

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BRIGHT HOUSE NETWORKS, LLC,
WIDOPEN WEST FINANCE, LLC, KNOLOGY OF FLORIDA, INC.,
and BIRCH COMMUNICATIONS, INC.,
Petitioner,

v.

FOCAL IP, LLC,
Patent Owner.

Case IPR2016-01263
Patent 8,155,298 B2

Before SALLY C. MEDLEY, JONI Y. CHANG, and
BARBARA A. PARVIS, *Administrative Patent Judges*.

CHANG, *Administrative Patent Judge*.

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

I. INTRODUCTION

Bright House Networks, LLC, WideOpen West Finance, LLC, Knology of Florida, Inc., and Birch Communications, Inc. (collectively, “Petitioner”) filed a Petition requesting an *inter partes* review of claim 1 of U.S. Patent No. 8,155,298 B2 (Ex. 1001, “the ’298 patent”) and a Declaration of Thomas F. La Porta, Ph.D. (Ex. 1002). Paper 5 (“Pet.”). Focal IP, LLC (“Patent Owner”) filed a Preliminary Response and a Declaration of Mr. Regis J. Bates Jr. (Ex. 2001). Paper 12 (“Prelim. Resp.”). Upon consideration of the parties’ contentions and supporting evidence, we instituted an *inter partes* review pursuant to 35 U.S.C. § 314, as to claim 1 of the ’298 patent. Paper 26 (“Dec.”).

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 36, “PO Resp.”) and a second Declaration of Mr. Bates (Ex. 2022); Petitioner filed a Reply (Paper 35, “Reply”) and a second Declaration of Dr. La Porta (Ex. 1065). A transcript of the oral hearing held on September 19, 2017, has been entered into the record as Paper 65 (“Tr.”).¹

This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a). For the reasons that follow, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 1 of the ’298 patent is unpatentable.

¹ The oral arguments in the following cases were consolidated: Cases IPR2016-01259, IPR2016-01261, IPR2016-01262, and IPR2016-01263. Paper 55.

A. Related Matters

The parties indicate that the '298 patent is involved in *Patent Asset Licensing LLC v. Bright House Networks, LLC*, No. 3:15-cv-00742-J-32MCR (M.D. Fla.), and identify other related proceedings. Pet. 4–5; Paper 7, 2–3. There are other petitions challenging the '298 patent (IPR2016-01256 and IPR2016-01259) and two related patents: (1) U.S. Patent No. 7,764,777 B2 (Ex. 1006, “the '777 patent”), which issued from a divisional application of the '298 patent’s parent application; and (2) U.S. Patent No. 8,457,113 B2 (Ex. 1007, “the '113 patent”), which issued from a continuation application of the '777 patent. A final written decision is entered currently in each of the following proceedings: IPR2016-01256 and IPR2016-01259.

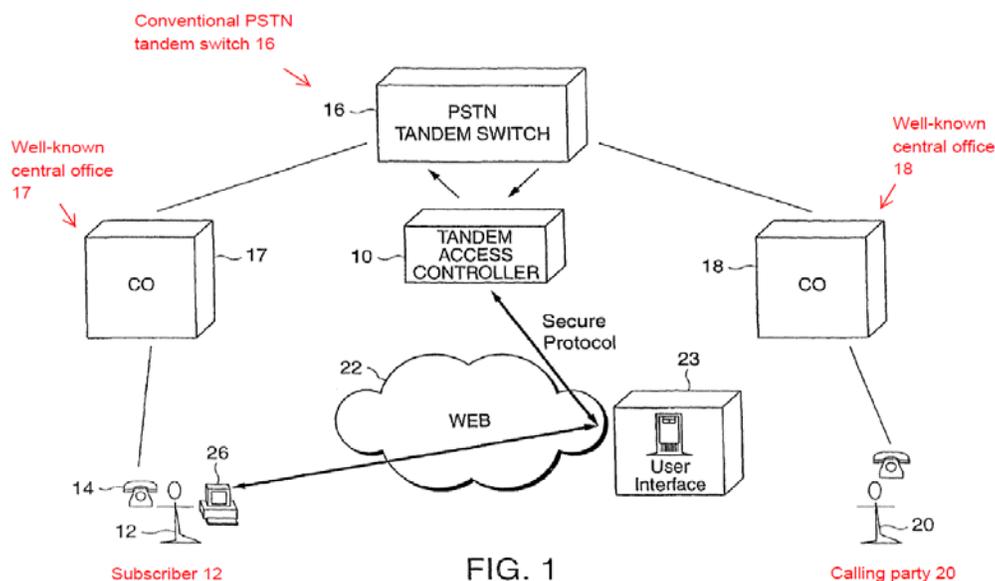
B. The '298 Patent

The '298 patent relates to telephone services. Ex. 1001, 1:20. In the background section, the '298 patent explains that the Public Switched Telephone Network (PSTN) consists of a plurality of edge switches connected to telephones on one side and to a network of tandem switches on the other. *Id.* at 1:42–44. The tandem switch network allows connectivity between all of the edge switches, and a signaling system is used by the PSTN to allow calling and to transmit both calling and called party identity. *Id.* at 1:44–48. Dr. La Porta testifies that the “PSTN had been in existence for decades and consisted of a global network of circuit switches arranged in a geographical hierarchy.” Ex. 1002 ¶¶ 54–57 (citing the ENGINEERING AND

OPERATIONS IN THE BELL SYSTEM (2nd ed. 1984) (“the Bell System Reference,” Ex. 1037)).

According to the '298 patent, at the time of the invention, there were “web-based companies managing 3rd-party call control, via the toll-switch network, which allow users to enter call control information through a web portal.” Ex. 1001, 1:31–34. “Edge devices such as phones and PBXs that include voice mail, inter-active voice response, call forwarding, speed calling, etc., have been used to provide additional call control.” *Id.* at 2:38–41.

The '298 patent discloses a system for allowing a subscriber to select telephone service features. *Id.* at 1:20–23. Figure 1 of the '298 patent is reproduced below (with annotations).



Annotated Figure 1 illustrates tandem access controller 10 connected to conventional PSTN tandem switch 16. *Id.* at 4:60–64. According to the

'298 patent, “[d]etails of the operation of the existing phone network,” including directing of phone calls by “existing” PSTN tandem switch 16 to central offices 17, 18 are further described in a publication incorporated by reference, as well as “numerous books describing the PSTN.” *Id.* at 4:60–5:4. The call flow in the network illustrated in Figure 1 with tandem access controller 10 remains the same as that in a conventional network, “except that additional 3rd-party features are applied to the call.” *Id.* More specifically, in the network illustrated in Figure 1, a call from calling party 20 to subscriber’s phone 14 is directed to tandem access controller 10, which places a second call, subject to 3rd party control information to, subscriber 12. *Id.* at 5:5–20. The second call is placed “to the subscriber’s ‘private’ phone number,” without terminating the first call. *Id.* When subscriber 12 answers the call, tandem access controller 10 connects the first call to the second call so as to connect calling party 20 to subscriber 12. *Id.*

Figure 1 also shows web server 23 within World Wide Web 22, which is connected to tandem access controller 10. *Id.* at Fig. 1. Subscriber 12 specifies 3rd-party call control features via web server 23 and these features are then relayed via World Wide Web 22 to tandem access controller 10. *Id.* at 5:33–41.

C. Challenged Claim

In the instant proceeding, Petitioner challenges only claim 1 of the '298 patent in this proceeding. Claim 1 is reproduced below.

1. A method for providing user control selections for routing of one or more communications between users of one or more

communications networks, wherein the users either 1) initiate a communication, 2) receive a communication, or 3) control a communication, the user control selections provided by a user via access to a *web server of a web-enabled processing system* connected to operate at least in part with the one or more communication networks, wherein at least one of the communication networks is *a network comprising edge switches for routing calls from and to users within a local geographic area and switching facilities for routing calls to other edge switches or other switching facilities local or in other geographic areas,*

the web server of web-enabled processing system facilitating direct access by a user for providing user control selections to the at least one of the switching facilities, the user having a communications device with which to communicate with the web server of the web-enabled processing system, the method comprising the steps of:

facilitating access by authorized users to the web-enabled processing system, via the web server,

the web-enabled processing system coupled to at least one of the switching facilities of the network, the web-enabled processing system configured to route a communication from a specific one of the users to an intended recipient of the users;

executing control criteria, via the web-enabled processing system, to control the routing of the one or more communications via the web-enabled processing system, the control criteria predetermined by the users control selections via the web server before the control criteria are executed via the web-enabled processing system,

wherein the *web-enabled processing system* is configured to perform the following operations to execute the control criteria:

first, receive a message indicating a communication request from a user initiating a communication for an intended recipient user,

E. Instituted Ground of Unpatentability

We instituted this trial based on the sole ground that claim 1 of the '298 patent is unpatentable § 103(a)² as obvious over Archer in view of Chang and the Admitted Prior Art. Dec. 16.

II. ANALYSIS

A. *Claim Construction*

In an *inter partes* review, we construe claim terms in an unexpired patent according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b). Under this standard, claim terms are presumed to have their ordinary and customary meaning as understood by a person of ordinary skill in the art in the context of the entire patent disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

1. “*switching facility*”

The preamble of claim 1 recites “a network comprising edge switches for routing calls from and to users within a local geographic area and *switching facilities* for routing calls to *other edge switches or other switching facilities* local or in other geographic areas.”³ Ex. 1001, 12:54–

² Because the claims at issue have a filing date prior to March 16, 2013, the effective date of the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), we apply the pre-AIA version of 35 U.S.C. § 103 in this Decision.

³ In this proceeding, the parties agree that the preamble should be given

12:58 (emphasis added). Apart from the claims, the term “switching facility” does not appear in the Specification. Nor does the term appear in the original disclosure of the application that issued as the ’298 patent. Rather, the term was introduced into the claims by amendment during prosecution. Ex. 1008, 97–102.

At institution, we adopted Petitioner’s proposed construction, as it is consistent with the intrinsic evidence and the plain and ordinary meaning of “switching facility,” construing the term as “any switch in the communication network.” Dec. 7–9; Pet. 34; Paper 18, 1 (Reply to Preliminary Response); Ex. 2005, 82, n.1 (Applicants defined a “switching facility” as “[a]ny point in the switching fabric of converging networks”); TELECOMMUNICATIONS: GLOSSARY OF TELECOMMUNICATION TERMS, THE FEDERAL STANDARD 1037C, S-35 (1996) (Ex. 3001, 391) (defining “switching center” and “switching facility” as synonyms that mean “a facility in which switches are used to interconnect communications circuits on a circuit-, message-, or packet-switching basis”); NEWTON’S TELECOM DICTIONARY, (15th ed. 1999) (Ex. 3002) (defining “switching centers” to refer to all five classes of switches in the PSTN)). We rejected Patent Owner’s proposed construction because it would improperly import limitations into the claim. Dec. 7–9.

patentable weight. Pet. 21–42; Prelim. Resp. 34; PO Resp. 31. For purposes of this Decision, we proceed on the assumption that it is.

In its Response, Patent Owner maintains that “switching facility” does not include an edge switch or edge device, and requires the claimed “web-enabled processing system” to be connected *directly* to a tandem switch rather than an edge switch or edge device. PO Resp. 1–35. Patent Owner argues that the claim expressly distinguishes that a “switching facility” is not an “edge switch,” and that construing “switching facility” to include “edge switch” would render the claim terms superfluous. *Id.* at 30–35. In Patent Owner’s view, Applicants of the ’298 patent “unequivocally disclaimed controllers that applied call control features through an edge switch, or controllers that were themselves an edge device, from the scope of their inventions.” *Id.* at 1–35. We disagree and address below each of Patent Owner’s arguments in turn.

First, based on the evidence before us, we decline to adopt Patent Owner’s proposed claim construction, as it would import limitations—“connecting the Tandem Access Controller (‘TAC’) to a PSTN tandem switch, rather than edge switches and edge devices”—from a preferred embodiment into the claim. *Id.* at 2, 9–10, 14–20; Ex. 1001, 1:65–66, 3:7–8, 4:15–19. Significantly, neither “Tandem Access Controller” nor “tandem switch” appears in the claim. In fact, Patent Owner admits that Applicants used “switching facility” in the claim instead of “tandem switch” to indicate that “switching facility” has broader scope than “tandem switch.” Prelim. Resp. 36.

A person of ordinary skill in the art would have understood that “switching facility” and “tandem switch” have different meanings. In the

context of telecommunication and network communication, the plain and ordinary meanings of these terms are clear—“tandem switch” refers to class 4 switches in the PSTN (Ex. 1002 ¶ 54; Ex. 2022 ¶ 36), whereas “switching facility” refers to all five classes of switches in the PSTN (Ex. 3002) or “a facility in which switches are used to interconnect communications circuits on a circuit-, message-, or packet-switching basis” (Ex. 3001, 391). This is consistent with Applicants’ definition of “switching facility”—“[a]ny point in the switching fabric of converging networks”—submitted with the Amendment that introduced the term. Ex. 2005, 82, n.1. Moreover, “the general assumption is that different terms have different meanings.” *Symantec Corp. v. Comput. Assoc. Int’l, Inc.*, 522 F.3d 1279, 1289 (Fed. Cir. 2008).

Importantly, even if we were to interpret “switching facility” as a “tandem switch,” it would not affect our obviousness analysis below because the language of claim 1 does not require a *direct* connection between the web-enabled processing system and a switching facility. Indeed, claim 1 recites “the web-enabled processing system *coupled to* at least one of the switching facilities of the network.” Ex. 1001, 12:65–67 (emphasis added). For the reasons stated below, we decline to construe “coupled to” restrictively to require the processing system to be connected *directly* to a tandem switch in the network, as urged by Patent Owner.

As our reviewing court has explained, “each claim does not necessarily cover every feature disclosed in the specification,” and “it is improper to limit the claim to other, unclaimed features.” *Ventana Med.*

Sys., Inc. v. BioGenex Labs., Inc., 473 F.3d 1173, 1181 (Fed. Cir. 2006). Furthermore, the court “has repeatedly cautioned against limiting the claimed invention to preferred embodiments or specific examples in the specification.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1346–47 (Fed. Cir. 2015); *SuperGuide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) (noting that “it is important not to import into claim limitations that are not a part of the claim”). “[I]t is the *claims*, not the written description, which define the scope of the patent right.” *Williamson*, 792 F.3d at 1346–47; *see also Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (noting that “[i]t is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude”).

Second, we are not persuaded by Patent Owner’s arguments that the claims expressly distinguish that a “switching facility” is not an “edge switch,” and that construing “switching facility” to include “edge switch” would render the claim terms superfluous. PO Resp. 30–35; Ex. 2022 ¶¶ 61–65. Patent Owner’s arguments fail to appreciate that claim 1 sets forth two separate functional requirements: (1) “edge switches for *routing calls from and to users* within a local geographic area”; and (2) “switching facilities for *routing calls to other edge switches or other switching facilities* local or in other geographic areas.” Ex. 1001, 12:54–58 (emphases added). The evidence before us shows that edge switches can perform the function recited in the first claim element, as well as “routing calls to other edge switches or other switching facilities local” geographic areas, as recited in

the second claim element. Ex. 1002 ¶¶ 54–56. The two terms, “edge switches” and “switching facilities,” are not mutually exclusive, but rather “switching facilities” encompasses all five classes of switches in the PSTN, including an edge switch. Ex. 3001, 391; Ex. 3002; Ex. 2005, 82, n.1.

Notably, an ordinarily skilled artisan would have recognized that an edge switch can route calls to other edge switches directly via a direct trunk group or indirectly through a tandem switch, and to other switching facilities (e.g., a tandem switch). Ex. 1002 ¶¶ 54–56; Ex. 1037, Fig. 4-3. Dr. La Porta’s testimony regarding background information on the PSTN (Ex. 1002 ¶¶ 54–56) cites to Figure 4-4 of the Bell System reference (Ex. 1037, 111, Fig. 4-4), which is reproduced below (with highlighting added).

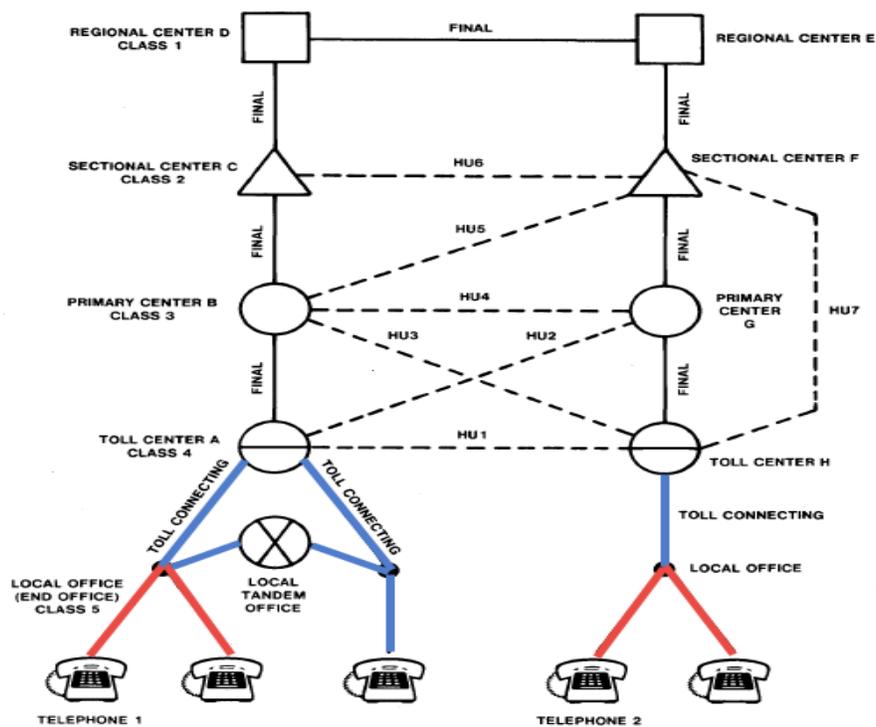


Figure 4-4. The switching hierarchy.

As shown in highlighted Figure 4-4 above, an edge switch (a class 5 switch) can route calls from and to users within local geographic area (highlighted in red). An edge switch also can route calls to a tandem switch and other edge switches directly using a direct trunk group or indirectly through a tandem switch (highlighted in blue). Ex. 1002 ¶¶ 54–55; Ex. 1037, 90–92, 106–113, 119–122, 137–138, Figs. 4-3, 4-4.

The aforementioned functional claim elements map to the switches in the PSTN. The first claim element takes into account routing calls from and to users within a local geographic area. For the second claim element, the claim language “switching facilities for routing calls to *other edge switches*” takes into account routing calls *from an edge switch to other edge switches*. The claim language “switching facility for routing calls to other switching facility” takes into account routing calls *from an edge switch to a tandem switch*, as well as from a tandem switch to other switches, including edge switches, in the network. Therefore, construing “switching facility” to include “edge switch” would *not* render the claim terms superfluous.

More significantly, interpreting “switching facility” to exclude an edge switch, as urged by Patent Owner, would read out important claimed functions—namely, *routing calls from an edge switch to other edge switches and to tandem switches* (highlighted in blue above in Figure 4-4). The claimed network would be incomplete.

Probably recognizing this problem in its proposed construction, Patent Owner attempts to show that a tandem switch is capable of performing those functions, arguing that a tandem switch can “interconnect end office

switches to other geographic areas” and that “a tandem switch may be ‘local’ (or nearby) to other tandem switches.” PO Resp. 31–34; Ex. 2022 ¶¶ 61–65. However, those assertions address *the connection*, a physical line, between the switches. Neither Patent Owner nor Mr. Bates explains sufficiently how those functions—e.g., *routing calls from an edge switch to other edge switches*—can be performed by a tandem switch without an edge switch. PO Resp. 31–34; Ex. 2022 ¶¶ 61–65.

Patent Owner also attempts to show that an edge switch is not capable of performing the recited functions in the second claim element, arguing that “an edge switch cannot ‘interconnect end office switches to other geographic areas that are *not local* to an end office switch.’” PO Resp. 32–34; Ex. 2022 ¶¶ 63–65 (emphasis added). However, that argument is not commensurate with the scope of the claim. Claim 1 does not require every switching facility to perform that function. In fact, the claim uses the term “or” rather than “and”—“switching facilities for routing calls to other edge switches *or* other switching facilities *local or* in other geographic areas.” Ex. 1001, 12:56–58 (emphasis added). Patent Owner does not identify, nor can we discern, a reason to read “or” as “and.” As discussed above, an edge switch is capable of routing calls to other edge switches and other switching facilities within local geographic areas. Ex. 1002 ¶¶ 54–55; Ex. 1037, 106–113, Figs. 4-3, 4-4.

In light of the foregoing, Patent Owner’s arguments (PO Resp. 30–35) and Mr. Bates’ testimony (Ex. 2022 ¶¶ 61–65) that claim 1 expressly distinguishes that a “switching facility” is not an “edge switch,” and that

construing “switching facility” to include “edge switch” would render the claim terms superfluous, are unavailing.

Third, we are not persuaded by Patent Owner’s argument and its expert testimony that the Specification sets forth an unmistakable disclaimer that the claimed controller must be *directly connected to a tandem switch*, rather than an edge switch or edge device. PO Resp. 1–3, 9–20, 28–35. There is a presumption that a claim term carries its ordinary and customary meaning. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002). To overcome this presumption, the patentee must “clearly set forth” and “clearly redefine” a claim term away from its ordinary meaning. *Bell Atlantic Network Servs., Inc. v. Covad Commc’ns Grp., Inc.*, 262 F.3d 1258, 1268 (Fed. Cir. 2001). The disavowal must be “unmistakable” and “unambiguous.” *Dealertrack, Inc. v. Huber*, 674 F.3d 1315, 1322 (Fed. Cir. 2012).

The claim does not recite “tandem switch,” but rather “switching facility.” Our construction for “switching facility” is consistent with its plain and ordinary meaning, encompassing all five classes of switches in the PSTN, including edge switches. Ex. 3001, 391; Ex. 3002; Ex. 1002 ¶ 54.

Turning to the Specification, the term “switching facility” is not found anywhere in the Specification. Accordingly, there is not much, if anything, intrinsically in the Specification that explicitly defines or informs a person of ordinary skill in the art at the time of the invention the meaning of “switching facility.” As discussed above, Patent Owner, in fact, admits that Applicants introduced the term “switching facility” into the claims by

Amendment to indicate that “switching facility” has *broader* scope than “tandem switch.” Prelim. Resp. 36; Ex. 2005, 82, n.1.

We note that Patent Owner’s arguments and Mr. Bates’ testimony rely on the discussions in the Specification regarding *both edge switches and edge devices* (Ex. 1001, 1:34–37, 1:56–64), to support their assertion that Applicants disparage the application of call control features at an *edge switch*. PO Resp. 14–15; Ex. 2022 ¶ 47. In any event, the Specification clearly states that connecting a controller directly at a tandem switch, rather than an *edge switch*—to eliminate the problems regarding the provision of call features through the local service telephone company (telco) business office—is *a preferred embodiment*. Ex. 1001, 1:65–66 (“A preferred embodiment of the inventive system described herein connects at the tandem, thereby eliminating these problems.”), 3:7–8 (“In one embodiment, the system includes a processor, referred to herein as a tandem access controller (TAC).”), 4:15–19 (“FIG. 1 illustrates the tandem access controller (TAC) in one embodiment of the present invention connected to the existing PSTN tandem switch.”). In other embodiments, the Specification explains that the *web-enhanced services* should be connected locally or “coexist with and overlay the local phone service at the local level.” *Id.* at 3:29–43. As Mr. Bates confirms, edge switches “serve end users through local loop connections,” and “interconnect subscriber lines within a local area.” Ex. 2022 ¶ 38; Ex. 2002, 159; Ex. 2003, 102.

The Specification also does not support Patent Owner’s position regarding *edge devices*. PO Resp. 14–17; Ex. 2022 ¶¶ 46–50. The allegedly

disparaging statements are directed to only *certain types of edge devices*, such as phones, PBXs, and edge devices that provide extremely limited features. Ex. 1001, 1:34–37, 2:37–51. Notably, nothing in the Specification disparages a PSTN-to-IP network gateway, as taught in Archer. Therefore, if there is a disclaimer, such a disclaimer, at most, is limited to those prior art edge devices (e.g., phones and PBXs) discussed specifically in the Specification.

More importantly, recognizing the advantages of a preferred embodiment over the prior art systems does not amount to an unmistakable disclaimer. As our reviewing court has explained, “patentees [are] not required to include within each of their claims all of [the] advantages or features described as significant or important in the written description.” *Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1331 (Fed. Cir. 2004). “An invention may possess a number of advantages or purposes, and there is no requirement that every claim directed to that invention be limited to encompass all of them.” *E-Pass Techs., Inc. v. 3com Corp.*, 343 F.3d 1364, 1370 (Fed. Cir. 2003).

Here, claim 1 is directed to a *web-enabled* processing system. In the “web-enhanced services” embodiments, the Specification does not describe requiring a controller to be connected to a tandem switch *directly*. Ex. 1001, 3:29–43. Although the *preferred embodiment* includes a tandem access controller *directly connected* to a PSTN tandem switch, Applicants were not required to claim this feature and they did not do so in claim 1. *See Ventana*, 473 F.3d at 1181–82. Even in cases where the specification

describes only a single embodiment, our reviewing court consistently has not construed the claim as being limited to that embodiment. *Thorner v. Sony Computer Entm't Am. L.L.C.*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (holding that it is not enough that the only embodiment, or all of the embodiments, contain a particular limitation to limit a claim to that particular limitation.); *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1117 (Fed. Cir. 2004).

In light of the foregoing, we do not agree with Patent Owner that the Specification sets forth an unmistakable disclaimer.

Finally, we also are not persuaded by Patent Owner's argument that the prosecution history confirms the alleged disclaimer set forth in the Specification. PO Resp. 20–28; Ex. 2022 ¶¶ 55–59. As an initial matter, no unmistakable disclaimer is found in the Specification for the reason stated above. Therefore, Patent Owner's assertion that Applicants did not rescind the clear disclaimer is misplaced.

Further, in the Institution Decision, we rejected Patent Owner's argument that the prosecution history makes clear that “switching facility” cannot include an edge switch. Dec. 8–9. We noted that the remarks made during prosecution are equivocal, and do not persuade us of a disavowal or disclaimer of the scope of the term “switching facility” to exclude an edge switch. *Id.* For example, the portion of the prosecution history that Patent Owner cites includes a footnote for defining a “switching facility” as:

Any point in the switching fabric of converging networks, also referred to in industry as a signal transfer point (STP), signal control point (SCP), session border controller (SBC), gateway,

access tandem, class 4 switch, wire center, toll office, toll center, PSTN switching center, intercarrier connection point, trunk gateway, hybrid switch, etc.

Ex. 2005, 82, n.1.

The above description does not explain that a switching facility excludes an edge switch. Indeed, “[a]ny point in the switching fabric of converging networks” appears broad. These examples provided by Applicants (*id.*) include a “wire center,” “PSTN switching center,” or “hybrid switch,” which include an edge switch. Indeed, “hybrid switches” are both an edge switch and a tandem switch. Ex. 2002, 4; Ex. 1065 ¶¶ 77–78. Applicants clearly uses the term “switching facilities” to include edge switches.

Patent Owner now argues that we “misread” the Applicants’ definition, suggesting that the Applicants’ remarks should be read without that definition. PO Resp. 26–27. Relying on Mr. Bates’ testimony, Patent Owner argues the Applicants’ remarks “make clear that they have always consistently distinguished edge switches and tandem switches throughout the prosecution history.” *Id.* at 26–28; Ex. 2022 ¶¶ 58–59.

However, as discussed above, the Applicants’ definition, which is a part of the intrinsic evidence in this record, is consistent with the term’s plain and ordinary meaning (Ex. 3001, 391; Ex. 3002) and the usage of the term in claim 1 (Ex. 1001, 12:46–13:35), as well as the general knowledge of a person with ordinary skill in the art (Ex. 1002 ¶¶ 54–56; Ex. 1037). Mr. Bates’ testimony (Ex. 2022 ¶¶ 58–59), which is extrinsic evidence, merely repeats Patent Owner’s arguments. Moreover, “extrinsic evidence

may be used only to assist in the proper understanding of the disputed limitation; it may not be used to vary, contradict, expand, or limit the claim language from how it is defined, even by implication, in the specification or file history.” *Bell Atl. Network*, 262 F.3d at 1269. Our reviewing court also has explained that “extrinsic evidence consisting of expert reports and testimony is generated at the time of and for the purpose of litigation and thus can suffer from bias that is not present in intrinsic evidence.” *Phillips*, 415 F.3d at 1318.

In any event, the portions of the prosecution history relied upon by Patent Owner are ambiguous, and do not amount to an unmistakable disclaimer that limits the scope of “switching facility” to *exclude* an edge switch. Notably, Patent Owner and Mr. Bates (PO Resp. 26–27; Ex. 2022 ¶ 58) cite to the following Applicants’ remarks for support:

The PSTN is a configuration of *switching facilities for routing calls from calling parties to called parties*, comprising a plurality of end office switches (also referred to as central office switches or edge switches (e.g., a class 5 switch)) and a plurality of *interconnected switching facilities (also referred to as tandem switches)*. The end office switches connect calling parties to called parties only within a local geographic area. The *tandem switching facilities* route calls received via end office switches or other tandem switching facilities to called parties within other geographic areas (national or international, beyond the local geographic area that a subscriber is in). Typically, a telephone call involves an originating end office switch, a plurality of tandem switches, and a terminating end office switch.

Ex. 2005, 82 (emphases added).

The phrase “switching facilities for routing calls from calling parties to called parties” in the first sentence makes clear that “switching facilities” encompasses edge switches. As discussed above, edge switches, not tandem switches, route calls from and to users. Ex. 1002 ¶¶ 54–56; Ex. 1037, 106–113, Figs. 4-3, 4-4. The above paragraph also makes clear that “switching facilities” encompasses tandem switches, calling this type of “switching facilities” sometimes, as “interconnected switching facilities” and “tandem switching facilities.” Applicants’ usage of “switching facilities” in this paragraph is consistent with our claim construction, and the term’s plain and ordinary meaning, encompassing all five classes of switches in the PSTN, including edge switches. Ex. 3001, 391; Ex. 3002; Ex. 1002 ¶ 54. Therefore, the Applicants’ remarks do not support Patent Owner’s position that “switching facilities” *excludes* edge switches.

Patent Owner also maintains that Applicants distinguished their claimed controller from Schwab, the prior art asserted by the Examiner. PO Resp. 20–28. As support, Patent Owner cites to the record of Applicants’ in-person interview with the Examiner that states:

Applicant explained the differences between Schwab et al and their apparatus. The major difference being that the subscriber is allowed to connect to *a tandem access switch directly through a tandem access controller* without any modification to the network. Applicant is going to file an RCE stressing this difference.

PO Resp. 22 (citing Ex. 2005, 110) (emphasis added by Patent Owner).

However, notwithstanding this agreement between Applicants and Examiner during the prosecution history of the ’777 patent, the claim at issue in the

'298 patent does not recite that limitation. Neither a “tandem access controller” nor a “tandem switch” is recited in claim 1, let alone reciting a *direct connection* between these two devices. Applicants of the '298 patent deliberately chose to use broader claim language—*not* claiming such a *direct connection*. Therefore, the purported disclaimer in the prosecution history of the '777 patent regarding Schwab does not apply to claim 1. *See Ventana*, 473 F.3d at 1182 (holding that the alleged disclaimer made with respect to another claim limitation did not apply to the assert claims that used different claim language).

Upon consideration of the entire trial record, we maintain that the remarks made during prosecution are equivocal, and do not persuade us of a disavowal or disclaimer that limits the scope of “switching facility” to exclude an edge switch.

In light of the foregoing, we are not persuaded by Patent Owner’s argument and Mr. Bates’ testimony that Applicants of the '298 patent “unequivocally disclaimed controllers that applied call control features through an edge switch, or controllers that were themselves an edge device, from the scope of their inventions.” PO Resp. 1–35; Ex. 2022 ¶¶ 46–65. For the reasons stated above, in light of the Specification, the relevant prosecution history, and the knowledge of an ordinarily skilled artisan, we decline to construe “switching facilities” to exclude “edge switches.”

For this Decision, we discern no reason to modify our claim construction set forth in the Institution Decision with respect to “switching facility,” construing the term as “any switch in the communication network,”

which, as discussed above, is consistent with its plain and ordinary meaning as understood by a person of ordinary skill in the art in the context of the '298 patent (Ex. 3001, 391; Ex. 3002; Ex. 1002 ¶¶54–56; Ex. 1037), the usage of the term in claim 1 (Ex. 1001, 12:46–13:35), and the intrinsic evidence (Ex. 2005, 82, n.1).

2. “*coupled to*”

Claim 1 recites “the web-enabled processing system *coupled to* at least one of the switching facilities of the network.” Ex. 1001, 12:65–67 (emphasis added). Petitioner argues that the broadest reasonable interpretation of “coupled to” means “connected directly or indirectly.” Pet. 47. In the Institution Decision, we adopted Petitioner’s proposed construction as it is consistent with the plain and ordinary meaning of “coupled to,” and rejected Patent Owner’s proposal that requires the processing system be *connected to a tandem switch directly*. Dec. 9–10.

In its Response, Patent Owner maintains that the web-enabled processing system must be *connected directly to a tandem switch* because the configuration of an indirect connection of these elements through an edge switch was allegedly disclaimed by Applicants, relying on its disclaimer arguments presented in connection with the term “switching facility.” PO Resp. 35–38.

As we noted in the Institution Decision (Dec. 9), Patent Owner does not dispute that the plain and ordinary meaning of the term “coupled to” does not require a direct connection between the web-enabled processing system and the switching facility. Indeed, it is settled that “coupled to”

generally means that direct connection is not required. *See, e.g., Bradford Co. v. Conteyor N. Am., Inc.*, 603 F.3d 1262, 1270–71 (Fed. Cir. 2010).

Once again, Patent Owner improperly attempts to import limitations from a preferred embodiment into the claim. *Williamson*, 792 F.3d at 1346–47. As discussed above, neither “tandem access controller” nor “tandem switch” is recited in the claim itself. Ex. 1001, 12:46–13:35. The Specification clearly discloses that connecting a tandem access controller *directly* to a tandem switch is *a preferred embodiment*. *Id.* at 1:65–66, 3:7–8, 4:15–19. In other embodiments that disclose web-enhanced services, the Specification does not disclose such a connection. *Id.* at 3:29–43.

We have considered and addressed Patent Owner’s disclaimer arguments and the evidence before us. As discussed above, we are not persuaded by those disclaimer arguments. Furthermore, the portions of the prosecution history additionally cited by Patent Owner for support (e.g., Ex. 2005, 66) are, at most, ambiguous. The Amendment that added the limitation “coupled to a switching facility for routing calls to edge switches or other switching facilities in local or other geographic areas” is silent as to whether “coupled to” requires a direct connection between the elements. *Id.*

For this Decision, we discern no reason to modify our claim construction set forth in the Institution Decision with respect to “coupled to,” interpreting the term to include direct or indirect coupling.

3. “web-enabled processing system”

Claim 1 recites a “web-enabled processing system.” Ex. 1001, 12:65–67. As we noted in the Institution Decision (Dec. 10), Patent Owner does

not dispute that the plain and ordinary meaning of this term does not exclude an edge device or a system that communicates with an edge device.

Nonetheless, Patent Owner argues that the claimed processing system “is analogous to the ’298 Patent’s disclosure of a TAC (Tandem Access Controller)” and, relying on its disclaimer arguments presented in connection with the term “switching facility,” Patent Owner alleges that a “web-enabled processing system” cannot be an edge device or a system that applies call control features through an edge switch. PO Resp. 38.

We have considered and addressed Patent Owner’s disclaimer arguments and the evidence before us. As discussed above, we are not persuaded by those disclaimer arguments, and decline to import limitations from a preferred embodiment into the claim. *Williamson*, 792 F.3d at 1346–47. Accordingly, we maintain that the broadest reasonable interpretation of “web-enabled processing system” does not exclude an edge device or a system that applies call control features through an edge switch. Dec. 10–11.

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; and (4) objective evidence of nonobviousness.⁴ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

C. Level of Ordinary Skill

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted). Petitioner’s declarant, Dr. La Porta testifies that a person with ordinary skill in the art “would have been an engineer or computer scientist with at least a bachelor’s degree, or equivalent experience . . . and at least three years of industry experience” in telecommunications or network communications. Ex. 1002 ¶ 29. Mr. Bates, Patent Owner’s declarant, agrees with this assessment. Ex. 2022 ¶ 22.

Therefore, we adopt Dr. La Porta’s assessment of a person with ordinary skill in the art. We further note that the prior art of record in the instant proceeding (e.g., the Bell System reference) reflects the appropriate level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1354–55 (Fed. Cir. 2001) (“the prior art itself reflects an appropriate level” of ordinary skill in the art).

⁴ Neither party introduced any objective evidence of nonobviousness in this proceeding.

D. Obviousness

Petitioner asserts that claim 1 is unpatentable under § 103(a) as obvious over Archer in view of Chang and the Admitted Prior Art (Ex. 1001, 1:42–55). Pet. 18–59. Relying on Dr. La Porta’s testimony for support, Petitioner explains how the combination of prior art references describes all of the claim limitations and articulates a reason to combine the prior art teachings. *Id.* (citing Ex. 1002).

Relying on Mr. Bates’ testimony, Patent Owner opposes, arguing that the prior art combination does not disclose a web-enabled processing system that is coupled to a switching facility and that completes a communication link, as required by claim 1. PO Resp. 48–61 (citing Ex. 2022).

We begin our discussion below with an overview of Archer and Chang, and then we address the parties’ contentions in turn.

1. Overview of Archer

Archer is directed to transmitting simultaneously call notifications to communication devices, such as a telephone, pager, and computer. Ex. 1003, Abstract. Figure 2 of Archer is reproduced below.

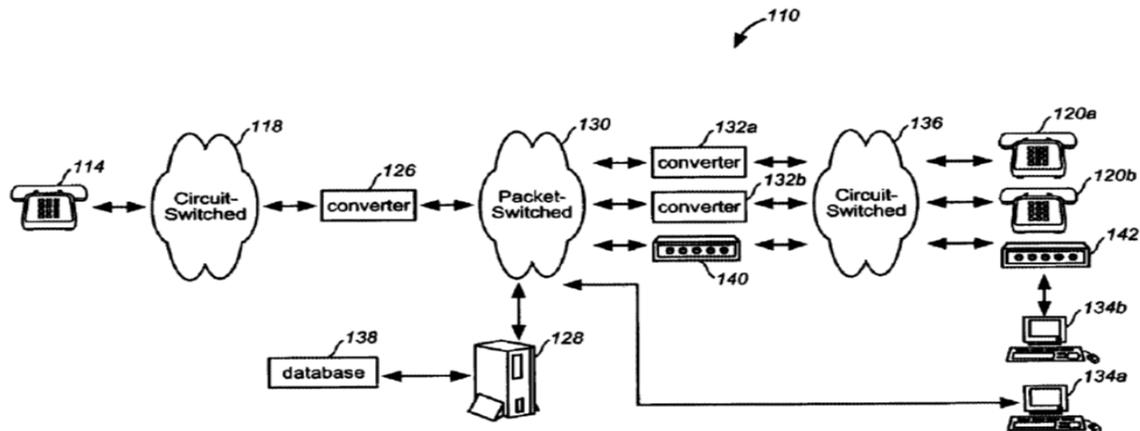


FIG. 2

As shown in Figure 2 above, telephone 114 is connected to circuit-switched network 118 (e.g., the PSTN). *Id.* at 4:66–67, 5:5–8. Circuit-switched network 118 is coupled to converter 126, which converts telephone signals into packets. *Id.* at 5:32–34. The packets are formatted in accordance with IP and routed through packet-switched network 130. *Id.* at 5:41–46. Packet-switched network 130 is the Internet. *Id.* at 6:3–11. Converters 132a and 132b are coupled to packet-switched network 130 to convert digital packets into signals which can be transmitted across circuit-switched network 136. *Id.* at 8:18–21. In the preferred embodiment, converters 126 and 132 are interchangeable depending on which device 114, 120, or 134 initiates the call and where the call is routed. *Id.* at 8:23–26.

Server processor 128 queries database 138 using the number generated at telephone 114 to look up the forwarding phone numbers assigned to the user. *Id.* at 6:33–37. Server processor 128 will then transmit the packets simultaneously to each of destinations 132, 134. *Id.* at 7:3–4.

2. Overview of Chang

Chang discloses a system that has a web browser interface for allowing subscribers to control call features. Ex. 1004, Abstract, 4:45–58, 7:9–16. Figure 1 of Chang is reproduced below.

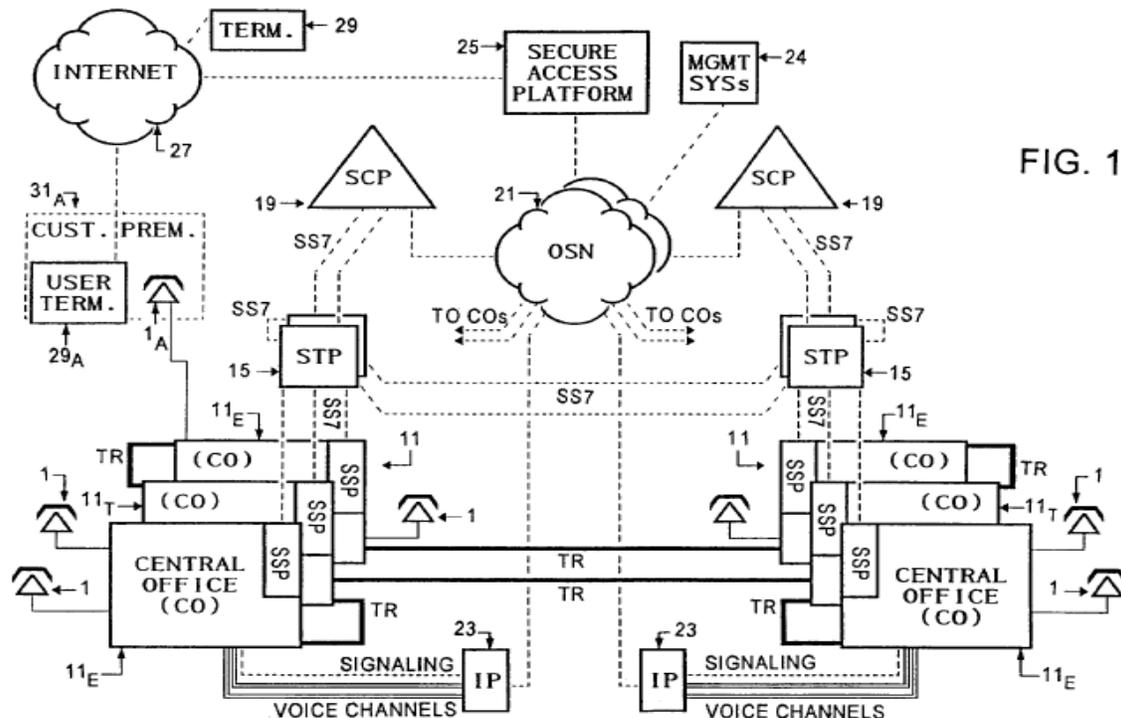


Figure 1 of Chang illustrates a telephone network that includes one or more tandem switching offices (11_T) that provide connections between end offices and/or between other tandem offices. *Id.* at 8:2–5. Secure access platform 25 allows the subscribers to control their call features using a Web browser through the Internet, and provides user control selections to the tandem switches (11_T) through Service Control Point (SCP) 19 and Signaling Transfer Point (STP) 15 using Signaling System 7 (SS7) signaling. *Id.* at Abstract, 8:48–9:7, 11:9–12:17, 12:64–13:27.

3. *Overview of the Admitted Prior Art*

According to the '298 patent, it was known at the time of the invention that the PSTN “consists of a plurality of edge switches connected to telephones on one side and to a network of tandem switches on the other.” Ex. 1001, 1:42–55. The tandem switch network allows connectivity between all of the edge switches, and a signaling system is used by the PSTN to allow calling and to transmit both calling and called party identity. *Id.* People had used various means for limiting interruptions due to the telephone, such as voice mail systems. *Id.* at 1:27–31. There were web-based companies managing third party call control, via the toll-switch network, which allow users to enter call control information through a web portal. *Id.* at 1:31–34. “Edge devices such as phones and PBXs that include voice mail, inter-active voice response, call forwarding, speed calling, etc., have been used to provide additional call control.” *Id.* at 2:38–41.

4. *Web-Enabled Processing System Coupled to a Switching Facility*

Claim 1 requires “a network comprising edge switches for routing calls from and to users within a local geographic area and switching facilities for routing calls to other edge switches or other switching facilities local or in other geographic areas.” Ex. 1001, 12:53–58. Claim 1 also requires “the web-enabled processing system coupled to at least one of the switching facilities of the network.” *Id.* at 12:46–67.

Petitioner takes the position that Archer, in view of Chang and the Admitted Prior Art, teaches or suggests these limitations. Pet. 33–50. In particular, Petitioner alleges that Archer’s PSTN is a network that comprises

edge switches and tandem switches (switching facilities). *Id.* at 33 (citing Ex. 1003, 5:5–32; Ex. 1001, 1:42–55; Ex. 1004; Ex. 1002 ¶¶ 80–85, 150–53). Petitioner further argues that Archer’s server processor and database system (a web-enabled processing system) are coupled to gateways 126, 132, tandem switches, and SCP switching facilities of the PSTN. *Id.* at 46–47 (citing Ex. 1003, Fig. 2). Relying on the testimony of Dr. La Porta, Petitioner also alleges that it would have been obvious that Archer’s server processor is coupled to the tandem switches in the PSTN because the server processor can receive calls from and place calls to the PSTN. *Id.* at 48–49 (citing Ex. 1003, 8:50–9:16; Ex. 1002 ¶¶ 54–61, 210–21). Based on the evidence in the entire record, we agree with Petitioner.

Patent Owner opposes, and advances several arguments. PO Resp. 51–61. First, relying on Mr. Bates’ testimony, Patent Owner argues that Archer does not disclose “the web-enabled processing system coupled to at least one of the switching facilities of the network” because Archer’s converters are edge devices, not “switching facilities of the network,” and are not coupled to a switching facility. *Id.*; Ex. 2022 ¶¶ 84–95.

Patent Owner’s arguments and Mr. Bates’ supporting testimony are premised on Patent Owner’s narrow claim constructions of “switching facility,” “coupled to,” and “web-enabled processing system.” As discussed above, we decline to construe “switching facility” to exclude an edge switch, and decline to require a *direct connection* between the claimed processing system and a switching facility. *See supra*, Section II.A. Accordingly, we are not persuaded by Patent Owner’s arguments and its expert’s supporting

testimony, as they are not commensurate with the claim's scope, improperly importing limitations from the preferred embodiment. *See In re Self*, 671 F.2d 1344, 1348 (CCPA 1982) (noting that it is well established that limitations not appearing in the claims cannot be relied upon for patentability).

Rather, we determine that Petitioner has shown sufficiently that Archer's PSTN satisfies the claimed "network," and Archer's server processor and database satisfy the claimed "web-enabled processing system." Claim 1 recites "the web-enabled processing system *coupled to* at least one of the switching facilities of the network." Ex. 1001, 14:67–15:4 (emphases added). We construe "coupled to" to include direct or indirectly coupling. *See supra*, Section II.A.2.

As Petitioner notes (Pet. 46–47), the PSTN that is coupled to Archer's server processor 128 contains switching facilities. Ex. 1003, Fig. 2; Ex. 1002 ¶¶ 210–14. As Patent Owner admits (PO Resp. 4–7), the PSTN was known in the art at the time of the invention to be a network that consists of a plurality of edge switches connected to telephones on one side and to a network of tandem switches on the other, and the tandem switch network allows connectivity between all of the edge switches. Ex. 1001, 1:42–55 (describing the PSTN); Ex. 1002 ¶¶ 32–61 (citing Ex. 1037, 91–92, 95–102), ¶¶ 150–54; Ex. 1004, 7:25–8:47, Fig. 1; Ex. 2022 ¶ 38. As such, we agree with Dr. La Porta's testimony that a person of ordinary skill in the art would have understood that the PSTN includes edge switches for routing calls from and to users within a local geographic area, and switching

facilities for routing calls to other edge switches or other switching facilities local or in other geographic areas. Ex. 1002 ¶¶ 150–54. In addition, we agree with Dr. La Porta’s testimony that Archer’s server processor is coupled to a tandem switch (a switching facility) in the PSTN 118, 136 through converters 126, 132, which are *PSTN-to-IP network gateways*. *Id.* at ¶¶ 210–14; Ex. 1003, 5:34–35 (“converter 126 can also be referred to as a gateway.”), 5:59–60 (“PSTN-to-IP network gateway (i.e., converter 126)”).

Second, Patent Owner argues that PSTN-to-IP network gateways 126, 132 do not route calls to edge switches or other switching facilities, as recited in claim 1, and that circuit switched network 118 is connected to gateways 126, 132 through *analog* lines, and the gateways include *modems* and do not *route calls*. PO Resp. 51–55; Ex. 2022 ¶¶ 84–87. Patent Owner’s arguments and Mr. Bates’ testimony, however, ignore the explicit teachings of Archer. Archer clearly discloses that, at the time of its invention, the heart of most PSTN networks was already *digital*. Ex. 1003, 5:10–31. Archer also discloses that “[i]n general the PSTN to IP-network gateway (i.e., converter 126) should be able to support the translation of PCM [i.e., pulse coded modulation,] to multiple encoding schemes to interwork with software from various vendors.” *Id.* at 5:59–62. And, Mr. Bates, in his cross-examination testimony, confirms that PCM is a *digital* protocol that is used by a tandem switch. Ex. 1059, 22:23–23:8, 26:7–15, 229:23–24 (explaining that “[w]e use PCM to create the digital voice stream”). Moreover, as shown in Figure 3 of Archer, gateway 136 includes *router* 74 and *control circuitry* 72. Ex. 1003, 5:47–58, Fig. 3. Archer

further describes that the operation of its invention includes *routing* a phone call from telephone 114 to server processor 128 through PSTN network 118, converter/gateway 126, and packet switched network 130, and then *routing* the voice packets to the destination device 120 through packet-switched network 130 converter/gateway 132, and PSTN network 136. *Id.* at 8:43–9:61, Fig. 5.

Third, Patent Owner argues that PSTN-to-IP network gateways 126, 132 are not switching facilities, but edge devices connected to edge switches. PO Resp. 51–57. Once again, Patent Owner is relying on its narrow claim construction for the term “switching facilities” to exclude edge devices and edge switches. As discussed above, the Specification does not set forth any disclaimer to exclude an edge switch or edge device, much less a PSTN-to-IP network gateway. Patent Owner does not identify, nor can we discern, any disparaging statements regarding a *converter or gateway* in the Specification or prosecution history. PO Resp. 39–51–57; Ex. 2022 ¶¶ 84–89. In fact, the Applicants’ definition includes a “gateway” as an example of a “switching facility.” Ex. 2005, 82, n.1. More importantly, Mr. Bates, in his cross-examination testimony, also admits that it was well known to interconnect an IP carrier network and the PSTN *at a tandem switch*. Ex. 1059, 201:22–202:11 (In response to the question, “when two telephone networks interconnect each other, they do not do it through class 5 switches . . . ,” Mr. Bates answered, “They’re doing it inside the network at their tandem access.”), 205:15–206:16 (In response to the question, “what would be the connecting node between an IP carrier and the PSTN,” Mr.

Bates answered “It would be out at the higher level switch level, like a *tandem switch* where they would probably have an optical cable run out of one of their high end switches with an IP interface, talking to that IP carrier.” (emphasis added), 211:21–213:14. Indeed, the evidence regarding the state of the art and the general knowledge of an ordinarily skilled artisan also shows that such an interconnection between an IP network and the PSTN at a tandem switch was known in the art at the time of the invention. *See, e.g.*, Ex. 1058, Fig. 1B; Ex. 1066, Figs. 4–5.

After considering the entirety of the record, including the parties’ contentions and supporting evidence, we determine that Petitioner has demonstrated by a preponderance of the evidence that Archer teaches or suggests “a network comprising edge switches for routing calls from and to users within a local geographic area and switching facilities for routing calls to other edge switches or other switching facilities local or in other geographic areas,” and “the web-enabled processing system coupled to at least one of the switching facilities of the network,” as recited in claim 1.

5. *Web-Enabled Processing System Completes a Communication Link*

Claim 1 requires the web-enabled processing system is configured to complete a communications link between the user initiating the communication and the intended recipient of the users, when the intended recipient of the users accepts the communication from the user initiating the communication.

Ex. 1001, 13:30–35.

Petitioner asserts that Archer teaches this limitation because Archer describes “[u]pon receipt of a pickup notification,” server processor 128

routes the voice packets to the destination, completing the call. Pet. 59 (citing Ex. 1003, 7:14–21, 9:30–61, Figs. 4–5). As support, Dr. La Porta explains that “[t]he communication link is complete and the conversation commences between the caller who initiated the call and the intended recipient who picked up the call at one of the destination receiving devices (120, 134), which constitutes “accept[ing] the communication.” Ex. 1002 ¶ 261 (citing Ex. 1003, 7:14–21, 8:50–56, 9:30–61, Figs 4–5). Based on the evidence in this entire record, we agree with Petitioner and credit Dr. La Porta’s testimony as it is consistent with the prior art of record, including Archer’s disclosure. Pet. 59; Ex. 1002 ¶ 261; Ex. 1003.

Patent Owner opposes and advances several arguments. PO Resp. 48–51. First, Patent Owner argues that the cited portions of Archer are silent as to what device establishes the voice communication and, therefore, Archer fails to disclose that the web-enabled processing system is the element that performs the “establishing” step. *Id.*

However, Petitioner and Dr. La Porta’s testimony clearly point out Figures 4 and 5 of Archer and the pertinent descriptions of those figures to support Petitioner’s contention that Archer’s server processor 128 “complete[s] a communications link” between the caller and recipient, as required by claim 1. Pet. 59 (citing Ex. 1003, Figs. 4 (68, “Establish communication”), 5 (109, “Commence communication”), 7:14–21, 9:30–37, 9:50–59 (“At this point, the call is completed and conversation commences.”); Ex. 1002 ¶ 261). For example, Petitioner specifically directs our attention to step 68 “Establish communication” in Figure 4 of Archer

and step 109 “Commence communication” of Figure 5 of Archer. *Id.* (citing Ex. 1003, Figs 4–5).

Figures 4 and 5 of Archer are reproduced below with red markings added to highlight the steps or tasks relied upon by Petitioner.

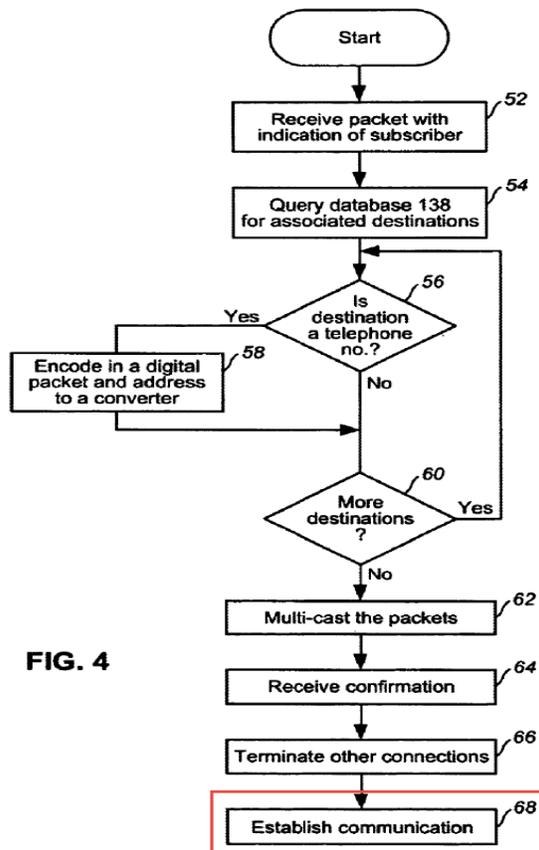


FIG. 4

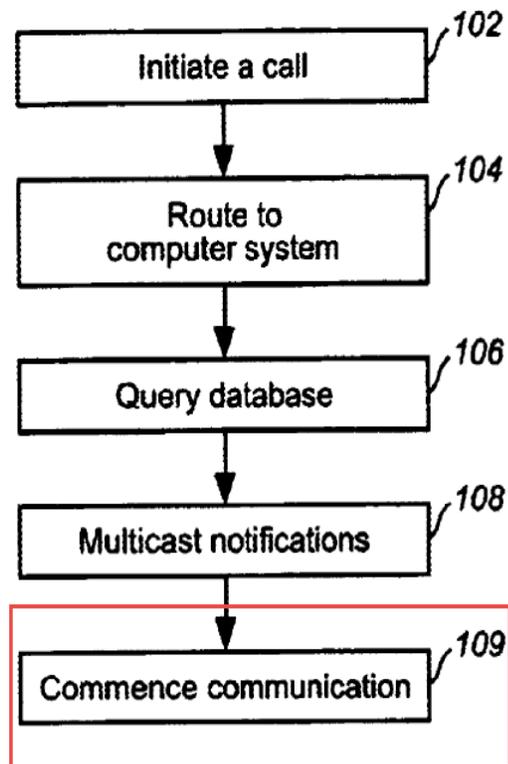


FIG. 5

Figure 4 of Archer “is a flowchart of the *software* which will *execute on server processor 128.*” Ex. 1003, 6:48–49 (emphases added). Figure 5 of Archer “is a flow chart of a preferred embodiment *method of the present invention.*” *Id.* at 3:38–40 (emphasis added). As Archer explains, “[s]erver processor 128 is a computer system coupled to packet-switched network 130 and *executes server software to perform the tasks required by the present*

invention.” *Id.* at 6:31–32 (emphasis added). One of ordinary skill in the art, reading the corresponding descriptions with the figures, would have understood that Archer’s server processor 128, executing the disclosed software, performs the steps or tasks shown in Figures 4 and 5, including “establish communication” step 68 (highlighted with a red box) in Figure 4 “commence communication” step 109 (highlighted with a red box) in Figure 5. *Id.* at 6:48–9:61.

“What a prior art reference discloses or teaches is determined from the perspective of one of ordinary skill in the art.” *Sundance, Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356, 1361 n.3 (Fed. Cir. 2008). A prior art reference must be “considered together with the knowledge of one of ordinary skill in the pertinent art.” *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994); *see also DeGeorge v. Bernier*, 768 F.2d 1318, 1323 (Fed. Cir. 1985) (holding that a reference “need not, however, explain every detail since [it] is speaking to those skilled in the art”); *In re Preda*, 401 F.2d 825, 826 (CCPA 1968) (explaining that “in considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom”).

Based on the entirety of the full trial record, including Figures 4 and 5 of Archer and the relevant descriptions of those figures, we find Patent Owner’s argument and Mr. Bates’ testimony (PO Resp. 48–51; Ex. 2022 ¶¶ 80–83) that Archer is silent as to what device establishes the communication unavailing. Rather, we agree with Petitioner and Dr. La

Porta's testimony Archer discloses that server processor 128 completes the communication link between the caller and recipient, as required by claim 1. Pet. 59; Ex. 1002 ¶ 161.

Patent Owner further argues that Archer provides no details "about how this connection is accomplished or where it is made." PO Resp. 49. However, the disputed limitation of claim 1 merely requires the web-enabled processing system to be configured to "complete a communications link between" the caller and the recipient when the recipient accepts the communication. Ex. 1001, 13:30–35. To the extent that Patent Owner argues that Archer is not enabling, such argument is misplaced because there is a rebuttable presumption that the disclosure in a prior art patent, as here, is enabled. *See Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1355 (Fed. Cir. 2003); *see also In re Antor Media Corp.*, 689 F.3d 1282, 1287–88 (Fed. Cir. 2012) (holding that prior art publications and patents are presumed to be enabled). Patent Owner does not explain specifically why an ordinarily skilled artisan would not have known how to establish a communication link between the caller and recipient in view of Archer's detailed disclosure, much less demonstrate why such an artisan would have had to engage in undue experimentation to complete the link. PO Resp. 48–51. In fact, as Petitioner points out, Mr. Bates acknowledges in his cross-examination testimony that "no details of how the recited 'complete the communication link' claim step is performed need be disclosed in a patent specification because such details were well known" to a person of ordinary skill in the art at the time of the invention. Reply 16; Ex. 1059,

155:13–158:11. Accordingly, we do not find Patent Owner’s argument undermines Petitioner’s obviousness showing.

After considering the entirety of the full trial record, including the parties’ contentions and supporting evidence, we are persuaded that Petitioner has established by a preponderance of the evidence that Archer, in combination with Chang and the Admitted Prior Art, teaches or suggests a web-enabled processing system that is configured to complete a communications link between the caller and recipient, as required by claim 1.

6. Authorized users

Claim 1 recites “*facilitating access by authorized users to the web-enabled processing system, via the web server.*” Ex. 1001, 12:64–65 (emphasis added). Petitioner asserts that the combination of Archer, Chang, and the Admitted Prior Art teaches or suggests this limitation. Pet. 43–46. Relying on its analysis in connection with the preamble of claim 1 (*id.* at 25–32, 34–41), Petitioner submits that Archer’s server processor 128 and database 139 teach or suggest the claimed “web-enabled processing system.” *Id.* at 43. Citing to Dr. La Porta’s testimony for support, Petitioner also explains that Archer teaches “facilitating access by authorized users to the web-enabled processing system” because Archer’s system only allows “subscribers,” not random users, to access database 138 for adding or changing their call forwarding settings by logging onto the Internet. *Id.* (citing Ex. 1003, 7:44–50; Ex. 1002 ¶¶ 196–200).

Alternatively, Petitioner asserts that one with ordinary skill in the art would have been motivated to combine Chang’s teachings of facilitating access by authorized users with the user-based call feature control of Archer, “allowing subscribers to change their call forwarding settings over the Internet at any time in a secure fashion to protect each subscriber’s respective personal information.” *Id.* at 44–46; Ex. 1002 ¶¶ 201–209; Ex. 1003, 7:30–50. Petitioner notes that Chang’s secure access platform 25 includes web server 525 and validates users as subscribers to the communication network by implementing an online user interface. Ex. 1004, 4:67–5:15, Figs. 2, 5. Chang’s secure access platform 25 also includes a firewall and service management system, and validates the identity of subscribers before the subscriber can access his telephone network service data, requiring the subscribers to log onto the system before using it. *Id.* at 5:42–45, 7:45–46, 11:42–54.

Upon consideration of the full trial record, we find Petitioner’s analysis and supporting evidence persuasive, and that Petitioner has demonstrated by a preponderance of the evidence that Archer alone, or in combination with Chang, teaches or suggests “facilitating access by authorized users” to Archer’s server processor 128 and database 138.

As to this limitation, Patent Owner does not dispute that Archer alone, or in combination with Chang, teaches or suggests “facilitating access by authorized users,” as recited in claim 1. PO Resp. 48–61. Nevertheless, Patent Owner argues that Petitioner fails to articulate a persuasive reason why a person of ordinary skill in the art would combine Archer with Chang.

Id. at 60–61 (citing Ex. 2022 ¶ 96). Patent Owner contends that Petitioner does not “identify how or why Chang’s AIN secure access platform or Archer’s non-AIN system could receive call data as part of Chang’s Advanced Intelligent Network architecture, which operates according to specific standards.” *Id.*

However, Patent Owner’s contentions improperly rest on the premise that the entire secure access platform of Chang must be physically incorporated into Archer’s server processor 128 and database 139. “It is well-established that a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements.” *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. June 26, 2012); *In re Etter*, 756 F.2d 852, 859 (Fed. Cir. 1985) (en banc); *In re Keller* 642 F.2d 413, 425 (CCPA 1981) (Obviousness does not require that all of the features of the secondary reference be bodily incorporated into the primary reference).

As Dr. La Porta points out and the prior art of record confirms, validating or authenticating users—determining whether the user is authorized to access his or her personal information in a database—via a web server was known in the art at the time of the invention. Ex. 1002 ¶¶ 197–209; Ex. 1004, 4:67–5:15, 5:42–45, 7:45–46, 11:42–54, Figs. 2, 5; Ex. 1049, 101–02. Dr. La Porta testifies that “the practice of allowing only authorized users, rather than general public users of the Internet, access to personal services or information was well known” at the time of the invention, and that practice “had been used to promote network security to

similar methods for accessing information via the Internet.” Ex. 1002 ¶¶ 198–99, 201 (citing Ex. 1049, 15, 101–02; Ex. 1034). In fact, “[b]y the mid-1990s, many people were paying bills, managing bank accounts, and handling investments electronically.” *Id.* at ¶ 199 (citing Ex. 1049, 15, 97–100; Ex. 1026, 5, 7).

As Petitioner notes, Archer already suggests allowing only “subscribers,” not random users, access to database 138 to add or change call forwarding settings by logging onto the Internet. Pet. 43; Ex. 1003, 7:44–50. Chang’s secure access platform 25 includes a web server and validates users as subscribers to services of the communication network by implementing an online user interface. Pet. 44–45 (citing Ex. 1004, 4:67–5:15, Figs. 2, 5). Chang’s secure access platform 25 also includes a firewall and service management system, and validates the identity of subscribers before the subscriber can access his telephone network service data, requiring the subscribers to log onto the system before using it. Ex. 1004, 5:42–45, 7:45–46, 11:42–54. In view of the prior art disclosures, a person of ordinary skill in the art—an engineer or computer scientist with at least three years of industry experience in network communications (Ex. 1002 ¶ 29; Ex. 2022 ¶ 22)—would have recognized that Archer’s server processor and database system (a web-enabled processing system) could be implemented with an online user validation interface, as taught by Chang, “facilitating access by authorized users to the web-enabled processing system, via the web server.”

Dr. La Porta testifies that using Chang’s subscriber verification technique with Archer’s system would “ensure[] only authorized users can access and modify their own service related data, improving security of the network and the subscriber information.” Ex. 1002 ¶¶ 201–09. We credit Dr. La Porta’s testimony (Ex. 1002 ¶¶ 197–209), as it is consistent with the prior art of this record. Consequently, we find Petitioner has articulated a sufficient reason, as supported by Dr. La Porta’s testimony, to combine Chang’s subscriber verification teaching with Archer’s communication network and user-based call features.

Based on the evidence in this full trial record before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that Archer, in combination with Chang and the Admitted Prior Art, teaches or suggests “facilitating access by authorized users to the web-enabled processing system, via the web server,” as recited in claim 1.

7. Remaining Limitations and Conclusion on the Obviousness Ground

We also have fully considered Petitioner’s detailed explanation and supporting evidence as to the remaining claim limitations. *See, e.g.*, Pet. 21–59; Ex. 1002 ¶¶ 116–261; Ex. 1003; Ex. 1004. Patent Owner does not provide separate, specific arguments for the remaining claim limitations. Nor does Patent Owner proffer any evidence of secondary consideration in this proceeding.

Based on the entirety of the record before us, we determine that Petitioner provides sufficient evidence to show that the asserted prior art combination teaches or suggests the remaining claim limitations recited in

claim 1. For example, for the limitation “the web-enabled process system configured to route a communication from a specific one of the users to an intended recipient of the users,” Petitioner explains that Archer discloses a processor configured to route a communication from particular users of a network to an intended recipient of that user in the form of its server processor 128 and database 138 which receives a call from a user of network 118 using telephone 114 intended for a subscriber. Pet. 50–51 (citing Ex. 1003, 8:50–60, Figs. 2, 4). Petitioner also notes that after receiving the call from the user, server processor 128 routes the call to the subscriber by looking up the subscriber’s contact addresses in database 138 and initiating calls to those addresses in the form of call request packets. *Id.* (citing Ex. 1003, 8:61–67, 9:9–16, Figs. 4, 5).

As another example, for the limitation “executing control criteria, via the web-enabled processing system, to control the routing of the one or more communication,” Petitioner explains that Archer’s server processor 128 controls the routing of communications in the form of multicasting call request packets to the addresses of subscribers’ communications devices stored in database 138 when server processor receives a call direct to a subscriber. Pet. 51–52. Petitioner further submits that Archer’s server processor 128 executes control criteria by executing software program instructions using the subscriber’s designated communications device addresses and forwarding priorities (control criteria) to encode IP call packets with the proper IP addresses and telephone number for routing through packet network 130 and circuit-switched network 118, 136. *Id.*

(citing Ex. 1003, 6:48–7:18, 8:33–38, 8:61–67, 9:9–16, Figs. 4, 5; Ex. 1002 ¶¶ 116–122, 232–238).

We agree with Petitioner’s explanations and Dr. La Porta’s unrebutted testimony. We credit Dr. La Porta’s testimony (Ex. 1002 ¶¶ 116–261) as it is consistent with the prior art of record, and adopt Dr. La Porta’s analysis, as our own. In light of the foregoing, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 1 is unpatentable under § 103(a) as obvious over Archer, in combination with Chang and the Admitted Prior Art.

E. Petitioner’s Motion to Exclude

Petitioner filed a Motion to Exclude Evidence (Paper 48, “Mot.”), seeking to exclude: (1) Patent Owner’s Exhibit 2011, which includes an opening claim construction expert declaration of Dr. Eric Burger filed by several defendants in related district court litigation (*id.* at 1–2); and (2) Exhibits 2021, 2024, 2025, 2027–2030, and 2065, which includes excerpts of expert’s testimony from other related proceedings (*id.* at 2–4).

Under the particular circumstances in this case, we need not assess the merits of Petitioner’s Motion to Exclude Evidence. As discussed above, even without excluding those Patent Owner’s evidence, we have determined that Petitioner has demonstrated by a preponderance of the evidence that claim 1 is unpatentable. Accordingly, Petitioner’s Motion to Exclude Evidence is *dismissed* as moot.

F. Patent Owner's Motion to Exclude

Patent Owner filed a Motion to Exclude Evidence (Paper 45, “Mot.”), seeking to exclude: (1) Exhibit 1058, which includes U.S. Patent No. 6,333,931 to LaPier (*id.* at 2–3); (2) Exhibits 1066, which includes U.S. Patent No. 6,442,169 to Lewis (*id.* at 4); and (3) portions of Exhibit 1065, which includes Dr. La Porta’s testimony filed in support of Petitioner’s Reply to Patent Owner’s Response (*id.* at 4). Patent Owner argues that these items are relied upon by Petitioner to support new arguments. Mot. 2–4; Paper 41, 2, 3. We have determined that Petitioner has demonstrated by a preponderance of the evidence that claim 1 is unpatentable, without considering the portions of Exhibit 1165 identified by Patent Owner.

We note, however, that Petitioner did not rely on LaPier and Lewis to meet the claim limitations, but rather to rebut Mr. Bates’ testimony (Ex. 2022 ¶ 68) regarding *the state of the art* at the time of the invention. Reply 7–12. As our reviewing court noted in *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359 (Fed. Cir. 2015), we are required to consider prior art references cited as “evidence of the background understanding of skilled artisans,” even when such references were cited in a reply to a patent owner response. *Id.* at 1365 (holding that references “can legitimately serve to document the knowledge that skilled artisans would bring to bear in reading the prior art identified as producing obviousness,” and vacating the Board’s decision because it appeared that the Board had declined to consider a reference simply because the reference “had not been identified at the petition stage as one of the pieces of prior art defining a combination for

obviousness.”) (citing *Randall Mfg. v. Rea*, 733 F.3d, 1355, 1362–63 (Fed. Cir. 2013)). Therefore, we have considered La Pier and Lewis as they are evidence of “the knowledge that skilled artisans would bring to bear in reading the prior art identified as producing obviousness.” *See id.*

Accordingly, we *dismiss* Patent Owner’s Motion to Exclude.

G. Patent Owner’s Listing of Improper Reply Arguments and Evidence

Patent Owner filed a Listing of Improper Reply Arguments and Evidence (Paper 45) and Petitioner filed a Response (Paper 46). Patent Owner lists several portions of Petitioner’s Reply and evidence allegedly beyond the scope of what can be considered appropriate for a reply. *See* Paper 45. We have considered Patent Owner’s listing, but disagree that the cited portions of Petitioner’s Reply and reply evidence are beyond the scope of what is appropriate for a reply. Replies are a vehicle for responding to arguments raised in a corresponding patent owner response. Petitioner’s arguments and evidence that Patent Owner objects to are not beyond the proper scope of a reply because we find that they fairly respond to Patent Owner’s arguments raised in Patent Owner’s Response. *See Idemitsu Kosan Co., LTD. v. SFC Co. LTD*, 870 F.3d 1376, 1381 (“This back-and-forth shows that what Idemitsu characterizes as an argument raised ‘too late’ is simply the by-product of one party necessarily getting the last word. If anything, Idemitsu is the party that first raised this issue, by arguing—at least implicitly—that Arkane teaches away from non-energy-gap combinations. SFC simply countered, as it was entitled to do.”).

III. CONCLUSION

For the foregoing reasons, we determine that Petitioner has established by a preponderance of the evidence that claim 1 of the '298 patent is unpatentable under § 103(a) as obvious over Archer in view of Chang and the Admitted Prior Art.

IV. ORDER

For the foregoing reasons, it is
ORDERED that claim 1 of the '298 patent is held unpatentable; and
FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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