updated at the middleware server at the appropriate times. For example, whenever Mozilla flushes the bookmarks to disk, our MARC will also transmit this data to the middleware via RMI.

5. When the user exits the session, the client updates the state at the middleware. Because Mozilla flushes all data upon exiting, our MARC likewise updates data on the middleware.

Id. at 10.

2. *Phan San Jose*

Phan San Jose pertains to the same iMASH research project as Phan Helsinki, and explains how the system allows physicians and staff at a hospital to use different types of devices (e.g., desktop and laptop

computers, display tablets) and “seamlessly move an application’s session from one machine to another machine” using the hospital’s “network as a conduit.” Ex. 1019, 5.

Phan San Jose describes how the system could be used with a “Teaching File” Java applet that displays medical images and associated information, and allows users to create and modify instructional “teaching files.” *Id.* at 10. In the Teaching File implementation, when a user requests a teaching file, the application server (AS) sends the image file (stored in the system’s proprietary picture archiving and communication system (PACS) image format) to the middleware server (MWS). *Id.* at 10–11. The MWS then “performs the image assembly on behalf of the client, including the conversion of the proprietary PACS image to [a] Java Image and the manipulation of that image according to the teaching file state description.” *Id.* at 11. Phan San Jose describes two ways of performing the session handoff. *Id.* In the “pull” mode, “the user selects a ‘Suspend’ operation, his session shall be saved back to the MWS, allowing the application to terminate, and at a later time the session can be reinstantiated by the Teaching File application running on the target machine.” *Id.* In the “push” mode, “the user can select the hostname of the target from a list.” *Id.* “When the handoff occurs, the MWS will contact a daemon running on the target machine to immediately launch the Teaching File applet and automatically retrieve the session state . . . [and the] applet on the first client terminates when the state is fully reinstantiated on the second client.” *Id.*

Figure 5 of Phan San Jose is reproduced below.

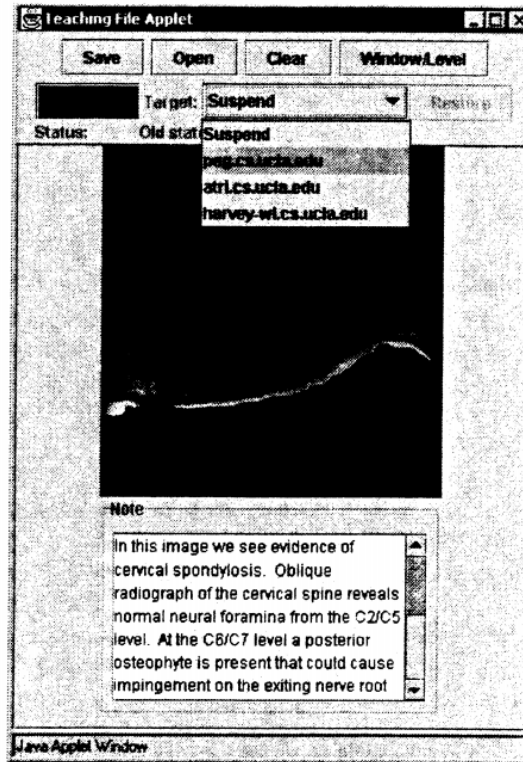


Figure 5 depicts the user interface of the Teaching File applet. *Id.* at 10. In the dropdown menu labeled “Target,” the user is able to choose “Suspend” (corresponding to the “pull” mode) or one of three hostnames to which the session may be transferred (corresponding to the “push” mode). *Id.* at 10–11.

3. Anticipation Ground (Claims 1, 4, 23, and 25)

Petitioner has presented sufficient evidence showing that Phan Helsinki discloses every limitation of claims 1, 4, 23, and 25. For example, as to claim 1, Petitioner explains how a user conducts a session with a “first device” (e.g., an office desktop computer), then discontinues the session on the “first device” by suspending the session, causing the user’s session history (e.g., bookmark list, history file, user preferences) to be transmitted

from the computer to a “session transfer module” (i.e., the middleware server), and chooses to reinstantiate the session on a “second device” (e.g., a PDA) using the previously saved session history. Pet. 40–48 (citing Ex. 1020, 8–10, Ex. 1018 ¶¶ 84, 85, 87–90).

Patent Owner makes two arguments. First, Patent Owner argues that “[t]o better understand Phan Helsinki, it is useful to first examine the teachings of Phan San Jose,” and Phan San Jose’s description of the “push” mode does not disclose “transmitting a session history of said first device from said first device to a session transfer module *after* said session is discontinued on said first device,” as recited in claim 1. PO Resp. 17–19 (emphasis added). Patent Owner cites as support testimony from Prasant Mohapatra, Ph.D., which largely repeats Patent Owner’s arguments in its Response. *See id.* (citing Ex. 2001 ¶¶ 27, 31). We do not see the relevance of Phan San Jose to Petitioner’s asserted anticipation ground, however, because the ground is based on Phan Helsinki alone. *See Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1255–56 (Fed. Cir. 1989) (“Anticipation requires that every limitation of the claim in issue be disclosed, either expressly or under principles of inherency, in a single prior art reference.”). The parties agree that Phan Helsinki and Phan San Jose both describe a “pull” mode, which is different from the “push” mode that also is disclosed in Phan San Jose. *See* PO Resp. 12, 17, 22–23, 29; Ex. 2004, 67:23–68:5 (Petitioner’s declarant, Mr. Hoarty, testifying that he “believe[s] that the skilled person would perceive steps 1 through 3 [in Phan Helsinki] to be a pull mechanism as defined by Phan San Jose”). Patent Owner agreed at the hearing that Phan Helsinki, in describing the “pull” mode, discloses the “transmitting” step of claim 1. Tr. 24:6–15. Based on

the record presented during trial, we are persuaded that Phan Helsinki discloses the “transmitting” step recited in claim 1.

Second, Patent Owner argues that Phan Helsinki (as further explained by Phan San Jose) does not disclose “specifying a second device.” PO Resp. 8–12, 16–24 (citing Ex. 2001 ¶¶ 32–35). Patent Owner contends that in the “pull” mode described in the references, the user selects a “Suspend” operation without specifying a device on which to resume the session. *Id.* at 19–24. Selecting “Suspend” causes the session history to be sent to the middleware server, then, *later*, if the “user wishes to resume a session [on a different device], the session state is ‘pulled’ from the [middleware server].” *Id.* According to Patent Owner, there is no disclosure in the references of the second device on which the session will be resumed being “specified.” *Id.* We disagree.

As an initial matter, although we agree that Phan Helsinki and Phan San Jose pertain generally to the same system, Petitioner’s anticipation ground is based on Phan Helsinki alone. Thus, we evaluate only whether Phan Helsinki discloses, expressly or inherently, the limitations of claim 1.

To the extent Patent Owner’s argument is that Phan Helsinki does not specify a second device because the user does not identify a second device before choosing to suspend the session on the first device, we are not persuaded. As explained above, we do not agree with Patent Owner that the claim requires the “specifying” step to take place before the “discontinuing” step. *See supra* Section II.A.2. In other words, there is nothing preventing the specification of the second device from occurring after the user chooses to suspend the session on the first device, discontinuing the session and causing the session history to be transmitted to the middleware server. The

specification of the second device may take place at a later time, such as when the user chooses to resume the session on a different device.

To the extent Patent Owner's argument is that Phan Helsinki does not specify a second device at all, we also are not persuaded. Petitioner contends that the second device is specified when the user "logs on to or starts a new device to continue the session." *See* Pet. 43–45; Reply 2–5. The system described in Phan Helsinki "enable[s] a user to experience uninterrupted and seamless data access across multiple devices by performing application session handoff," i.e., from one client device (e.g., desktop computer) to another (e.g., PDA). Ex. 1020, 7–9 (emphasis omitted). "When a user changes devices or spawns a new branch of a session to a new device, the middleware server authenticates the user on the new device." *Id.* at 9. Specifically, "[w]hen the user exits the session [on a first client device], the client updates the state at the middleware." *Id.* at 10. Later, the user chooses a second client device on which to resume the session, "[t]he user starts the client application [on the second client device] and provides it with a unique user id," the second client device retrieves the session state from the middleware server, and the session continues. *Id.*

Petitioner's contention that the second device in Phan Helsinki is specified when the user takes action on the second device to resume the session (e.g., logging on or starting the new device) is persuasive. *See* Pet. 43–45; Reply 2–5. Claim 1 is broadly worded. It does not specify who or what does the specifying, or to whom or what the second device is specified. *See* Tr. 22:14–19 (acknowledging that "the claim language does not state explicitly who does the specifying"). The claim only requires that the second device be specified. Phan Helsinki discloses that the user

chooses a device on which he or she wants to resume the session and takes action on that device to do so, which causes the client application on the second device to communicate with the middleware server to retrieve the session state. We are persuaded that this constitutes “specifying” the second device. Indeed, Patent Owner’s declarant, Dr. Mohapatra, acknowledged that in the “pull” mode of Phan Helsinki and Phan San Jose, the “[s]econd device is specified at some point in time.” Ex. 1027, 67:19–24.

Dr. Mohapatra appears to disagree that Phan Helsinki discloses the “specifying” step only to the extent that “specifying” the second device must occur before “discontinuation” of the session on the first device. *Id.* at 42:9–17. As explained above, however, we do not agree with Patent Owner that the claim requires such ordering. *See supra* Section II.A.2.

Patent Owner argued at the hearing that at the time of resuming the session on the second device, the middleware server only knows the identity of the user (via the user logging on and providing a unique user ID to the second device), but identifying a user is not the same as specifying a device. Tr. 21:10–14. Patent Owner further argued that the middleware server may not know the address (e.g., IP address) to which to send the session state because the device may be behind a firewall. *Id.* at 23:8–18.

Patent Owner’s arguments are not persuasive. First, as explained above, we do not see anything in the claim that would prohibit the user from specifying a second device by taking action on that particular device (as opposed to a different device) to resume the session. Second, even if the second device had to be specified to the middleware server, the middleware server in Phan Helsinki must receive enough information from the second device to be able to distinguish the chosen second device from other

potential devices, even if only by virtue of the second device's association with a user account; otherwise, the middleware server would not be able to transmit the session history to the second device. *See* PO Resp. 22 (acknowledging that the client devices involved in the session communicate with the middleware server); Ex. 1020, 8–10 (describing how the middleware server is able to communicate with both the first client device and the second client device); Ex. 1027, 41:11–42:2 (Dr. Mohapatra acknowledging that “to resume at that second device, the MARC server would need to know the IP address of the second device in order to send the session information from the MARC server to the second device,” and “the MARC server would learn the IP address of the second device when the second device contacted the MARC server to request a resumption of the session”); Tr. 23:18–24:5 (characterizing Dr. Mohapatra's testimony as “a recognition that at some point the middleware server knows what the second device is”). Petitioner has provided sufficient evidence that Phan Helsinki discloses “specifying a second device,” as recited in claim 1.

As to the remaining claims, claim 23 recites similar limitations to claim 1. Claim 4 recites “accessing a device profile of said second device” and “restructuring said session data⁵ to conform with said device profile of said second device,” and claim 25 recites similar limitations. Petitioner cites

⁵ Claim 1 refers to a “session history” rather than “session data.” Based on how the terms are used in the claims, and how “session history” is used in the Specification, we conclude that a person of ordinary skill in the art would understand the terms to refer to the same thing. *See, e.g.*, claims 1 (“resuming said session on said second device with said session history”), 4 (“restructuring said session data to conform with said device profile of said second device”), 8 (“reformatting said session history of said session to conform with said device profile of said second device”).

Phan Helsinki's disclosure of "[d]evice profiling" functionality in the middleware server and Phan Helsinki's disclosure of "[p]resentation conversion" where "[m]iddleware servers fetch data based on user requests . . . and perform conversion as needed." *See* Ex. 1020, 9; Pet. 48–51 (citing Ex. 1018 ¶ 92). Patent Owner disputes only the "specifying" step of claims 1 and 23, and we are not persuaded for the reasons explained above. *See* PO Resp. 16–24. Based on the record presented during trial, Petitioner has presented sufficient evidence showing that Phan Helsinki discloses every limitation of claims 4, 23, and 25.

Based on all of the evidence of record, we determine that Petitioner has shown, by a preponderance of the evidence, that claims 1, 4, 23, and 25 are anticipated by Phan Helsinki under 35 U.S.C. § 102(a).

4. Level of Ordinary Skill in the Art

Section 103(a) forbids issuance of a patent when "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains."

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007) (quoting 35 U.S.C. § 103(a)). Petitioner argues that a person of ordinary skill in the art would have had "either (1) a Bachelor of Science in Computer Science, Computer Engineering, Electrical Engineering, or an equivalent field as well as at least 2 years of academic or industry experience in the software field or (2) at least four years of industry experience in the field of the '233 Patent," citing the testimony of Mr. Hoarty. Pet. 20 (citing Ex. 1018 ¶¶ 48–50).

Dr. Mohapatra similarly testifies that a person of ordinary skill in the art

would have had “a Bachelor of Science degree in computer science or computer engineering with approximately 2 years of practical work experience or post-graduate research in a field such as computer networking and/or distributed systems.” Ex. 2001 ¶ 11. Based on our review of the ’233 patent, the types of problems and solutions described in the ’233 patent and cited prior art, and the testimony of the parties’ declarants, we conclude that a person of ordinary skill in the art would have had a bachelor’s degree in computer science or computer engineering (or its equivalent), and at least two years of experience with computer networking, distributed systems, or similar fields. *See, e.g.*, Ex. 1001, col. 1, ll. 5–67 (disclosing that “[t]he invention generally relates to session management in a distributed computer network,” and describing issues in the prior art when a user has “several communication-enabled devices” and wants to switch between them). We apply this level of ordinary skill in the art for purposes of this Decision.

5. Obviousness Ground (Claims 4 and 25)

Petitioner has presented sufficient evidence that the combination of Phan Helsinki and Phan San Jose teaches all of the limitations of claims 4 and 25, and that a person of ordinary skill in the art would have considered their teachings regarding the same research project together and combined their teachings. *See* Pet. 51–56. For example, with respect to claim 4, which recites “accessing a device profile of said second device” and “restructuring said session data to conform with said device profile of said second device,” Petitioner cites Phan San Jose’s disclosure of content adaptation of data based on a device profile for a particular client device. *See id.*; Ex. 1019, 7–9 (“[O]ur system is designed to allow for the filtration, or content

adaptation, of data sent from the MWS to the various clients. We can specify the client's characteristics in a device profile that will be made available to the MWS.”). Petitioner contends that a person of ordinary skill in the art would have combined the teachings of Phan Helsinki and Phan San Jose because together they describe the same system, they are directed to the same problem, and a person of ordinary skill in the art would have understood that including content adaptation, as described in Phan San Jose, would have been an improvement to the disclosed system. *See* Pet. 51–56 (citing Ex. 1018 ¶¶ 93–97, 102–103). Claim 25 recites a similar limitation to claim 4.

Patent Owner argues that both references fail to teach or render obvious the step of “specifying a second device” in claim 1, and that a person of ordinary skill in the art would not have combined the ordering of steps from the “push” mode in Phan San Jose with the “pull” mode disclosure of Phan Helsinki. PO Resp. 24–31. As explained above, we are persuaded that Phan Helsinki alone discloses “specifying a second device,” which need not occur before the “discontinuing” step. *See supra* Sections II.A.2, II.B.3. Patent Owner's argument as to the challenged claims depending from claims 1 and 23, therefore, is not persuasive.

Based on all of the evidence of record, we determine that Petitioner has shown, by a preponderance of the evidence, that claims 4 and 25 are unpatentable over Phan Helsinki and Phan San Jose under 35 U.S.C. § 103(a).

C. Grounds Based on Bates and Chan

Petitioner argues that claims 1 and 23 are anticipated by Bates under 35 U.S.C. § 102(e), and that claims 1, 4, 23, and 25 are unpatentable over Bates and Chan under 35 U.S.C. § 103(a). Pet. 24–40. We have reviewed the Petition, Patent Owner Response, and Reply, as well as the evidence discussed in each of those papers, and are not persuaded, by a preponderance of the evidence, that the challenged claims are unpatentable based on either of the asserted grounds.

1. Bates

Bates describes a method of “sharing . . . browser information between at least two browser applications.” Ex. 1004, col. 1, ll. 63–66. A user may operate one browser program (e.g., Netscape Navigator) on a first client computer, and then choose to use a different browser program (e.g., Internet Explorer) on a second client computer. *Id.* at col. 4, ll. 41–47. The first client computer stores “browser information” and transmits the information to the second client computer for use with the second browser program. *Id.* at col. 4, ll. 49–61. Bates describes the browser information as “information generated during a browsing session, i.e., a period of time when the browser 240 is executing on a client computer 106 and a network connection exists between the client 106 and the network 104 allowing a user to traverse network addresses corresponding to the servers 108.” *Id.* at col. 4, ll. 61–67. For example, browser information may include a history of websites visited during a browsing session, bookmarks, cookies, and browser configurations. *Id.* at col. 4, l. 67–col. 5, l. 6.

Bates discloses various data input windows that allow the user to input parameters for the transfer. *Id.* at col. 5, l. 47–col. 8, l. 54. The user may enter “an e-mail address for a computer (e.g., a remote client computer 106) to which the browser information” will be sent. *Id.* at col. 5, ll. 51–56, Fig. 3. Bates discloses an exemplary embodiment where browser information is transmitted via email, but states that “any method or system (e.g., file transfer protocol (FTP))” may be used. *Id.* at col. 3, ll. 21–26. The user also may choose what browser information to share with the second client computer and when. *Id.* at col. 5, l. 64–col. 8, l. 54, Figs. 4, 5. Figure 5 of Bates is reproduced below.

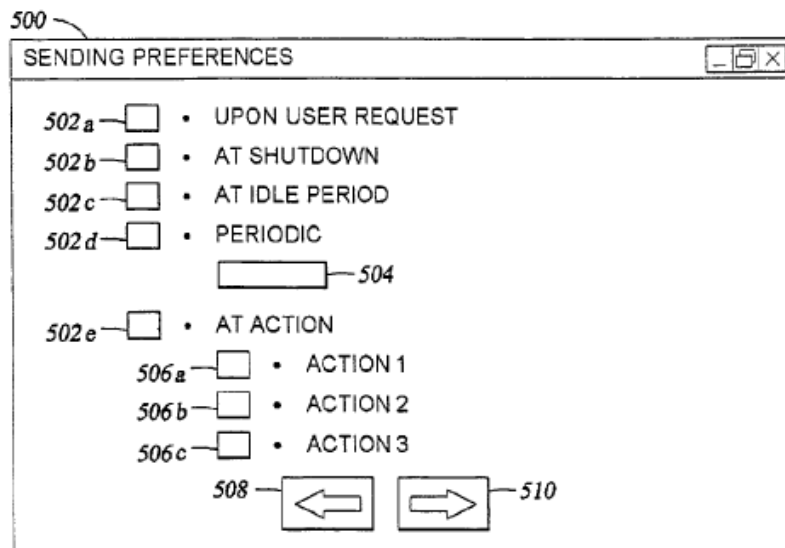


Fig. 5

Figure 5 depicts a data input window that allows a user to “select when browser information will be transmitted to a remote client computer 106,” such as upon user request, at shutdown, or when the first client computer is idle (“e.g., when the computer 106 enters a standby or hibernation mode”). *Id.* at col. 7, l. 53–col. 8, l. 5. The first client computer transmits the browser information (e.g., in an email message) to the second client computer

whenever such a “share event” occurs, and the second client computer uses the information to configure its browser program. *Id.* at col. 8, l. 55–col. 10, l. 55, Figs. 7, 8.

2. Anticipation Ground (Claims 1 and 23)

Independent claims 1 and 23 recite transmitting the session history of a first device from the first device to a session transfer module “after said session is discontinued on said first device.” Petitioner contends that Bates discloses transmitting the session history (i.e., browser information, such as website history, bookmarks, and browser configurations) after session discontinuation, citing Bates’s disclosure of “terminat[ing] the browsing session” and three “share events” shown in Figure 5: “upon user request,” “at shutdown,” and “at idle period.” Pet. 26–31. Specifically, Petitioner argues that

Figure 5 of Bates discloses that a user may choose when to send the browser information (i.e., the session history), including “upon user request,” “at shutdown” or “at idle period” These time periods include time periods after discontinuation of the session on the first computer. “At shutdown” on the first computer, the session is “discontinued” because it would be stopped, but could be resumed. A session entering an “idle period” on the first computer would also be “discontinued” because it would be stopped, but could be resumed. Finally, the “upon user request” option of Bates allows for browser information transmission at any number of user-selected times, including after the session is discontinued on the first device.

Id. at 31 (citations and emphasis omitted). Petitioner cites the testimony of Dr. Claypool and Mr. Hoarty in support. *Id.* (citing Ex. 1003 ¶ 122, Ex. 1018 ¶¶ 63–64).

Patent Owner responds that Petitioner’s assertions as to when the three share events occur with respect to discontinuation of the session on the first client computer do not demonstrate that Bates discloses transmitting the session history “after said session is discontinued on said first device,” relying on the testimony of Dr. Mohapatra. PO Resp. 31–41 (citing Ex. 2001 ¶¶ 51–55). According to Patent Owner, transmission does not necessarily occur after discontinuation of the session in Bates, and it is equally likely that transmission occurs during a session or concurrently with the session being discontinued. *Id.* at 36–38. Patent Owner also points out that Bates describes the sequence of events in Figure 7, including the transmission of browser information (step 720), as occurring “during a browsing session”—not *after* a session is discontinued on the first client computer. *Id.* at 31–36 (citing Ex. 1004, col. 8, ll. 55–57).

Having reviewed all of the parties’ arguments and supporting evidence, we conclude that Petitioner has not shown, by a preponderance of the evidence, that Bates expressly or inherently discloses transmitting the session history “after said session is discontinued on said first device.” *See Corning*, 868 F.2d at 1255–56 (Fed. Cir. 1989) (“Anticipation requires that every limitation of the claim in issue be disclosed, either expressly or under principles of inherency, in a single prior art reference.”).

We begin by noting that there is nothing in Bates explicitly disclosing when the alleged “session” ends. Bates, however, does disclose what occurs *during* a “session.” The term “session” in the claims means a series of information transactions between communicating devices during a particular time period. *See supra* Section II.A.1. Bates uses the slightly different term “browsing session,” which it defines as the “period of time when the

browser 240 is executing on a client computer 106 and a network connection exists between the client 106 and the network 104 allowing a user to traverse network addresses corresponding to the servers 108.” Ex. 1004, col. 4, ll. 61–67. Thus, the “browsing session” in Bates is the period of time when the browser program is “executing” on the client computer and the client computer has an open connection to the network servers with which it is communicating. During this time, the client computer in Bates generates browser information in response to user input (e.g., by creating a history of websites visited by the user). *See id.* at Abstract (“A first browser executing on a first computer generates browser information in response to user input.”), col. 9, ll. 17–46 (describing the generation and storage of browser information in buffer 242), col. 2, ll. 2–10 (reciting “generating the user-configured browser information during execution of a first network browser on a first computer in response to user-input commands”), claim 1 (same). Accordingly, the alleged “session” in Bates (i.e., the series of information transactions between communicating devices) occurs during the time period of what Bates refers to as the “browsing session.”⁶

⁶ We do not agree with Petitioner that the term “browsing session” in Bates is “broader” than “session” in the claims. *See* Reply 11. The terms are directed to different concepts (“browsing session” referring to a period of time and “session” referring to a series of information transactions), and it cannot be said that one is “broader” than the other. Rather, a “session” occurs during the “browsing session” period of time. Nor do we agree with Petitioner that “Bates’s ‘browsing session’ . . . spans the time when there is a network connection between the client and servers,” so “Bates’s ‘browsing session’ may therefore span several claimed ‘sessions.’” *See id.* Bates discloses that the “browsing session” is the period of time when a connection exists *and* the browser program is executing. Ex. 1004, col. 4, ll. 61–67. Petitioner’s argument ignores the latter.

Figure 7 of Bates depicts the steps performed by the client computer “during a browsing session,” *id.* at col. 8, ll. 55–57, and is reproduced below.

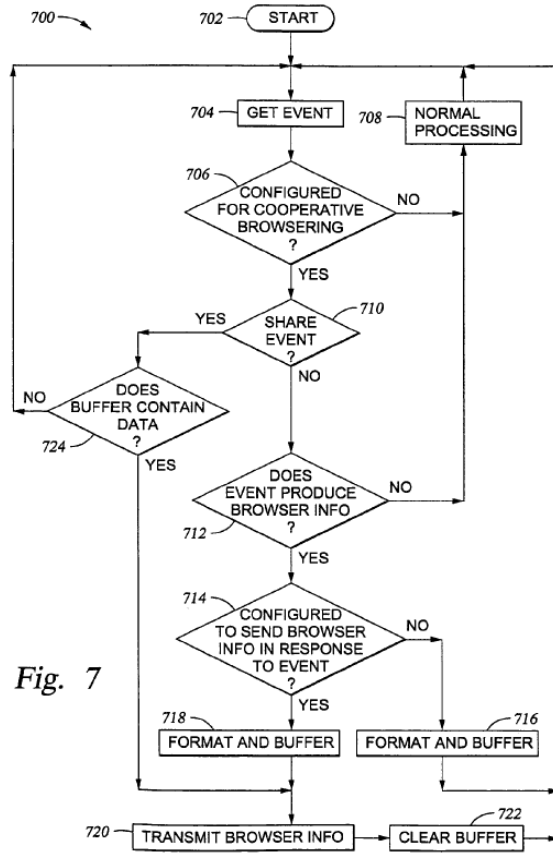


Fig. 7

As shown in Figure 7, the client computer begins processing an event at step 704, determines whether the event is a share event (e.g., “upon user request,” “at shutdown,” or “at idle period”) at step 710, and transmits the browser information at step 720. *Id.* at col. 8, l. 55–col. 9, l. 37. Thus, we agree with Patent Owner and Dr. Mohapatra that transmission of the session history in Bates occurs *during* the session, not *after* the session is discontinued as required by the claims. *See* PO Resp. 31–36; Ex. 2001 ¶¶ 50–51.

Petitioner also argues that the following disclosure in Bates discloses the required session discontinuation:

[C]onsider a user reading messages posted on a bulletin board, inputting data into a web page or performing some other task during a browsing session. Prior to completing the task, the user may be required to terminate a browsing session. In such an event, the necessary browser information may be collected and transmitted to a remote computer containing another browser program.

Ex. 1004, col. 10, ll. 58–65; *see* Pet. 26–27. We are not persuaded that this portion of Bates implies a sequential order for the last two sentences (i.e., that the browsing session is terminated before transmission of the browser information). The fact that “the user may be required to terminate a browsing session” before completing a task does not mean necessarily that the browsing session actually is terminated at that time. To the contrary, as discussed above, Bates’s description of Figure 7 indicates that transmission of browser information occurs “during a browsing session.” *See* Ex. 1004, col. 8, l. 55–col. 9, l. 37.

Petitioner further points to the three share events themselves (“upon user request,” “at shutdown,” and “at idle period”) and argues that when they occur, transmission of the session history necessarily would be after discontinuation of the session. Pet. 31–32; Reply 9–10. Mr. Hoarty’s corresponding testimony (agreeing with Dr. Claypool’s testimony) largely repeats Petitioner’s arguments in the Petition. *See* Ex. 1018 ¶¶ 63–64. We are not persuaded. Petitioner does not explain sufficiently or point to sufficient supporting evidence showing that transmission *must* occur after discontinuing the session in any of the three cited share events in Bates, as would be required for a finding of inherency. *See MEHL/Biophile Int’l Corp. v. Milgraum*, 192 F.3d 1362, 1365 (Fed. Cir. 1999) (explaining that inherency requires that “the prior art necessarily functions in accordance

with, or includes, the claimed limitations”). In particular, Petitioner points to two portions of Dr. Mohapatra’s cross-examination testimony regarding the idle period and shutdown procedures in Bates. Reply 9–10 (citing Ex. 1027, 89:3–14, 93:13–24). As explained above, however, Petitioner does not account for the actual disclosure of Bates indicating that a “session” would occur during the “browsing session” time period, which includes transmission of the session history. *See* Ex. 1004, col. 8, l. 55–col. 9, l. 37. Further, the second question posed to Dr. Mohapatra asked what he would “expect” would happen in Bates, not what *necessarily* would happen, and so is not directly probative on the issue of inherency. *See* Ex. 1027, 93:13–24. Finally, Patent Owner explains in its Response why, for each of the three share events cited by Petitioner, it is at least equally likely that transmission occurs *before* discontinuing the session. PO Resp. 36–41. For example, Dr. Mohapatra testifies that

a transmission that occurs “immediately upon user request” is not necessarily concurrent with a transmission after a session is discontinued. User requests may occur at any time, and are especially likely to occur during a browsing session as a user comes across interesting information or performs actions that the user wishes to preserve as browsing history or other session events. Therefore, it is equally, if not more, likely that such a user request will be made (and a corresponding transmission of session state effected) while the user is engaged in a current session.

Ex. 2001 ¶ 52. We find Dr. Mohapatra’s testimony on these points persuasive and supported by the disclosure of Bates. *See id.* ¶¶ 50–55.

Based on all of the evidence of record, we are not persuaded that Bates discloses, either expressly or inherently, transmitting the session history “after said session is discontinued on said first device,” as recited in

claims 1 and 23. Accordingly, we determine that Petitioner has not shown, by a preponderance of the evidence, that claims 1 and 23 are anticipated by Bates under 35 U.S.C. § 102(e).

3. Obviousness Ground (Claims 1, 4, 23, and 25)

Independent claims 1 and 23 each recite the transmission of a session history of a first device from the first device to a session transfer module “after said session is discontinued on said first device.” Claim 4 depends from claim 1, and claim 25 depends from claim 23. In its asserted obviousness ground, Petitioner relies solely on Bates as allegedly teaching this limitation. *See* Pet. 26–31, 33–40. We are not persuaded for the reasons explained above. *See supra* Section II.C.2. Petitioner relies on Chan only for a teaching of a “session transfer module” and the limitations of the dependent claims, and does not argue that the transmission limitation is taught or suggested by the combined teachings of Bates and Chan. *See* Pet. 33–40. Accordingly, based on all of the evidence of record, we determine that Petitioner has not shown, by a preponderance of the evidence, that claims 1, 4, 23, and 25 are unpatentable over Bates and Chan under 35 U.S.C. § 103(a).

III. ORDER

Petitioner has demonstrated, by a preponderance of the evidence, that claims 1, 4, 23, and 25 are anticipated by Phan Helsinki under 35 U.S.C. § 102(a) and that claims 4 and 25 are unpatentable over Phan Helsinki and Phan San Jose under 35 U.S.C. § 103(a). Petitioner has not demonstrated, by a preponderance of the evidence, that claims 1 and 23 are anticipated by

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Bates under 35 U.S.C. § 102(e) or that claims 1, 4, 23, and 25 are unpatentable over Bates and Chan under 35 U.S.C. § 103(a).

In consideration of the foregoing, it is hereby:

ORDERED that claims 1, 4, 23, and 25 of the '233 patent have been shown to be unpatentable.

This is a final decision. Parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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PETITIONER:

Eliot D. Williams
G. Hopkins Guy, III
BAKER BOTTS L.L.P.
eliot.williams@bakerbotts.com
hop.guy@bakerbotts.com

PATENT OWNER:

Tarek N. Fahmi
Holly J. Atkinson
ASCENDA LAW GROUP, PC
tarek.fahmi@ascendalaw.com
holly.atkinson@ascendalaw.com