

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

YMAX CORPORATION,
Petitioner,

v.

FOCAL IP, LLC,
Patent Owner.

Case IPR2016-01258
Patent 7,764,777 B2

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

MEDLEY, *Administrative Patent Judge*.

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

I. INTRODUCTION

YMax Corporation (“Petitioner”) filed a Petition requesting *inter partes* review of claims 18, 21, 23, 25, 26, 28–31, 37, 38, 41, and 45 of U.S. Patent No. 7,764,777 B2 (Ex. 1001, “the ’777 patent”), along with a Declaration of Tal Lavian, Ph.D. (Ex. 1002). Paper 1 (“Pet.”). Focal IP, LLC (“Patent Owner”) filed a Preliminary Response, along with a Declaration of Mr. Regis J. Bates Jr. (Ex. 2001). Paper 7 (“Prelim. Resp.”). Petitioner filed a Reply. Paper 11 (“Reply”). Upon consideration of the parties’ contentions and supporting evidence, we instituted an *inter partes* review pursuant to 35 U.S.C. § 314, as to claims 18, 21, 23, 25, 26, 28–31, 37, 38, 41, and 45 of the ’777 patent. Paper 13 (“Dec.”).

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 26, “PO Resp.”) and a Motion to Amend (Paper 27, “Mot.”). Petitioner filed a Reply to Patent Owner’s Response (Paper 33, “Pet. Reply”) and an Opposition to Patent Owner’s Motion to Amend (Paper 32, “Opp.”). Patent Owner filed a Reply to the Motion to Amend. Paper 38, “Reply.” Petitioner filed a Motion for Observation, Paper 45 (“Pet. Mot. Obs.”) and Patent Owner filed a Response to the Motion for Observation, Paper 46 (“PO Resp.”).

On September 19, 2017, we held an oral hearing. Paper 57 (“Tr.”).¹ Subsequent to oral hearing, Petitioner was authorized to file a supplemental brief in opposition to Patent Owner’s Motion to Amend in light of the Federal Circuit’s en banc decision in *Aqua Prods., Inc. v. Matal*, 872 F.3d 1290 (Fed. Cir. 2017) (“*Aqua Products*”). Paper 54. On October 31, 2017,

¹ The oral arguments in the following cases were consolidated: Cases IPR2016-01256, IPR2016-01258, and IPR2016-01260. Paper 53.

Petitioner filed a supplemental brief in opposition to Patent Owner’s Motion to Amend. Paper 56 (“Supp. Br.”).

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 claims 18, 21, 23, 25, 26, 28–31, 37, 38, 41, and 45 of the ’777 patent are unpatentable. Patent Owner’s Motion to Amend is *denied*.

A. Related Matters

The parties state that the ’777 patent is the subject of pending lawsuits in the Middle District of Florida, and these lawsuits include assertions against Bright House Networks, LLC, WideOpenWest Finance, LLC, YMax Corporation, Birch Communications, Inc., and T3 Communications, Inc. Pet. 1–2; Paper 4, 2–3. Another petitioner filed a petition also challenging claims of the ’777 patent (i.e., IPR2016-01262). Paper 4, 3.

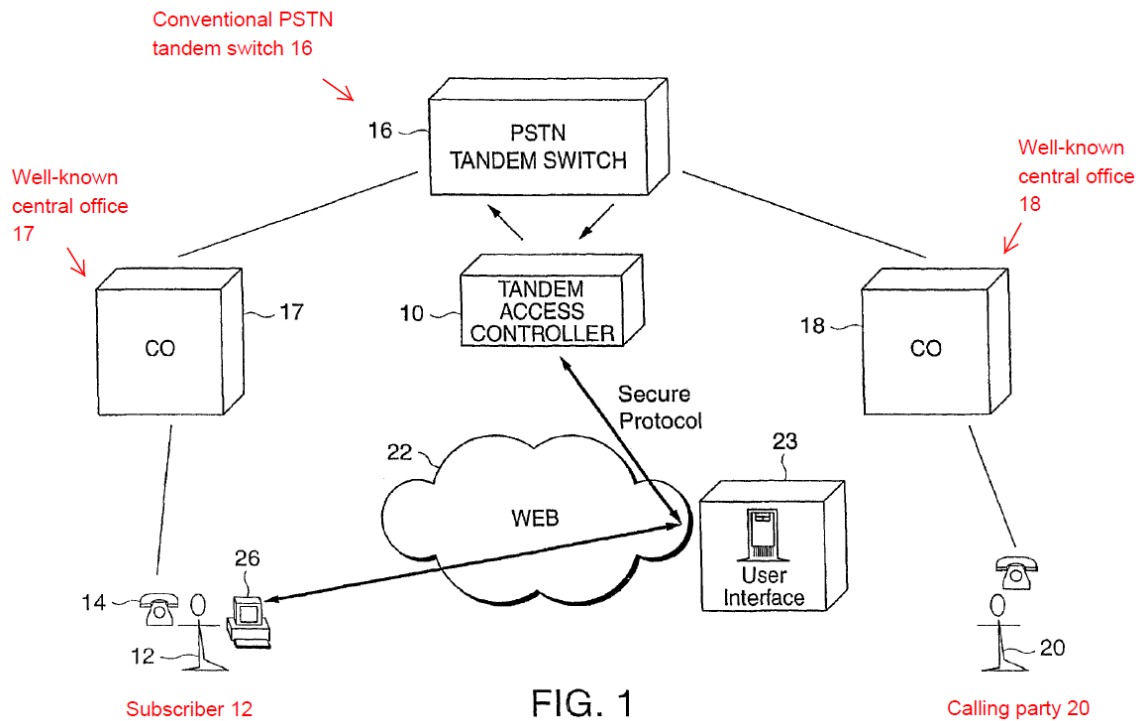
B. The ’777 Patent

The ’777 patent relates to telephone services. Ex. 1001, 1:18. In the background section, the ’777 patent describes 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 1:40–42. 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 1:42–46; Ex. 2022 ¶ 36; Ex. 1002 ¶¶ 38–45.

According to the ’777 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, 1:29–32. “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 2:36–39.

The ’777 patent discloses a system for allowing a subscriber to select telephone service features. *Id.* at 1:18–21. Figure 1 of the ’777 patent is reproduced below (with annotations).



Annotated Figure 1 illustrates tandem access controller 10 connected to conventional PSTN tandem switch 16. *Id.* at 4:40, 41. According to the ’777 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 4:40–51. 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.* at 4:40–44. 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 third party control information to subscriber 12. *Id.* at 4:52–55. The second call is placed “to the subscriber’s ‘private’ phone number,” without terminating the first call. *Id.* at 4:55–57. 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.* at 4:59–62.

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 5:13–21.

C. Illustrative Claim

Petitioner challenges claims 18, 21, 23, 25, 26, 28–31, 37, 38, 41, and 45 of the ’777 patent. Claims 18, 37, and 45 are independent claims. Claims 21, 23, 25, 26, and 28–31 depend directly from claim 18. Claims 38 and 41 depend directly from claim 37. Independent claim 18, reproduced below, is illustrative of the claimed subject matter:

18. A method for processing an incoming call from a switching facility on a communication *network that comprises edge switches for routing calls to subscribers within a local geographic area and switching facilities for routing calls to edge switches, or other switching facilities local or in other geographic areas* the method comprising the steps of:

receiving a first call, which is intended for a specified recipient, at *a controlling device in communication with the switching facility*;

identifying one or more control criteria previously associated with the specified recipient, wherein the one or more control criteria was entered via a web-based interface;

initiating a second call at the controlling device in accordance with the control criteria associated with the specified recipient; and

connecting the first and second calls at the controlling device after the second call is received by a communication device associated with the specified recipient.

Id. at 15:12–30 (emphases added).

Independent claim 37 is similar to claim 18, except that when the call is forwarded, the claim requires using a “packet-based connection.”

Independent claim 45 is similar to claim 18, except that instead of initiating a second call to a specified recipient, the original first call is routed to a “voicemail server.”

D. Instituted Grounds of Unpatentability

We instituted this trial based on the following grounds of unpatentability (Dec. 19):

Reference	Basis	Challenged Claims
O’Neal ²	§ 102(e) ³	18, 23, 25, 26, 29–31, 37, 38, 41, and 45
O’Neal	§ 103(a)	21 and 28

² U.S. Patent No. 6,463,145 B1, issued Oct. 8, 2002 (Ex. 1003) (“O’Neal”).

³ 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,

E. Patent Owner's Request to Repanel the Case

Patent Owner “requests assignment of a new panel to preside over this trial and to render the board’s final decision in this case” because the “IPR statutes . . . establish a ‘bifurcated’ IPR process.” PO Resp. 14–15, n.2. Paneling of cases rests with the Chief Administrative Patent Judge on behalf of the Director. *See, e.g., AOL Inc. v. Coho Licensing LLC*, Case IPR2014-00771, slip. op. at 2 (PTAB Mar. 24, 2015)(Paper 12)(informative); *see also* PTAB SOP 1, rev. 14 (May 8, 2015) at 2. Patent Owner’s suggestion was considered by the Chief Administrative Patent Judge, who declined to assign a new panel for this case.

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). Consistent with the broadest reasonable construction, 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).

125 Stat. 284 (2011) (“AIA”), we apply the pre-AIA version of 35 U.S.C. §§ 102 and 103 in this Decision.

1. “switching facility”

Each of the independent claims 18, 37, and 45 recites “switching facility.” Claim 18 is representative. The preamble of claim 18 recites “processing an incoming call from a switching facility on a communication network that comprises edge switches for routing calls to subscribers within a local geographic area and switching facilities for routing calls to edge switches, or other switching facilities local or in other geographic areas.”⁴ 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 ’777 patent. Rather, the term was introduced into the claims by amendment during prosecution. Ex. 1007, 75–95.

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. 6–8; Pet. 20; Paper 11, 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. 1008, 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

⁴ In this proceeding, the parties agree that the preamble should be given patentable weight. Pet. 24, 35–37; Prelim. Resp. 34; PO Resp. 38. For purposes of this Decision, we proceed on the assumption that the preamble should be given patentable weight.

DICTIONARY, (15th ed. 1999) (Ex. 1009) (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. 6–8.

In its Response, Patent Owner maintains that “switching facility” cannot include an edge switch or edge device. PO Resp. 1–10, 17–45. 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 37–42. In Patent Owner’s view, Applicants of the ’777 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 21. 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, 1:63–65, 3:23–25, 3:61–65. Significantly, neither “Tandem Access Controller” nor “tandem switch” appears in most of the challenged claims, including independent claim 18.⁵ In fact, Patent Owner admits that Applicants used “switching facility” in the claim instead of “tandem switch” to indicate that

⁵ Of the challenged claims, only dependent claims 29 and 30 recite “tandem access controller.”

“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 ¶ 43; Ex. 2022 ¶ 36), whereas “switching facility” refers to all five classes of switches in the PSTN (Ex. 1009) or “a facility in which switches are used to interconnect communications circuits on a circuit-, message-, or packet-switching basis” (Ex. 1008, S35). 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. Assocs. 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 analysis below because none of the challenged claims require a *direct* connection or communication between the controlling device and a switching facility. Indeed, independent claims 18, 37, and 45 recite “a controlling device *in communication with* the switching facility.” Ex. 1001, 15:19–20, 16:54–55, 18:25–26 (emphasis added). And even with respect to dependent claim 30, which recites a tandem access controller, the tandem access controller is *coupled to* at least one of the switching facilities. For the reasons stated below, we decline to construe “in communication with” or “coupled to” restrictively to require the processing

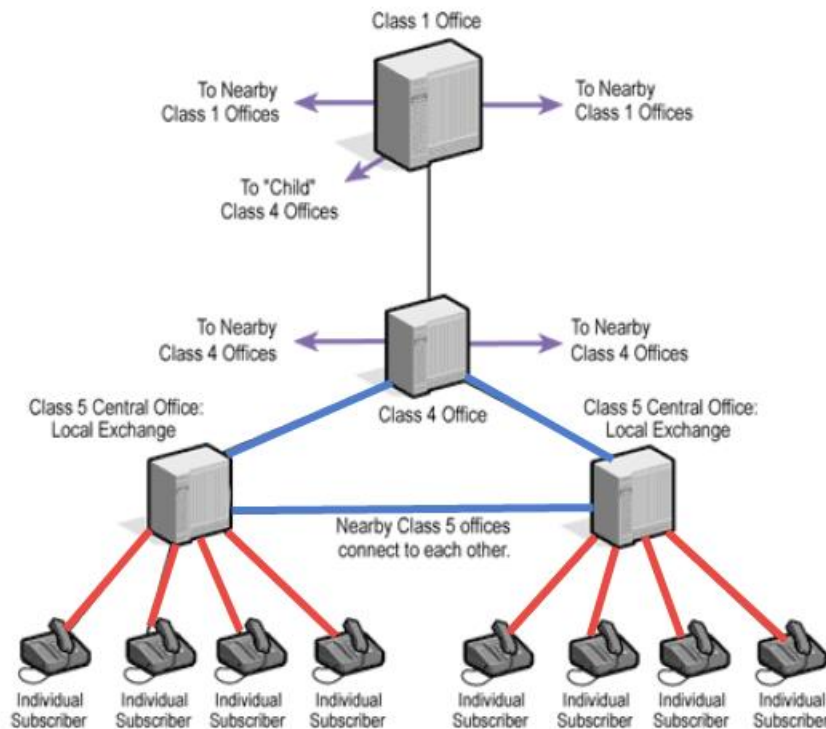
system to be in direct communication with or connected *directly* to a tandem switch in the network, as urged by Patent Owner.

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 a 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. 37–42; Ex. 2022 ¶¶ 61–65. Patent Owner’s arguments fail to appreciate that claim 18 sets forth two separate functional requirements: (1) “edge switches for *routing calls to subscribers* within a local geographic area”; and (2) “switching facilities for *routing calls to edge switches, or other switching facilities* local or in other geographic areas.” Ex. 1001, 15:14–17 (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 edge switches, or other switching facilities local” geographic areas, as recited in the second claim element. Ex. 1002 ¶¶ 39–45. 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. 1008, 391; Ex. 1009; Ex. 2005, 82, 82 n.1.

Notably, an ordinarily skilled artisan would have recognized that an edge switch can route calls to other edge switches directly or indirectly through a tandem switch, and to other switching facilities (e.g., a tandem switch). Ex. 1002 ¶¶ 39–45. Dr. Lavian’s testimony regarding the basic architecture of the PSTN (Ex. 1002 ¶¶ 39–45) provides the following diagram (reproduced below with red and blue highlighting added).



As shown in the highlighted Figure from Dr. Lavian's testimony 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 to other edge switches directly or indirectly through a tandem switch (highlighted in blue). Ex. 1002 ¶¶ 39–45.

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 Dr. Lavian's Figure, Ex. 1002 ¶¶ 39–45). 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. 38–42; 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 the function—i.e., switching facilities for *routing calls from an edge switch* to other edge switches—can be performed by a tandem switch without an edge switch. PO Resp. 38–42; 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. 39–42; Ex. 2022 ¶¶ 63–65 (emphasis added). However, that argument is not commensurate with the scope of the claims. Independent claim 18, for example, does not require every switching facility to perform that function. In fact, that claim uses the term “or” rather than “and”—e.g., “switching facilities for routing calls to edge switches, *or* other switching facilities *local or* in other geographic areas.” Ex. 1001, 15:15–17 (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 ¶¶ 39–45.

In light of the foregoing, Patent Owner’s arguments (PO Resp. 37–42) and Mr. Bates’ testimony (Ex. 2022 ¶¶ 61–65) that the claim language 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 “switching facility” is not an edge switch or edge device, and the claimed controlling device “in communication with” the switching facility must exclude a connection or communication through an edge switch. PO Resp. 1–10, 17–45. 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 claims do 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. 1008, 391; Ex. 1009; Ex. 1002 ¶ 60.

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, 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, 1:32–35, 1:54–62, 2:35–49), to support their

assertion that Applicants disparage the application of call control features at an *edge switch*. PO Resp. 21–22; Ex. 2022 ¶¶ 46, 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, 1:63–65 (“A preferred embodiment of the inventive system described herein connects at the tandem, thereby eliminating these problems.”), 3:23–25 (“In one embodiment, the system includes a processor (referred to herein as a tandem access controller”), 3:61–63 (“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 3:35–51. 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. 21–24; 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 reside in the PSTN central offices and “offer an extremely limited number of features.” Ex. 1001, 1:32–35, 1:66–2:11; 2:35–49. Notably, nothing in the Specification disparages a unified messaging system connecting to both an IP network and a PSTN that is not residing within a PSTN central office, as taught in O’Neal. Ex. 1003, Fig. 1. Therefore, if there is a disclaimer, such a

disclaimer, at most, is limited to those prior art edge devices 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, each challenged claim is directed to a method for processing an incoming call. In the described embodiments, the Specification does not describe requiring a controlling device, as claimed, to be connected to, or in communication with, a tandem switch *directly*. Ex. 1001, 3:35–52. 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 any of the challenged claims. 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. LLC*, 669 F.3d 1362, 1366 (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. 27–35; Ex. 2022 ¶¶ 55–59. As an initial matter, no unmistakable disclaimer is found in the Specification for the reasons 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. 6–8. 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 includes an edge switch. Indeed, “hybrid switches” are both an edge switch and a tandem switch. Ex. 2002, 4. Mr. Bates also admits in his cross-examination testimony that “wire centers” were known to be used in a “central office” and in a “class 5” (edge) switch. Ex. 1041, 62:15–63:2. 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. 33–34. 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 33–34; 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. 1008, 391; Ex. 1009) and the usage of the term in the claims (Ex. 1001, 12:26–29), as well as the general knowledge of a person with ordinary skill in the art (Ex. 1002 ¶ 60). 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. 33–34; 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 ¶¶ 39–45. 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. 1008, 391; Ex. 1009; Ex. 1002 ¶¶ 39–45, 60. 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. 27–35. 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. 29 (citing Ex. 2005, 110) (emphasis added by Patent Owner). However, notwithstanding this agreement between Applicants and the Examiner during the prosecution history of the '777 patent, most of the claims in the '777 patent do not recite that limitation. Neither a "tandem access controller" nor a "tandem switch" is recited in claims 18, 37, or claim 45, and do not recite a *direct connection* between these two devices. Applicants of the '777 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 the challenged claims. *See Ventana*, 473 F.3d at 1182 (holding that the alleged disclaimer made with respect to another claim limitation did not apply to the asserted 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 ’777 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. 1–10, 17–45; 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 ’777 patent (Ex. 1008, 391; Ex. 1009; Ex. 1002 ¶¶ 39–45, 60), the usage of the term in the claims (Ex. 1001, 12:26–29), and the intrinsic evidence (Ex. 2005, 82, n.1).

2. “*in communication with*”/“*coupled to*”

Each of the independent claims 18, 37, and 45 recites a “controlling device in communication with the switching facility.” Claim 30, which depends from claim 29, which in turn depends from claim 18, recites “the tandem access controller . . . coupled to . . . the switching facilities.” The parties analyze the “in communication with” and “coupled to” terms together. Pet. 25–27; PO Resp. 43–45. Petitioner argues that the broadest

reasonable interpretation of “coupled to” means “connected directly or indirectly,” and “in communication with” means “direct or indirect communication.” Pet. 25–27. In the Institution Decision, we adopted Petitioner’s proposed construction as it is consistent with the plain and ordinary meaning of “in communication with/coupled to,” and rejected Patent Owner’s proposal that requires the controlling device be in communication with the switching facility directly (independent claims 18, 37, and 45) or that the tandem access controller be coupled to the switching facilities directly (dependent claim 30). Dec. 8–10.

In its Response, Patent Owner maintains that the controlling device 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,” and an amendment made adding the phrase “coupled to a switching facility for routing calls to edge switches or other switching facilities in local or other geographic areas.” PO Resp. 43–45.

As we noted in the Institution Decision (Dec. 9), Patent Owner does not dispute that the plain and ordinary meaning of the term “in communication with” or “coupled to” does not require a direct connection between the controlling device and the switching facility. Indeed, as Petitioner points out (Reply 17), 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).

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 independent claims 18, 37, and 45. Although dependent claims 29 and 30 recite a tandem access controller, neither claim recites a tandem switch or a tandem access controller directly connected to a tandem switch. The Specification clearly discloses that connecting a tandem access controller *directly* to a tandem switch is *a preferred embodiment*. Ex. 1001, 1:63–65, 3:23–25, 3:61–65. In other embodiments that disclose web-enhanced services, the Specification does not disclose such a connection. *Id.* at 3:35–52.

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” and “in communication with,” interpreting the terms to include direct or indirect coupling and communication.

3. “controlling device”

Each of independent claims 18, 37, and 45 recites a “controlling device.” Patent Owner alleges that a “controlling device” cannot be an edge device or a system that applies call control features through an edge switch, relying on its disclaimer arguments. PO Resp. 42–43.

Once again, Patent Owner attempts to import limitations from a preferred embodiment into the claim. As discussed above, the Specification clearly discloses that connecting a controller *directly* to a tandem switch device, is *a preferred embodiment*. Ex. 1001, 1:63–65, 3:23–25, 3:61–65. In other embodiments that disclose web-enhanced services, the Specification does not disclose such a connection. *Id.* at 3:35–52.

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. In light of the claim language and Specification, we determine that the plain and ordinary meaning of “controller” does not require a controller that is connected *directly to a tandem switch*.

B. Principles of Law

Anticipation, under 35 U.S.C. § 102, requires a lack of novelty. *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001). To establish anticipation, each and every element in a claim, arranged as is recited in the claim, must be found in a single prior art reference. *Id.*

Additionally, 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. *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. Lavian testifies that a person with ordinary skill in the art “would have a bachelor’s degree in electrical engineering, computer science, or the equivalent thereof and approximately 2 years of professional experience within the field of telecommunications or network communications.” Ex. 1002 ¶ 19. Mr. Bates, Patent Owner’s declarant, agrees with this assessment. Ex. 2022 ¶ 22.

Therefore, we adopt Dr. Lavian’s assessment of a person with ordinary skill in the art. We further note that the prior art of record in the instant proceeding 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).

D. Claims 18, 23, 25, 26, 29–31, 37, 38, 41, and 45 - Anticipated by O’Neal

Petitioner contends that claims 18, 23, 25, 26, 29–31, 37, 38, 41, and 45 are unpatentable under 35 U.S.C. § 102(e) as anticipated by O’Neal. Pet. 35–53. Relying on the testimony of Dr. Tal Lavian, Petitioner explains how O’Neal describes all of the claim limitations. *Id.* (citing Ex. 1002).

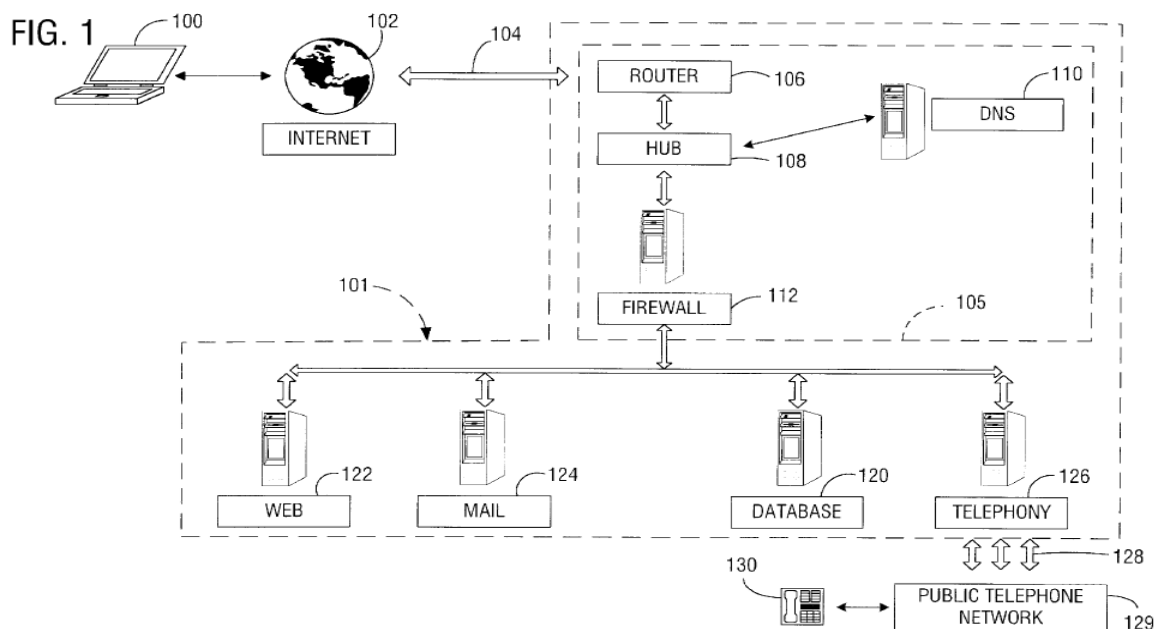
Relying on Mr. Bates’ testimony (Ex. 2022), Patent Owner opposes, arguing that O’Neal does not disclose: (1) a controlling device in communication with a switching facility; and (2) the step of “connecting the first and second calls at the controlling device after the second call is received by a communication device associated with the specified recipient,” as recited in claims 18 and 37. PO Resp. 55–61.

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

1. O’Neal

O’Neal describes communication services available via a data-centric network and a telephony-centric network. Ex. 1003, 1:48–50. A subscriber of various communication services reviews and customizes communication options, in an interactive and simplified manner, via either the data-centric network or the telephony-centric network. *Id.* at 1:52–57.

Figure 1 of O’Neal is reproduced below.



As illustrated in Figure 1 of O’Neal, unified messaging system 101 is connected to a public telephone network 129, such as PSTN through telephone link 128. *Id.* at 9:9–30, Fig. 1. Unified messaging system 101 includes telephony server 126 that receives calls made to a subscriber and reroutes the call in accordance with a subscriber's communication option setting by forwarding the call to the subscriber via an alternate number. *Id.* at 9:55–58, 11:40–51, 15:14–43.

The subscriber may use user computer 100 to access the unified messaging system through a website over a data-centric network 102 such as the Internet. *Id.* at 16:35–17:10, 5:41–60, Fig. 1. Website access allows the subscriber to review and/or modify their communication options. *Id.* at 16:36–64, 7:45–8:22, Fig. 1. For example, with regard to call forwarding, the subscriber is “able to check whether it is enabled, verify the forwarding number, select a number from a preprogrammed list, add a new number to a preprogrammed list, or enter a temporary number.” *Id.* at 5:62–6:9. When a caller calls the subscriber, the call is routed over public telephone network 129 and received by the telephony server of the unified messaging system. *Id.* at 8:41–62, 9:20–30, 15:14–43, 17:11–49, Fig. 1. The telephony server then uses the subscriber’s communication option settings to “decide how to handle the message.” *Id.* at 8:41–9:9. If the subscriber has enabled “call forwarding,” the “telephony server receives the forwarding number from the database server and initiates an outgoing call (step 706) to the forwarding number on another port (e.g., one of the outgoing lines as seen in FIG. 2).” If “the call is accepted” by the subscriber, the telephony server completes the call by “connect[ing] the port of the incoming call with the port of the outgoing call.” *Id.* at 17:11–49, 11:40–51, Figs. 1, 3–4, and 7. In this

manner, the telephony server may route the call back through the public telephone network to the subscriber “in accordance with a subscriber's communication option setting.” *Id.* at 8:41–62, 9:20–30, 9:55–58, 11:40–51, 15:14–43, 17:11–49, Fig. 1.

O’Neal further discloses that the subscriber could be using a computer “enable[d] [with] digital/Internet telephony.” *Id.* at 19:1–8. The telephony server can re-route the call to the subscriber through the Internet “in accordance with a subscriber's communication option setting.” *Id.* at 9:55–58, 18:19–23, 19:1–8, Fig. 1.

2. Discussion

Petitioner asserts that O’Neal describes all of the elements of independent claims 18, 37, and 45. Pet. 35–43, 48–50, 51–53. Claim 18 is representative and in the preamble recites “processing an incoming call from a switching facility on a communication network that comprises edge switches for routing calls to subscribers within a local geographic area and switching facilities for routing calls to edge switches, or other switching facilities local or in other geographic areas.” Ex. 1001, 15:12–17. Claim 18 also recites “a controlling device in communication with the switching facility.”

For the “switching facility” limitations, the parties’ dispute centers on whether O’Neal discloses a controlling device “in communication with the switching facility.” PO Resp. 60–61; Pet. Reply 18. As discussed above, we construe “switching facility” as “any switch in the communication network,” rejecting Patent Owner’s narrow construction that a switching facility excludes edge switches. We also interpret “in communication with” and “controlling device” consistent with their plain and ordinary meanings,

rejecting Patent Owner’s narrow construction that requires a *direct* connection (or direct communication) between the controlling device and a *tandem switch*. *See supra*, Section II. A.

Petitioner contends that O’Neal describes these limitations. In particular, Petitioner alleges that O’Neal discloses telephony-centric network 129—e.g., the PSTN that is a network that comprises edge switches and tandem switches (switching facilities) as claimed. Pet. at 36 (citing Ex. 1003, 9:10–19, Fig. 1). Petitioner further contends that it is inherent that an incoming call comes from a switch (“switching facility”) of the public telephone network and that a skilled artisan would have understood that the connection between the unified messaging system and the public telephone network illustrated by arrows 128 in Figure 1 is a connection with a switch of the network. *Id.* at 36 (citing Ex. 1007, 94; Ex. 1002 ¶ 83). Petitioner argues that because the PSTN is a “communication network that comprises edge switches for routing calls to subscribers within a local geographic area and switching facilities for routing calls to edge switches, or other switching facilities local or in other geographic areas,” O’Neal discloses all elements of the preamble’s communication network. *Id.* at 36–37 (citing Ex. 1003, 8:41–62, 9:20–30, 15:14–43, Fig. 1; Ex. 1002 ¶ 84).

Petitioner also explains that O’Neal discloses “a controlling device in communication with the switching facility” in that O’Neal’s unified messaging system 101 is a controlling device in communication with the PSTN 129 through tandem switches of the PSTN 129. *Id.* at 37–38 (citing Ex. 1003, 9:10–19, 9:26–30, Fig. 1; Ex. 1002 ¶¶ 85–87; Ex. 1007, 94).

Patent Owner argues that O’Neal does not disclose a controlling device in communication with a switching facility *directly* because,

O’Neal’s system is connected to an edge switch, and the claimed “switching facility” cannot be an edge switch. PO Resp. 60–61.

Patent Owner’s arguments are premised on its narrow interpretations of “switching facility,” “in communication with,” and “controlling device.” *Id.* As discussed above, we decline to construe “switching facility” to exclude an edge switch, and decline to require *direct communication* between the claimed controlling device 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 into the claims. *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).

Based on the evidence in this full trial record, we determine that Petitioner has shown sufficiently that O’Neal describes a controlling device in communication with a switching facility of the PSTN. O’Neal’s unified messaging system 101 (controlling device), which includes web server 122 and telephony server 126, is connected to, or in communication with, the PSTN. Ex. 1003, 9:10–30, Fig. 1. Dr. Lavian testifies that it is inherent that “[c]onnections with the public telephone network over which telephone calls leave the network are connections with one of the network’s switches” and that “[o]ne of ordinary skill in the art would understand that the connection between the unified messaging system and the public telephone network illustrated by arrows 128 in Figure 1 is a connection with a switch of the network.” Ex. 1002 ¶ 84. It is undisputed that O’Neal’s unified messaging system 101 is in communication with a PSTN switch—connecting directly

to an edge switch, or indirectly to a tandem switch of the PSTN. PO Resp. 60–61; Pet. 37–38; Pet. Reply 18. As discussed above, a “switching facility” encompasses all five classes of switches in the PSTN including an edge switch. Ex. 1008, 391; Ex. 1009; Ex. 2005, 82, n.1.

Based on the evidence in the entire trial record, we determine that Petitioner has demonstrated by a preponderance of the evidence that O’Neal, describes the aforementioned “switching facility” limitations recited in independent claims 18, 37, and 45.

Claim 18 further recites “identifying one or more control criteria previously associated with the specified recipient, wherein the one or more control criteria was entered via a web-based interface.” Petitioner relies on O’Neal’s subscriber communication options such as call forwarding, follow me service, or alternate number service stored by the unified messaging system in a subscriber communication profile database as meeting the control criteria element of claim 18. *Id.* at 38–39 (citing Ex. 1003, 7:45–65, 2:44–64, 11:13–12:65, Figs. 3–4). Petitioner further contends that the communication options are “previously associated” as claimed because they are used to route subsequent calls. *Id.* at 39 (citing Ex. 1003, 7:57–65). Petitioner relies on O’Neal’s description that a subscriber “review[s] and/or modif[ies] [their] communication options” using a website provided by web server 122 of the unified messaging system as meeting the entered with a web base server limitation of claim 18. *Id.* (citing Ex. 1003, 16:36–64, 7:45–8:22, Fig. 1). Petitioner further contends that the communication options are identified by the unified messaging system when a call is received. *Id.* (citing Ex. 1003, 8:41–9:9, 13:10–15). We are persuaded by Petitioner’s showing and find that O’Neal describes “identifying one or

more control criteria previously associated with the specified recipient, wherein the one or more control criteria was entered via a web-based interface.” Patent Owner does not dispute that O’Neal meets this limitation.

Claim 18 recites “initiating a second call at the controlling device in accordance with the control criteria associated with the specified recipient.” Petitioner asserts that O’Neal discloses that the communication option settings (control criteria) for a subscriber may indicate that the “call forwarding” option is enabled, and that calls to the subscriber should be forwarded to a particular number, such as “1234567890.” *Id.* at 42 (citing Ex. 1003, Fig. 3). Petitioner directs attention to O’Neal’s description that “the telephony server receives the forwarding number from the database server and initiates an outgoing call (step 706) to the forwarding number on another port (e.g., one of the outgoing lines as seen in FIG. 2).” *Id.* at 42 (citing Ex. 1003, 17:11–49, 11:40–51, Figs. 1, 3, 4, and 7). Petitioner argues that the initiation of the outgoing call describes “initiating a second call at the controlling device in accordance with the control criteria associated with the specified recipient.” *Id.* at 42 (citing Ex. 1002 ¶ 94). We are persuaded by Petitioner’s showing and find that O’Neal describes “initiating a second call at the controlling device in accordance with the control criteria associated with the specified recipient.” Patent Owner does not dispute that O’Neal meets this limitation.

Finally, claim 18 recites “connecting the first and second calls at the controlling device after the second call is received by a communication device associated with the specified recipient.” Claim 37 recites a similar limitation, but independent claim 45 does not. Petitioner contends that O’Neal’s description that “[i]f the outgoing call [i.e., the second call] is

successfully connected to the telephony server (step 708), the telephony server then connects the port of the incoming call [i.e. the first call] with the port of the outgoing call (step 710) to complete the end-to-end connection (step 712).” *Id.* at 42–43 (citing Ex. 1003, 17:29–42; Ex. 1002 ¶ 95). Dr. Lavian testifies that “[t]his completion of the end-to-end connection by the telephony server of the unified messaging system discloses” the limitation. Ex. 1002 ¶ 95. We are persuaded by Petitioner’s explanation and Dr. Lavian’s testimony, as they are supported by O’Neal’s disclosure. Ex. 1003, 17:29–42, Fig. 7.

Patent Owner counters that O’Neal does not disclose connecting the first and second calls *after* the second call is received, as recited in claims 18 and 37, because O’Neal discloses that the first and second calls are connected *before* the second call is received. PO Resp. 56–60. According to Patent Owner, it is clear that “connecting” the calls, in O’Neal, is something different than and occurs *before* the recipient’s communication device receives the second call because O’Neal first indicates successfully “connecting” the outbound call to the telephony server and then, discusses that the call forwarding will be deemed successful when the call is “accepted” (answered). *Id.*

However, Patent Owner’s argument is premised on an erroneous interpretation of O’Neal that squarely contradicts both O’Neal and the cross-examination testimony of its own declarant, Mr. Bates as to how O’Neal works. As Petitioner notes (Reply 21), Mr. Bates’ cross-examination testimony includes the following discussion regarding O’Neal (Ex. 1041, 82:14–84:11 (emphases added)):

[Mr. Bates' answer:] Then the dialogic board dials out across the PSTN, and when somebody picks up, the call is considered to be forwarded.

Q. And it's at that point that the incoming call gets connected to the outgoing call?

[Mr. Bates' answer:] Correct.

Q. Okay. And that's *when there can be voice communication from the caller to the called party*?

[Mr. Bates' answer:] *When that party answers*. But I have still created the path inside that dialogic board, a full path and threw it out.

The testimony of Mr. Bates makes clear that, in O'Neal, the voice communication link between the caller and the intended recipient is completed *after* the intended recipient answers (or accepts) the call. *Id.* Mr. Bates' testimony is consistent with Figure 7, boxes 708 and 710, and the accompanying description of Figure 7. Ex. 1003, 17:29–42.

After considering the entirety of the full trial record, we are persuaded that Petitioner has established by a preponderance of the evidence that O'Neal describes connecting the first and second calls at the controlling device after the second call is received by a communication device associated with the specified recipient as required by claim 18 and claim 37.

Independent claims 37 and 45 are similar to claim 18 except as noted above in this decision. Petitioner has made a showing with respect to claims 37 and 45 similar to its showing with respect to claim 18. *See, e.g.*, Pet. 48–50, 51–53. To the extent that claims 37 and 45 are different from claim 18, Petitioner has accounted for such differences. For example, claim 37 differs from independent claim 18 by requiring that the initiated second call at the controlling device is “*via a packet-based connection* in accordance with the control criteria associated with the specified recipient.” Petitioner argues

that O’Neal describes that its call forwarding option can be used by subscribers with “any computer that is configured to function as a phone set, i.e., a computer equipped with a speaker, microphone, and appropriate software to enable digital/Internet telephony.” Pet. 44, 49 (citing Ex. 1003, 19:1–8). Petitioner contends that such “digital/Internet telephone” is a packet-based connection. We determine that Petitioner has established that O’Neal describes initiating a second call at the controlling device “*via a packet-based connection* in accordance with the control criteria associated with the specified recipient.” Patent Owner does not contest that this element of claim 37 is met by O’Neal. Rather, Patent Owner’s arguments with respect to claim 37 are to those same claim elements that are in claim 18, which we have discussed above. We also have reviewed Petitioner’s showing with respect to independent claim 45, which differs from claim 18 in that it does not recite the connecting limitation discussed above (e.g., “connecting the first and second calls at the controlling device after the second call,” etc.) but does recite “routing the first call from the controlling device *to a voicemail server* in accordance with the control criteria associated with the specified recipient.” Petitioner contends that O’Neal’s description that if a subscriber chooses not to activate call forwarding, then calls may be forwarded to the subscriber’s mail box, meets the limitation. Pet. 52–53 (citing Ex. 1003, 11:47–51). We determine that Petitioner has established that O’Neal describes “routing the first call from the controlling device to a voicemail server in accordance with the control criteria associated with the specified recipient.” Patent Owner does not contest that this element of claim 45 is met by O’Neal. Rather, Patent Owner’s

arguments with respect to claim 45 are to those claim elements that are similar to the claim elements in claim 18, which we have discussed above.

Lastly, we are persuaded by Petitioner's showing with respect to dependent claims 23, 25, 26, 29–31, 38, and 41. For example, dependent claim 25, which depends directly from claim 18, recites “wherein at least one of the first and second calls is facilitated via a VoIP connection.” Dependent claim 41, which depends directly from claim 37, recites a similar limitation. Petitioner persuasively accounts for this limitation similar to the packet-based connection limitation of claim 37 discussed above. Pet. 44–45, 51 (citing Ex. 1003, 19:1–8). We determine that Petitioner has established that O’Neal describes the “VoIP connection” limitations. Claim 29 depends from claim 18 and recites “wherein the controlling device is configured as a tandem access controller.” Claim 30 depends directly from claim 29 and further recites “wherein the tandem access controller is coupled to and operates in conjunction with at least one of the switching facilities located within the communication network.” Although the limitations of these claims further narrow the subject matter of claim 18, they nonetheless are not as narrow as Patent Owner urges. In other words, even though claims 29 and 30 further specify that the controlling device is a tandem access controller that is coupled to one of the switching facilities in the network, based on our claim construction of “switching facility,” and “coupled to,” the claims do not require the tandem access controller to be directly coupled to a tandem access switch as Patent Owner argues for reasons already discussed. Patent Owner does not make any additional arguments regarding claims 23, 25, 26, 29–31, 38, and 41 that do not pertain to claim 18.

Based on the record before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 18, 23, 25, 26, 29–31, 37, 38, 41, and 45 are anticipated by O’Neal.

E. Asserted Obviousness over O’Neal

Petitioner contends claims 21 and 28 are unpatentable under 35 U.S.C. § 103(a) as obvious over O’Neal. Pet. 53–59. Relying on the testimony of Dr. Tal Lavian, Petitioner explains how O’Neal teaches or suggests all of the claim limitations. *Id.* (citing Ex. 1002).

Based on the record before us, Petitioner has accounted sufficiently for dependent claims 21 and 28. For example, claim 21 depends directly from claim 18 and recites “wherein the controlling device is implemented using a distributed architecture spanning at least two locations.” Petitioner contends that at the time of the invention, using a distributed architecture for components in a network (whether a computer network or a telecommunications network), was a known design option. Pet. 54. Petitioner explains, with supporting evidence, that at the time of the invention, PSTN telecommunications networks were based on a distributed architecture spanning many locations that would reduce the risk of a network failure caused by a disaster at a particular location, such as a power outage or fire. *Id.* (citing Ex. 1002 ¶¶ 123–125). Petitioner concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the system and method disclosed in O’Neal using a distributed architecture spanning at least two locations. *Id.* We are persuaded by Petitioner’s showing, and adopt it as our own, that O’Neal renders obvious claim 21. Patent Owner does not present arguments with respect to claim 21 separate from the arguments addressed previously.

We also have reviewed the Petition with respect to claim 28 and determine that Petitioner has accounted sufficiently for claim 28. Pet. 58 (citing Ex. 1002 ¶¶ 132–133). Patent Owner argues that Petitioner failed to meet its burden to show that “Dependent Claims 18 and 21 are obvious over O’Neal.” PO Resp. 62. Presumably Patent Owner intended to make this argument with respect to claims 21 and 28, as claim 18 is an independent claim. Nonetheless, Patent Owner provides no other argument, or evidence, to demonstrate that Petitioner “presented no substantive analysis as to why O’Neal suggests or renders obvious these Claims.” *Id.* Petitioner did provide a substantive analysis for both of these claims. Pet. 53–55, 58. Patent Owner’s conclusory argument is unavailing.

For the above reasons, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 21 and 28 are unpatentable under § 103(a) as obvious over O’Neal.

F. Motion to Amend

Patent Owner requests, should independent claims 18 and 37 be determined to be unpatentable, that the ’777 patent be amended to include substitute claims 47 and 48, respectively. Mot. 1. Petitioner opposes the request. Opp. Mot. 1. For the reasons that follow, we *deny* Patent Owner’s Motion to Amend.

We first turn to the United States Court of Appeals for the Federal Circuit’s en banc decision in *Aqua Products*. The Federal Circuit remanded the case “for the Board to issue a final decision under § 318(a) assessing the patentability of the proposed substitute claims without placing the burden of persuasion on the patent owner.” 872 F.3d at 1296. Judge Reyna’s opinion in *Aqua Products* stated “a majority of the court interprets § 316(e) to be

ambiguous as to the question who bears the burden of persuasion in a motion to amend claims.” *Id.* at 1335. Part III of Judge Reyna’s opinion⁶ stated that “Part III of this opinion sets forth the judgement of this court on what the Board may and may not do with respect [to] the burden of production on remand in this case,” and “[t]here is no disagreement that the patent owner bears a burden of production in accordance 35 U.S.C. § 316(d).” *Id.* at 1340–1341; *see also, e.g., id.* at 1305–06 (explaining that “patent owner must satisfy the Board that the statutory criteria in § 316(d)(1)(a)–(b) and § 316(d)(3) are met and that any reasonable procedural obligations imposed by the Director are satisfied”).

On November 21, 2017, the Office provided guidance on motions to amend in view of *Aqua Products*. *See* “Guidance on Motions to Amend in view of *Aqua Products*” (Nov. 21, 2017) (https://www.uspto.gov/sites/default/files/documents/guidance_on_motions_to_amend_11_2017.pdf). As discussed therein, in addition to the requirements of 35 U.S.C. § 316(d), a motion to amend must meet the requirements of 37 C.F.R. § 42.121.

Patent Owner’s proposed substitute claim 47 (for original claim 18) is representative and is set forth below with underlining indicating inserted text and strikethrough indicating deleted text. Ex. 2062.

47. A method for processing ~~an~~ a first incoming call from a ~~switching facility~~ particular PSTN tandem switch on a PSTN communication network ~~that~~ using a tandem access controller, wherein the PSTN communication network comprises edge switches ~~for routing~~ connected to telephones on one side and to PSTN tandem switches on the other side, wherein the particular

⁶ Part III of Judge Reyna’s opinion was joined by Chief Judge Prost and Judges Dyk, Taranto, Chen, and Hughes.

PSTN tandem switch is one of the PSTN tandem switches, wherein the edge switches route calls to subscribers within a local geographic area and switching facilities for routing, and wherein the PSTN tandem switches route calls to the edge switches, or other switching facilities to the PSTN tandem switches local or in other geographic areas, wherein the PSTN tandem switches are not the edge switches, and wherein the PSTN tandem switches are not directly connected to the telephones, the method comprising the steps of:

receiving a first request to establish the first incoming call, which is intended for a specified recipient, at a controlling device tandem access controller in communication with the switching facility; particular PSTN tandem switch, wherein communications, including the first request to establish the first incoming call, between the tandem access controller and the particular PSTN tandem switch, occur without passing through any of the edge switches,

identifying one or more control criteria previously associated with the specified recipient at the tandem access controller, wherein the one or more control criteria was entered via a web-based interface;

initiating the sending of a request to establish a second call at the controlling device, without yet answering the first incoming call, at the tandem access controller in accordance with the control criteria associated with the specified recipient; and

connecting answering the first and incoming call at the tandem access controller when the second calls at the controlling device after the second call is received answered by a communication device associated with the specified recipient; and

connecting the first incoming call and the second call at the tandem access controller after the second call is received and answered by the communication device associated with the specified recipient.

Id.

An amendment may not enlarge the scope of the claims of the patent or introduce new matter. 35 U.S.C. § 316(d)(3). In connection with its motion to amend, a patent owner must set forth “support in the original

disclosure of the patent for each claim that is added or amended.” 37 C.F.R. § 42.121(b)(1). We first address whether Patent Owner’s Motion to Amend sets forth how the original application provides written description support for the amended claims. The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to a person of ordinary skill in the art that the inventor had possession at that time of filing of the claimed subject matter, rather than the presence or absence of literal support in the specification for the claim language. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc); *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563 (Fed. Cir. 1991); *In re Kaslow*, 707 F.2d 1366, 1375 (Fed. Cir. 1983). One shows that one is “in possession” of the invention by describing the invention, with all its claimed limitations, not that which makes it obvious. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997); *In re Wertheim*, 541 F.2d 257, 262 (CCPA 1976).

Both proposed substitute claims 47 and 48 contain the following new limitation “*answering the first incoming call at the tandem access controller when the second call is answered by a communication device associated with the specified recipient.*” Patent Owner argues that “[s]upport for the Proposed Substitute Claims from the original disclosure of the patent . . . is provided in Ex. 2041” (a claim listing). Mot. 4. Besides referring to a single paragraph in Ex. 2040 (Bates’ Declaration), the motion provides no further explanation. *Id.* at 4–5. While Patent Owner is correct that we authorized it to file an appendix with a claim listing showing text of the specification alongside corresponding claim elements, Patent Owner was not excused from setting forth how the original disclosure provides written description

support for the proposed substitute claims. Paper 23, 3 (“[w]e cautioned that Patent Owner should not include in its appendix any argument or characterizations in support of written description”). In other words, Patent Owner was implicitly instructed to put arguments or characterizations in support of written description not in the appendix, but rather in its motion.

In Exhibit 2041, Patent Owner lists the amended claim in one column, and the alleged support beside the claim language. For the disputed limitation, Patent Owner directs attention to the following paragraph and Figure 5 of the ’965 application with no further explanation.

The PSTN tandem switch 16 directs a first call (from the calling party 20 to the subscriber’s phone 14 using the subscriber’s public phone number) to the TAC 10, which in turn places a second call, subject to 3rd-party control information, to the subscriber’s “private” phone number without yet terminating the first call. The TAC 10 is connected within the subscriber’s local service area so calls from TAC 10 to the subscriber do not incur a toll. When the subscriber 12 terminates (or answers) the second call, *the TAC 10 terminates the first call and connects it to the second call*, thereby connecting the calling party 20 to the subscriber 12. Hence, the calling party essentially calls the TAC 10, using the subscriber’s public phone number, *and the TAC 10, after processing the call using the selected features*, calls the subscriber, as appropriate, using the subscriber’s private phone number and connects the two calls. *The process is transparent to the parties.*

Ex. 2042, 7 (emphasis added).

The above description does not describe that the TAC *answers* the first call when the subscriber answers the second call. Rather, the description states that the “TAC 10 *terminates* the first call and connects it to the second call.” Figure 5 of the application does not disclose either the words “answer” or “terminate.” Patent Owner, however, provides no

explanation for why “terminates” in the context of the TAC provides written description support for “answering the first incoming call at the tandem access controller” as newly claimed in the substitute claims. While *ipsis verbis* support for claim terms is not necessary, it is incumbent upon the Patent Owner to set forth where the original disclosure provides written description support for the proposed substitute claims.

In its Reply, addressing Petitioner’s argument that there is no written description support for “answering the first incoming call at the tandem access controller” (Opp. 6), the Patent Owner argues that the terms “answering” and “terminating” are equated in the ’777 patent specification, and these terms are known to a person of ordinary skill “to have the same meaning” in the context of the ’777 patent. Reply 12. In particular, Patent Owner argues that the specification contemplates a *subscriber* “terminat[ing] (or answer[ing])” a call placed to subscriber 12 on phone 14. *Id.* (citing Ex. 1001, 4:59–60). We disagree that this sentence—“When the *subscriber* 12 terminates (or answers) the second call, the *TAC 10 terminates* the first call and connects it to the second call, thereby connecting the calling party 20 to the subscriber 12”—from the ’777 patent (Ex. 1001, 4:59–62) or the original specification (Ex. 2042, 7), supports Patent Owner’s contention. The description includes “or answers” in a parenthetical, not just the word “answers.” In other words, terminates “or answers” means that there are two actions the subscriber may take. The subscriber may either terminate the call, or may answer the call. The description does not necessarily mean that the two terms have the same meaning as Patent Owner asserts. In any event, the phrase “terminates (or answers)” is with respect to a *subscriber*, not the *TAC*. In fact, reading the entire sentence, as a whole, when the subscriber

takes either action (terminates or answers the second call), the TAC merely *terminates* the first call and connects it to the second call, not answers the first call.

Even assuming that “answer” means the same thing as “terminate” in the context of the subscriber, the same is not necessarily true for the TAC. Notably, the same parenthetical is missing from the description that the “TAC 10 *terminates* the first call and connects it to the second call.” We will not assume that an equality of functions with respect to the subscriber also applies to the TAC.

In support of Patent Owner’s Reply arguments, Mr. Bates, directing attention to the same single paragraph for support, testifies that:

These terms are known to a POSA to have the same meaning, when used in the context found in the relevant section of the ’777 Patent. The number of possible options the subscriber can perform when faced with a ringing telephone is limited. Either the subscriber can answer the telephone or let it keep ringing.

Ex. 2070 ¶ 50.

Mr. Bates’ testimony is with respect to the *subscriber*, but he does not address the TAC. For instance, in Mr. Bates’ hypothetical that a subscriber can only answer a ringing telephone or let it keep ringing, Mr. Bates does not explain how the same would work for the TAC. For instance, if the TAC were to “answer” the ringing telephone as given in Mr. Bates’ hypothetical, then the process of the TAC connecting and redirecting an incoming call to a forwarded number of the subscriber would not be “transparent to the parties.” Ex. 2042, 7. We also have reviewed the cross-examination testimony of Dr. Forsys that Patent Owner directs us to for the proposition that “terminate” means “answer” in the context of the claims.

Reply 12 (citing Ex. 2071, 25:17–31:15). We disagree with Patent Owner that Dr. Forys confirmed that a person having ordinary skill in the art would have understood “terminating” to equate to “answering” with respect to the TAC as described in the ’777 patent specification. His testimony is with respect to the *subscriber*, and even then we disagree with Patent Owner’s assertion that Dr. Forys testified that “terminate” equates with “answer.” If anything, Dr. Forys testified that the ’777 specification distinguishes “terminate” from “answer” such that they are not the same thing. *See, e.g.*, Ex. 2071, 27:12–28:6, 29:21–30:2. For instance, he testified that the abstract of the ’777 patent specification (which is identical to the abstract of the underlying ’965 application (Ex. 2042, 26)), uses the term “terminate,” and that a person having ordinary skill in the art would have understood the term “terminate,” as used in the abstract, to mean “end,” and that “[c]ertainly it distinguishes ‘terminates’ from ‘answers’.” Ex. 2071, 27:12–28:6.

In conclusion, for the reasons discussed above, we determine that Patent Owner’s Motion to Amend does not set forth that the original disclosure provides written description support for the phrase “*answering the first incoming call at the tandem access controller* when the second call is answered by a communication device associated with the specified recipient,” or that the phrase does not introduce new matter. 35 U.S.C. § 316(d)(3); 37 C.F.R. § 42.121(a)(2)(ii) and (b)(1). For this reason alone, Patent Owner’s Motion to Amend is *denied*.

Proposed substitute claim 48 (for original claim 37) recites (underlining indicating inserted text and strikethrough indicating deleted text): “initiating the sending of a request to establish a second call ~~at the controlling device, without yet answering the first incoming call, at the~~

tandem access controller *via a packet-based connection* in accordance with the control criteria associated with the specified recipient.” The same phrase is not in proposed substitute claim 47. In support of the phrase, Patent Owner directs attention to “Figs. 2 (VoIP calls to/from telephone 21) and 5, Box 11” and the following passages from the ’965 application:

The PSTN tandem switch 16 directs a first call (from the calling party 20 to the subscriber’s phone 14 using the subscriber’s public phone number) *to the TAC 10, which in turn places a second call, subject to 3rd-party control information*, to the subscriber’s ‘private’ phone number without yet terminating the first call.

Ex. 2041, 13 (citing Ex. 2043, 7:16–19).

Places outgoing calls in response to incoming calls according to information downloaded on the data link.

Ex. 2041, 13 (citing Ex. 2043, 9:11–12).

We agree with Petitioner that neither of the above passages describes the TAC *initiating* the sending of a request to establish a second call request via “packet-based connection” as recited and that the paragraphs are silent regarding how the second call request is *initiated*. Opp. 7 (citing Ex. 1042 ¶ 52). We also have reviewed the figures to which Patent Owner directs attention to, but do not understand, nor has Patent Owner set forth per its motion, how those figures describe “initiating the sending of a request to establish a second call . . . at the tandem access controller via a packet-based connection.” Box 11 describes “Send Call Request (SS7) to PSTN

Tandem,” but does not describe that the TAC initiates the call request via a packet-based connection as claimed.

In its Reply, Patent Owner argues that the underlying applications clearly disclose the disputed phrase “where the TAC receives a first call, which in turn initiates a second call where the calls initiated by the TAC can be VoIP calls (bidirectional arrows) via a packet-based connection.” Reply 12 (citing Ex. 2041, 13, 27, 41; Ex. 2070 ¶ 51). Mr. Bates repeats the same in his declaration. Ex. 2070 ¶ 51. We assume that Patent Owner and Mr. Bates are referring to the bi-directional arrows shown in Figure 2. *See, e.g.*, Ex. 1001, Fig. 2; Ex. 2042, Fig. 2. We agree with Petitioner, however, that the arrows do not indicate anything about “initiating the sending of a request to establish a second call . . . at the tandem access controller via a packet-based connection,” but at most show undefined VoIP transmissions occurring between TAC 10 and telephone 21 over web 22. For all of these additional reasons, Patent Owner’s Motion to Amend is *denied*.

Based on the above and the entirety of the record before us, we determine that Patent Owner’s Motion to Amend does not set forth that the original disclosure of the ’777 patent provides written description support for proposed substitute claims 47 and 48. Because our determination is dispositive, we do not, nor need not, address the parties’ contentions regarding whether proposed substitute claims 47 and 48 are unpatentable over the prior art of record.

G. Motion for Observations

Petitioner filed a Motion for Observations (Paper 45, “Pet. Mot. Obs.”), to which Patent Owner filed a Response (Paper 46, “PO Resp.”). To the extent Petitioner’s Observations pertains to testimony purportedly

impacting Mr. Bates' credibility, we have considered Petitioner's observations and Patent Owner's responses in rendering this Final Written Decision, and accorded Mr. Bates' testimony appropriate weight in view of Petitioner's observations and Patent Owner's response to those observations.

III. CONCLUSION

For the foregoing reasons, we determine that Petitioner has established by a preponderance of the evidence that claims 18, 21, 23, 25, 26, 28–31, 37, 38, 41, and 45 of the '777 patent are unpatentable based on the following grounds:

Reference	Basis	Challenged Claims
O'Neal	§ 102(e)	18, 23, 25, 26, 29–31, 37, 38, 41, and 45
O'Neal	§ 103(a)	21 and 28

We also determine that Patent Owner's Motion to Amend does not set forth that the original disclosure of the '777 patent provides written description support for proposed substitute claims 47 and 48.

IV. ORDER

Accordingly, it is:

ORDERED that claims 18, 21, 23, 25, 26, 28–31, 37, 38, 41, and 45 of the '777 patent have been shown to be unpatentable;

FURTHER ORDERED that Patent Owner's Contingent Motion to Amend is *denied*; 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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