UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

FLYPSI, INC. (D/B/A FLYP),
Patent Owner.

Case No. IPR2023-00360
U.S. Patent No. 9,667,770

PATENT OWNER FLYPSI, INC.'S NOTICE OF APPEAL

Pursuant to 35 U.S.C. §§ 141(c) and 319 and 37 C.F.R. § 90.2(a), Patent Owner Flypsi, Inc. hereby provides notice that it appeals to the United States Court of Appeals for the Federal Circuit from the Final Written Decision entered July 31, 2024, (Paper No. 33), and from all underlying orders, decisions, rulings, and opinions relating to U.S. Patent No. 9,667,770 set forth in Inter Partes Review IPR2023-00360.

In accordance with 37 C.F.R. § 90.2(a)(3)(ii), the issues on appeal include, but are not limited to:

- The Board's determination that claims 1–5 are unpatentable as obvious under 35 U.S.C. § 103 based on Backhaus and Logan;
- The Board's determination that claim 6 is unpatentable as obvious under 35 U.S.C. § 103 based on Backhaus, Logan, and Saksena;
- The Board's determinations underlying the above findings, including the Board's decision not to construe "data channel," the Board's construction of "transmitting pre-call information," and that the combination of Backhaus and Logan teaches "based on the primary call processing rules or the secondary call processing rules: transmitting pre-call information to the handset over the at least one data channel the pre-call information including the bridge telephone number and the handset-associated telephone number, such that the

handset is capable of displaying the handset-associated telephone number to a user and, based on user input, accepting the incoming call by connecting with the switch over the at least one voice channel using the bridge telephone number" as claimed;

- The Board's improper consideration of arguments and evidence outside the scope of the Petition and arguments not supported by evidence in the record;
- Any other issues decided adversely to Patent Owner in an order, decision, ruling, or opinion underlying or supporting the Board's final written decision.

A copy of the decision being appealed is attached to this Notice.

Pursuant to 35 U.S.C. § 142 and 37 C.F.R. § 90.2(a), this Notice is being filed with the Director of the United States Patent and Trademark Office, and a copy of this Notice is being concurrently filed with the Patent Trial and Appeal Board. In addition, a copy of this Notice and the required docketing fees are being filed with the Clerk's Office for the United States Court of Appeals for the Federal Circuit via CM/ECF.

Dated: October 2, 2024

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing PATENT OWNER FLYPSI, INC.'S NOTICE OF APPEAL was served electronically via email on October 2, 2024, in its entirety on the following counsel of record:

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Paper 33
Date: July 31, 2024

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
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FLYPSI, INC. (D/B/A FLYP),
Patent Owner.

IPR2023-00360
Patent 9,667,770 B2

Before ROBERT J. WEINSCHENK, JAMES J. MAYBERRY, and MICHAEL T. CYGAN, *Administrative Patent Judges.*

MAYBERRY, *Administrative Patent Judge*.

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

I. INTRODUCTION

Google LLC ("Petitioner") filed a Petition requesting *inter partes* review of claims 1–6 (the "Challenged Claims") of U.S. Patent No. 9,667,770 B2 (Ex. 1001, the "'770 patent"). Paper 1 ("Pet."), 1. Flypsi, Inc. ("Patent Owner") owns the '770 patent. Paper 12, 2.

For the reasons provided below, we conclude that Petitioner has proven, by a preponderance of the evidence, that all of the Challenged Claims are unpatentable.

A. Procedural History

Upon review of the Petition, Preliminary Patent Owner Response (Paper 6), Petitioner's Preliminary Reply (Paper 7), and Patent Owner's Preliminary Sur-reply (Paper 8), and evidence in the record, we instituted an *inter partes* review proceeding on all challenges in the Petition. Paper 9 ("Inst. Dec."); *see* 37 C.F.R. § 42.108(a) ("When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.").

Patent Owner filed a Response to the Petition. Paper 21 ("PO Resp."). Petitioner filed a Reply to the Patent Owner Response. Paper 24 ("Pet. Reply"). Patent Owner filed a Sur-reply to the Reply. Paper 26 ("PO Sur-reply").

An oral hearing was held on May 7, 2024, and a transcript is included in the record. Paper 32 ("Tr.").

B. Real Parties-in-Interest

Petitioner identifies Google LLC as the real party-in-interest. Pet. 1. Patent Owner identifies itself as the real party-in-interest. Paper 12, 2.

C. Related Matters

The parties each identify the following litigations as matters related to the '770 patent: *Flypsi, Inc., (d/b/a Flyp) v. Google, LLC*, No. 6:22-cv-00031 (W.D. Tex.); *Flypsi, Inc. (d/b/a Flyp) v. Dialpad, Inc.*, No. 6:21-cv-00642 (W.D. Tex.). The parties also indicate that patents related to the '770 patent are the subject of petitions for *inter partes* review in IPR2022-01048, IPR2022-01049, IPR2022-01050, IPR2022-01051, IPR2023-00357, IPR2023-00358, IPR2023-00359, and IPR2023-00361. Pet. 2; Paper 12, 2–3.

D. The '770 Patent

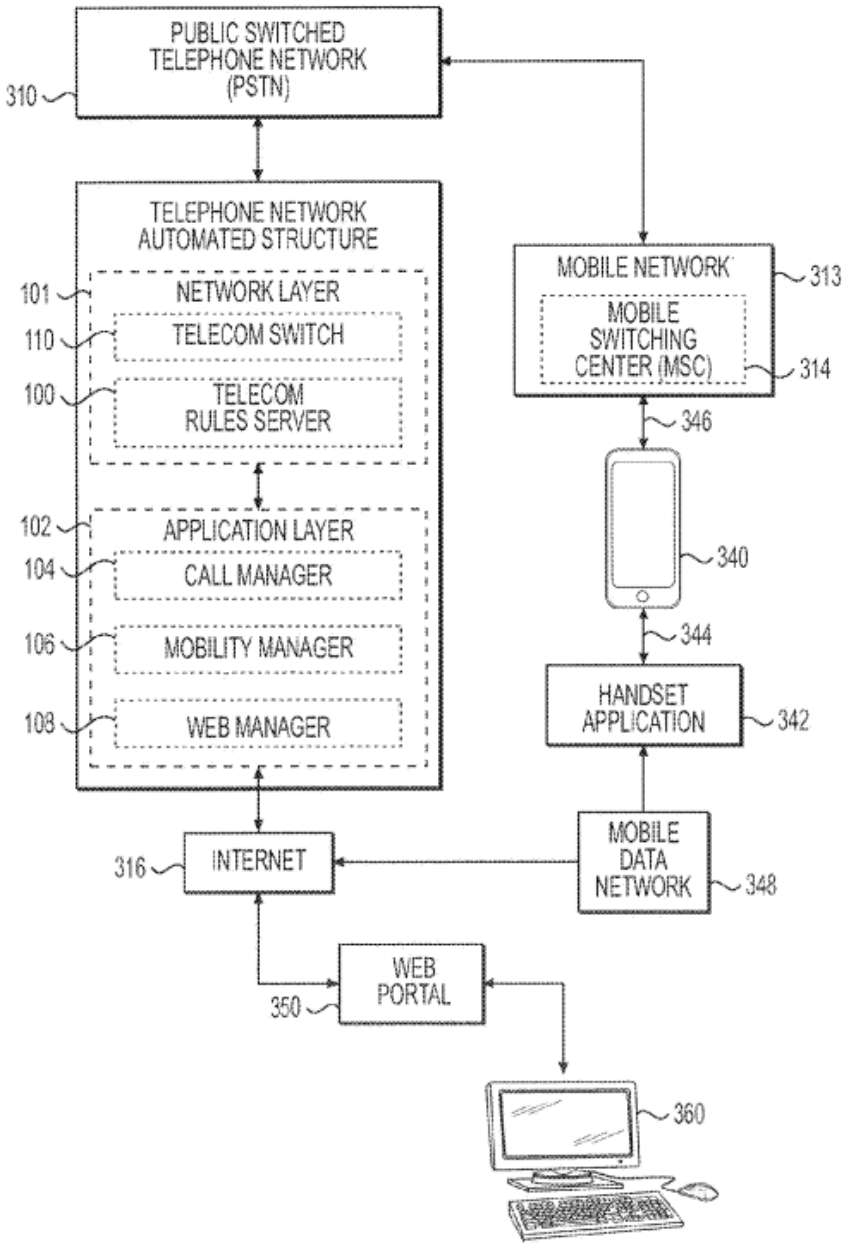
The '770 patent, titled "Telephone Network System and Method," issued May 30, 2017, from application US 14/307,052. Ex. 1001, codes (54), (45), (21). The '770 patent ultimately claims priority to application US 13/944,853, filed on July 17, 2013. *Id.* at code (63).

The '770 patent relates to "[s]ystems for and methods of delivering telephone calls using the combination of a data channel and a voice channel." Ex. 1001, Abstract. "A data channel connection with the telephone handset may provide pre-call information used to set up incoming and outgoing calls which are ultimately connected using a voice channel," and "[u]se of the pre-call information may permit the same handset to be associated with multiple secondary telephone numbers from which calls appear to have been made and to which calls appear to have been placed." *Id.*

The '770 patent "permits the user to select one or more secondary telephone numbers to be referenced to a primary telephone number for the handset." Ex. 1001, 4:67–5:2. A "bridge telephone number" may be

"assign[ed] . . . to be used to connect the call from the handset 340 to the switch 110 and send pre-call information including the bridge telephone number to the handset via the data channel." *Id.* at 7:50–54. "The bridge telephone number may be associated with the switch 110, and calls to the bridge telephone number may be automatically routed to this switch." *Id.* at 7:55–57. The bridge telephone number is associated "with the primary telephone number for the handset 340, the secondary telephone number selected for the call, and the contact telephone number to be called." *Id.* at 7:57–63. The '770 patent allows "the secondary telephone number to be displayed as the number from which the call appears to have been placed." *Id.* at 8:22–26.

Figure 3, reproduced below, illustrates "data channel and voice channel connections used to provide telephone service." Ex. 1001, 3:50–52.



As shown in Figure 3, an "incoming call is routed from the caller's telephone to the PSTN 310," and "over the PSTN 310 to the switch 110." Ex. 1001, 5:57–59. Then, "call Manager 104 may assign or look up a bridge telephone number to be used for completion of the call," and the "bridge telephone number may be associated with the switch 110, and calls to the

bridge telephone number may be automatically routed to this switch." *Id.* at 5:66–6:4. Call information, including "the assigned/looked up bridge telephone number" is transmitted "via the data channel connection, i.e., over the Internet 316 and the Mobile Data Network 348." *Id.* at 6:33–37. The '770 patent differentiates between "IP governed communications . . . conducted over a 'data channel,'" and "CDMA, GSM or like governed communications, when used to carry voice information . . . conducted over a 'voice channel.'" *Id.* at 4:35–46.

E. Challenged Claims

The Petition challenges claims 1–6. Pet. 3. Claim 1 is the sole independent claim, which we reproduce below.

> 1. A method of providing telephone service, the method comprising:
>
> associating a secondary telephone number with a primary telephone number in at least one computer memory device, the primary telephone number being assigned to a handset;
>
> acquiring first digital information from the handset over at least one data channel, the first digital information indicating primary call processing rules for handling calls directed to the primary telephone number;
>
> storing the primary call processing rules in the at least one computer memory device;
>
> acquiring second digital information from the handset over the at least one data channel, the second digital information indicating secondary call processing rules for handling calls directed to the secondary telephone number;
>
> storing the secondary call processing rules in the at least one computer memory device;
>
> receiving an incoming call over at least one voice channel at a switch, the switch being associated with a bridge telephone number such that calls directed to the bridge telephone number are automatically routed to the switch, the incoming call being directed to a handset-associated telephone number, the handset-

> associated telephone number being the primary telephone number or the secondary telephone number, and;
>
> based on the primary call processing rules or the secondary call processing rules:
>
> transmitting pre-call information to the handset over the at least one data channel the pre-call information including the bridge telephone number and the handset-associated telephone number, such that the handset is capable of displaying the handset-associated telephone number to a user and, based on user input, accepting the incoming call by connecting with the switch over the at least one voice channel using the bridge telephone number.

Ex. 1001, 9:65–10:37.

F. Prior Art and Asserted Grounds

Petitioner asserts that the Challenged Claims are unpatentable based on four grounds:

Claims Challenged	35 U.S.C. §	References/Basis
1–5	103[1]	Backhaus[2], Logan[3]
6	103	Backhaus, Logan, Saksena[4]
1–5	103	Backhaus, Logan, Taylor[5]
6	103	Backhaus, Logan, Saksena, Taylor

Pet. 3–4.

Petitioner also relies on the declaration testimony of Dr. Lin. Ex. 1002; *see also* Ex. 1003 (providing Dr. Lin's Curriculum Vitae). Patent

[1] The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284, 296–07 (2011), took effect on September 16, 2011. The changes to 35 U.S.C. §§ 102 and 103 in the AIA do not apply to any patent application filed before March 16, 2013. Because the earliest possible priority date for the '770 patent is after March 16, 2013, we refer to the AIA version of the statute.
[2] US 2013/0295892, published Nov. 7, 2013 (Ex. 1005, "Backhaus").
[3] US 2010/0128857 A1, published May 27, 2010 (Ex. 1015, "Logan").
[4] US 2006/0077956, published Apr. 13, 2006 (Ex. 1008, "Saksena").
[5] US 2009/0052437, published Feb. 26, 2009 (Ex. 1007, "Taylor").

Owner's relies on the declaration testimony of Dr. Akl to support its responsive arguments. Ex. 2010.

The following subsections provide brief descriptions of the asserted prior art references.

1. Backhaus (Ex. 1005)

Backhaus, titled "System and Method for Provision of a Second Line Service to a Telecommunications Device Using Mixed Protocols," published November 7, 2013, from application US 13/920,056, filed June 17, 2013. Ex. 1005, codes (54), (43), (21), (22). The application claims priority to a parent application, US 13/466,074, filed May 7, 2012, and to a provisional application, US 61/660,772, filed June 17, 2012. *Id.* at codes (63), (60).

Backhaus relates generally to "routing calls between a third party telecommunications device ('TD) and a subscriber TD associated with a primary service and a second line service ("SLS")." Ex. 1005, code (57) (Abstract). We reproduce Backhaus's Figure 1, below, as annotated by Petitioner.

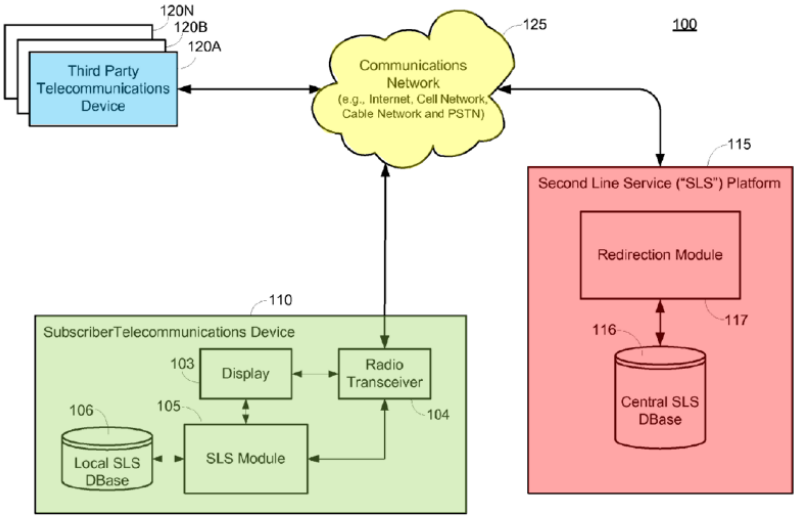


FIG. 1

Pet. 10. Backhaus's Figure 1 depicts "a system for providing a second line service . . . to a user of telecommunications device," with Petitioner annotating the figure by coloring sections of the system. *Id.*; Ex. 1005 ¶ 17. A subscriber TD 110 (in green in the figure above) is associated with a primary phone number provided by a telephone service provider and a secondary phone number provided by SLS platform 115. Ex. 1005 ¶ 32.

In operation, calls placed to the primary or secondary phone number from third party TD 120 (in blue in the figure above) to subscriber TD 110 are routed through communications network 125 (in yellow in the figure above), for example, a cellular network, PSTN, cable network, or the Internet. Ex. 1005 ¶ 32. A call made to the primary phone number is routed directly to subscriber TD 110. *Id.* ¶ 33. A call made to the secondary, or SLS, number is routed to SLS platform 115 (red in the figure above). At SLS platform 115, redirection module 117 queries central SLS database 116 to determine the subscriber TD associated with the secondary phone number called by the third party. Once this determination is made, redirection module 117 modifies the call data to reflect its identification as a call for the second line number and then makes the call available at the primary number associated with subscriber TD 110 associated with the called secondary phone number.

2. Logan (Ex. 1015)

Logan, titled "Call Forwarding System and Method Employing Virtual Phone Numbers Associated with Landline and Other Discrete Telephone Units," published May 27, 2010, from application US 12/344,073, filed December 24, 2008. Ex. 1015, codes (54), (43), (21), (22).

The application claims priority to provisional application US 61/009,177, filed December 26, 2007. *Id.* at code (60).

Logan "relates to systems and methods for selectively forwarding calls to specified phone numbers." Ex. 1015 ¶ 2. The disclosed systems and methods include forwarding multiple "virtual" phone numbers to a user's cellphone, which has a single "base" phone number. *Id.* ¶ 21. Logan refers to this cellphone as a Multi Number Cellphone ("MNC"). *Id.*

Relevant to this proceeding, "[i]n the initial set-up of the system, a user, via his MNC . . . 140 can enter a set of preferences that are transmitted to the system server 130 via datastream 134. These preferences notify the system server of which calls a user desires to receive." Ex. 1015 ¶ 29.

> For example, a user can desire that when at location #1 (home), the MNC receives incoming calls directed at virtual #1 ("home" phone number). When an incoming telephone call is transmitted to the system server, the forwarding application determines if the user is at location #1 (home), and if they are, then the application forwards the call to the MNC user at step 240. In the alternative, if the user is not at the location #1 (home), then it is not a desired call for the user, and the call is therefore forwarded to a voicemail database at procedure step 250.

Id. ¶ 39.

3. Saksena (Ex. 1008)

Saksena, titled "Common Telephony Services to Multiple Devices Associated with Multiple Networks," published April 13, 2006, from application US 10/961,387, filed October 8, 2004. Ex. 1008, codes (54), (43), (21), (22). Saksena "relates to common telephony services to multiple devices associated with multiple networks." *Id.* ¶ 1. Relevant to this proceeding, Saksena discloses CDMA and GSM as standard forms of cellular communication. *See, e.g.*, Ex. 1008 ¶ 80 ("The networks 110c and

110e are cellular phone networks that use cellular phone technology (e.g., based on a CDMA standard, based on a GSM standard) to manage and route calls.").

4. Taylor (Ex. 1007)

Taylor, titled "System and Method for Dynamic Telephony Resource Allocation Between Premise and Hosted Facilities," published February 26, 2009, from application US 12/195,298, filed August 20, 2008. Ex. 1007, codes (54), (43), (21), (22). The application claims priority to a provisional application, US 60/957,151, filed August 21, 2007. *Id.* at code (60).

Taylor "relates to telecommunication and a networked computer telephony system including the Internet and the Public Switched Telephone System, and more particularly to user-configurable allocation of telephony resources between a hosted facility and a subscriber's premise." Ex. 1007 ¶ 2. Relevant to this proceeding, Taylor discloses PSTN Interface 52, which allows Taylor's Computer Telephony server 50 to interface with a public switched telephone network through switch 12. *Id.* ¶ 8.

II. ANALYSIS OF PETITIONER'S CHALLENGES

A. Applicable Law

In *inter partes* reviews, a petitioner bears the burden of proving unpatentability of the challenged claims, and the burden of persuasion never shifts to the patent owner. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). To prevail in this proceeding, Petitioner must support its challenge by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). Accordingly, all of our findings and conclusions are based on a preponderance of the evidence standard.

Petitioner's asserted grounds of unpatentability are based on obviousness under 35 U.S.C. § 103.

> [a] patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

35 U.S.C. § 103 (2011); *see KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when available, objective evidence, such as commercial success, long felt but unsolved needs, and failure of others. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966); *see KSR Int'l Co.*, 550 U.S. at 407 ("While the sequence of these questions might be reordered in any particular case, the [Graham] factors continue to define the inquiry that controls."). The Court in *Graham* explained that these factual inquiries promote "uniformity and definiteness," for "[w]hat is obvious is not a question upon which there is likely to be uniformity of thought in every given factual context." 383 U.S. at 18.

The Supreme Court made clear that we apply "an expansive and flexible approach" to the question of obviousness. *KSR Int'l Co.*, 550 U.S. at 415. Whether a patent claiming the combination of prior art elements would have been obvious is determined by whether the improvement is more than the predictable use of prior art elements according to their established

functions. *Id.* at 417. To support this conclusion, however, it is not enough to show merely that the prior art includes separate references covering each separate limitation in a challenged claim. *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011). Rather, obviousness additionally requires that a person of ordinary skill at the time of the invention "would have selected and combined those prior art elements in the normal course of research and development to yield the claimed invention." *Id.*

"[O]bviousness must be determined in light of *all the facts*, and . . . a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine" teachings from multiple references. *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006) (emphasis added); *see also PAR Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1196 (Fed. Cir. 2014) ("The presence or absence of a motivation to combine references in an obviousness determination is a pure question of fact."). As a factfinder, we also must be aware "of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning." *KSR Int'l Co.*, 550 U.S. at 421.

B. Level of Ordinary Skill in the Art

The level of skill in the art is "a prism or lens" through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). Petitioner contends that

> A person of ordinary skill in the art at the time of the alleged invention of the '770 patent . . . would have had an undergraduate degree in electrical engineering, computer engineering, computer science or a related field along with two years of work experience in the field of communication . . . More education can supplement practical experience and vice versa.

Pet. 4 (referencing Ex. 1002 ¶¶ 17–18). Patent Owner does not dispute the level of ordinary skill in the art. PO Resp. 5.

For the purposes of this Decision, we apply Petitioner's undisputed definition of the level of ordinary skill in the art. We find that this definition is consistent with the prior art of record and the skill reflected in the Specification of the '770 patent.

C. Claim Construction

In *inter partes* reviews, we interpret a claim "using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b)." 37 C.F.R. § 42.100(b). Under this standard, we construe the claim "in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent." *Id.*

Petitioner states that "the Board need not construe any terms of the challenged claims to resolve the underlying controversy." Pet. 7. Patent Owner proposes constructions for the terms "channel" and "transmitting pre-call information." PO Resp. 6–17. We address these two terms below.

1. "channel"

Patent Owner proposes construing "channel" in all challenged claims to refer to "[a] channel [that] does not have to be fully connected on both ends or actually transmitting a particular type of information to qualify as a channel." PO Resp. 6. Petitioner asserts that Backhaus teaches transmitting an access telephone number via a data channel in two ways. Pet. 45–46. As will be evident from our analysis below, we conclude that it would have been obvious to employ an IP-based communication. There is no dispute that an IP-based communications channel satisfies the term channel as used

in the claims. Therefore, we determine that the term "channel" does not require an express construction to resolve the parties' disputes regarding the asserted grounds of unpatentability. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) ("The Board is required to construe 'only those terms. . . that are in controversy, and only to the extent necessary to resolve the controversy.'") (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

2. "transmitting pre-call information"

Patent Owner proposes that "[t]he transmission [of pre-call information] must occur after the indication of an incoming call is received in step [1.f]." PO Resp. 14. Patent Owner argues that the claim term requires "[t]he 'pre-call information' [to] be information relating to the specific call received in step [1.f]." *Id.* The parties' dispute centers on what point in time information may be considered "pre-call" information. Petitioner asserts that a person having ordinary skill in the art

> would have understood that the transmitted information (which includes a relationship number) described above corresponds to the claimed "pre-call information" because it is transmitted before a call is connected between a third party and the subscriber (e.g., before a call is connected when the third party calls the subscriber as described in the context of Figure 4B).

Pet. 44 (referencing Ex. 1005 ¶¶ 67, 68, 71, 74; Ex. 1002 ¶ 100).

Patent Owner argues that "the plain language of the claims" supports the two requirements posed by Patent Owner's construction. PO Resp. 14. Patent Owner argues that "the claim language clearly indicates that the transmitting step must occur after receiving the call by using antecedent basis to refer to the already-received call." *Id.*; *see id.* at 15 (reproducing limitation 1.g, and emphasizing that the step recites "accepting ***the***

incoming call"), *id.* (citing *Hytera Commc'ns Co. v. Motorola Sols., Inc.*, 841 F. App'x 210, 218 (Fed. Cir. 2021)).

Patent Owner also argues that "the use of 'the' to refer to the incoming call confirms that the pre-call information must relate to that specific call (as opposed to any other calls, or potential hypothetical future calls that have not yet been placed)." PO Resp. 15; *see also* Ex. 2010 ¶¶ 50–52 (relying on the claim reciting "the incoming call," which refers back to "an incoming call" to opine that the plain language of the claims requires the transmitting step to occur after receiving the call).

Patent Owner also argues that the Specification of the '770 patent, and specifically Figure 4 and its description, supports Patent Owner's proposed construction. PO Resp. 16; *see also id.* at 16–17 (describing Figure 4).

Petitioner replies that Patent owner's construction "violates the 'general rule [that], "[u]nless the steps of a method [claim] actually recite an order, the steps are not ordinarily construed to require one."'" Pet. Reply 3 (quoting *Mformation Techs., Inc. v. Research In Motion Ltd.*, 764 F.3d 1392, 1398 (Fed. Cir. 2014)). Petitioner argues that Patent Owner's antecedent basis argument fails, as the antecedent basis is directed to receiving an incoming call and accepting the incoming call, not to transmitting pre-call information. *Id.* at 3–4.

Petitioner argues that Dr. Akl was "unable to explain what ***information*** the pre-call information allegedly includes that relates to the incoming call." Pet. Reply 4 (citing Ex. 1102 (Akl Dep.), 96:6–11). Patent Owner responds by pointing to Dr. Akl's statement that the bridge telephone number is "relating to an incoming call." PO Sur-reply 5 (citing Ex. 1102, 108:18–109:8). On this matter, Dr. Akl's testimony clearly indicates that

"the claim itself is stating that a bridge telephone number is part of . . . said pre-call information." Ex. 1102, 109:1–3, 24–25.

Petitioner argues that the Figure 4 example upon which Patent Owner and Dr. Akl rely for their positions is merely one non-limiting example provided by the '770 patent. Pet. Reply 5. Petitioner argues that the Specification describes that "[t]he incoming pre-call information may be received at the handset 340 **before** or during the call ringing on the handset," which Flyp neglects to address. *Id.* (quoting Ex. 1001, 6:43–44). Patent Owner replies that Petitioner's "Reply does not identify any examples in the [S]pecification that do not follow th[e] order [in Figure 4], and there are none." PO Sur-reply 6. Patent Owner also argues that Petitioner's reliance on when a call is received at the handset is irrelevant, as it is different from what is claimed. *Id.*

Petitioner argues that the "pre-call" information, in the form of a bridge telephone number, may relate to multiple calls because the disclosure of the '770 patent mentions "calls," in the plural, to the bridge telephone number. Pet. Reply 6 (citing Ex. 1001, 6:2–4). Petitioner argues that Patent Owner's preferred construction, requiring a bridge number to be newly sent for each call, is consequently at odds with that disclosure in the '770 patent. *Id.* Patent Owner argues that this description of "calls" to the bridge number "is clearly indicating that *any call* to the bridge number is routed to the switch," and does not relate to the claimed pre-call information because pre-call information is not discussed at that part of the patent disclosure. PO Sur-reply 6–7.

We have reviewed the parties' arguments, and the cited evidence (and, in particular, the claims and Specification) and determine that the claims do

not require the pre-call information to be transmitted after the call is received at the switch. The "general rule [is that], '[u]nless the steps of a method [claim] actually recite an order, the steps are not ordinarily construed to require one.'" *Mformation Techs., Inc.*, 764 F.3d at 1398. As discussed in greater detail below, we do not find the asserted claims, read in light of the Specification,[6] to require that the pre-call information having a bridge number be transmitted after a call to a secondary number is made.

We begin with the words of the claim. *See, e.g.*, *Phillips*, 415 F.3d at 1314 ("[T]he context in which a term is used in the . . . claim [at issue] can be highly instructive."). The complete "transmitting" step recites:

> transmitting pre-call information to the handset over the at least one data channel the pre-call information including the bridge telephone number and the handset-associated telephone number, such that the handset is capable of displaying the handset-associated telephone number to a user and, based on user input, accepting the incoming call by connecting with the switch over the at least one voice channel using the bridge telephone number.

Ex. 1001, 10:29–37. The plain language of the claims requires that the pre-call information is transmitted such that the handset is capable of displaying the handset-associated telephone number and accepting the incoming call. Nothing in this language precludes the pre-call information from being transmitted before the incoming call is received at the switch—the requirement is that the information makes the handset capable of displaying the handset-associated telephone number to a user and accepting

[6] The prosecution history does not provide any facts helpful to this determination. *See* Ex. 1003.

the incoming call. Indeed, the term "pre-call" indicates that the information is *before* the call.

We find Patent Owner's (and Dr. Akl's) antecedent basis argument unpersuasive. As Petitioner indicates, the antecedent basis supports a construction that an incoming call is received at the switch before it is accepted at the handset. This timing does not require the transmitting of the pre-call information to occur between the time an incoming call is received at the switch and it is accepted at the handset. All the claim requires is that the pre-call information be transmitted after call processing rules are received and stored and before the incoming call is to be accepted at the handset, such that the handset is capable of displaying the handset-associated telephone number to a user and the user is able, through user input, accept the incoming call.

Our understanding of the order of the actions is not inconsistent with the Specification. *Cf. Phillips*, 415 F.3d at 1315 ("[T]he specification 'is always highly relevant to the claim construction analysis.'"). As Petitioner argues, the '770 patent makes clear that the embodiment of Figure 4 is exemplary. *See* Ex. 1005 ¶¶ 62 ("F[igures] 4A-4D collectively illustrate an exemplary method 400 for routing calls between a third party telecommunications device, such as third party TD 120, and a telecommunications device associated with a subscriber to a second line service, such as subscriber device 110."), 24 ("The word 'exemplary' is used hereinto mean 'serving as an example, instance, or illustration.' Any aspect described herein as 'exemplary' is not necessarily to be construed as preferred or advantageous over other aspects."). Although we agree with Patent Owner that Figure 4's description has the call received at the switch

before the pre-call information is transmitted, we discern nothing in the Specification that requires this order, such that the claims should be so limited. *Cf. In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993) ("[L]imitations are not to be read into the claims from the specification.").

Also, as will be evident from our analysis of claim 1 below, one of Petitioner's two alternative unpatentability approaches directed to the transmitting step (limitation 1.g) satisfies the claimed subject matter, even under Patent Owner's construction.

3. Other terms

We determine that we need not expressly construe any other claim terms to resolve the parties' disputes. To the extent that the scope of any particular claim term requires discussion, however, we provide it in our assessment of the challenges. *See Realtime Data, LLC*, 912 F.3d at 1375 (Fed. Cir. 2019).

D. Dr. Lin's Testimony

Patent Owner argues that Dr. Lin's declaration testimony should be disregarded, because it "is virtually identical to the Petition, highly conclusory, internally contradictory, and the expert could not explain his opinions at deposition." PO Resp. 38–39 (citing *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 (PTAB Aug. 24, 2022) (precedential) ("*Xerox*")). Patent Owner argues that "[t]he declaration does not contain any statement of the legal standards the expert understood or was applying, such as standards relating to defining the person of ordinary skill in the art, anticipation, or obviousness." *Id.* at 39. Patent Owner adds that "[t]he expert could not identify a single standard that he applied in his analysis." *Id.* Patent Owner concludes that "[t]hus, the standards that formed the basis

of Dr. Lin's opinion are a complete mystery, rendering his declaration conclusory and unreliable." *Id.* at 40.

Patent Owner also argues that "the declaration fails to explain critical points and contains contradictory positions." PO Resp. 40; *see id.* at 40–47 (providing examples).

Patent Owner's arguments are unavailing to the extent that they suggest we categorially disregard Dr. Lin's declaration. As a general point, our precedential decision in *Xerox* does not provide a blank condemnation of declaration testimony that is identical or virtually identical to language in a paper. *Xerox* found that the "cited declaration testimony is conclusory and unsupported, adds little to the conclusory assertion for which it is offered to support, and is entitled to little weight." *Xerox* at 15; *see also* 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight."). Here, Dr. Lin cites to evidence to support certain testimony. *See, e.g.*, Ex. 1003 ¶ 73 (citing to Ex. 1007 and Ex. 1011).

Also, we do not rely on the Lin Declaration as evidence of any legal standard or for Dr. Lin's legal conclusions. Rather, we rely on the Lin Declaration to support our factual determinations regarding the teachings of Backhaus, Logan, Saksena, and Taylor, as well as why and how a person of ordinary skill in the art would have combined these teachings.

Finally, Patent Owner's arguments go to the weight of Dr. Lin's testimony. We assess the appropriate weight to give the testimony in our analyses below.

E. Ground 1: Claims 1–5 as obvious over Backhaus and Logan

Petitioner contends that the combination of Backhaus and Logan teaches or suggests each limitation of claims 1–5. Pet. 8–60. Patent Owner disputes Petitioner's contentions. PO Resp. 18–38.

1. Independent claim 1

We turn our analysis to the scope and content of the prior art and any differences between the prior art and the subject matter of independent claim 1, on a limitation-by-limitation basis. We address Petitioner's reasoning for combining the teachings of Backhaus and Logan within our analysis of the limitations.

a) Preamble

The preamble of claim 1 recites "[a] method of providing telephone service." Ex. 1001, 9:65–66. Petitioner contends that, "[t]o the extent that the preamble of claim 1 is limiting, Backhaus discloses" the subject matter of the preamble. Pet. 8 (referencing Ex. 1002 ¶¶ 54–62). Specifically, Petitioner contends that Backhaus discloses a second line service to a subscriber with a telecommunications device. *Id.*; *see also id.* at 9 (providing an annotated version of Backhaus's Figure 1, which is an exemplary telephone service system); *id.* at 8–13 (describing the structure and operation of Backhaus's system, and referencing Ex. 1005 ¶¶ 3–11, 31–36, 52–57, 59–139; Ex. 1002 ¶¶ 55–62).

Upon review of the information in the Petition and corresponding evidence, we find Petitioner has proven, by a preponderance of the evidence, that Backhaus teaches or suggests the subject matter of the preamble. In view of this determination, we need not resolve whether the preamble is limiting.

Patent Owner does not dispute Petitioner's contentions with respect to the preamble.

b) Limitation 1.a.

Claim 1 recites "associating a secondary telephone number with a primary telephone number in at least one computer memory device, the primary telephone number being assigned to a handset." Ex. 1001, 10:1–4 (limitation 1.a of claim 1). Petitioner contends that Backhaus's TD 110 corresponds to the recited handset, and that a primary number is assigned to the handset. Pet. 13 (referencing Ex. 1005 ¶¶ 31, 33, 50, 81–83; Ex. 1002 ¶ 63).

Petitioner contends that Backhaus discloses that a handset's primary number is associated with a secondary telephone number—an SLS number. Pet. 13. Petitioner contends that Backhaus discloses associating the primary and SLS numbers and storing the association in Master ID Table 305. *Id.* at 13–14 (referencing Ex. 1005 ¶¶ 66, 50, 60, Fig. 3A; Ex. 1002 ¶¶ 64); *see, e.g.*, *id.* at 15 (providing an annotated version of Backhaus's Figure 3A, depicting the Second Line Service Master ID Table 305 in Central SLS Database 116, which shows the association between a subscriber's primary number and secondary number). Petitioner contends that SLS database 116, a part of SLS platform 115, corresponds to the recited computer memory device. Pet. 15–16 (referencing Ex. 1005 ¶¶ 39–40, 42–43; Ex. 1002 ¶¶ 65–66).

Upon review of the information in the Petition and corresponding evidence, we find that Petitioner has proven, by a preponderance of the evidence, that Backhaus teaches or suggests the subject matter of limitation 1.a of claim 1.

Patent Owner does not dispute Petitioner's contentions with respect to this limitation.

c) Limitation 1.b

Claim 1 also recites "acquiring first digital information from the handset over at least one data channel, the first digital information indicating primary call processing rules for handling calls directed to the primary telephone number." Ex. 1001, 10:5–8 (limitation 1.b of claim 1).

(1) Petitioner's contentions

Petitioner contends that the combination of Backhaus and Logan teaches or suggests the subject matter of limitation 1.b. Pet. 16 (referencing Ex. 1002 ¶¶ 67–79).

Petitioner contends that, when a subscriber elects to not answer an incoming call to its SLS number, the call is transferred to voicemail. Pet. 16 (referencing Ex. 1005 ¶¶ 35, 68). Petitioner contends that, given this disclosure, "Backhaus at least suggests features associated with voicemail/message services and automated responses are also available for calls directed to subscriber's primary number on subscriber TD 110." *Id.* (referencing Ex. 1002 ¶ 67). Petitioner contends that these services correspond to the recited "primary call processing rules." *Id.* at 16–17.

Alternatively, Petitioner contends that a person having ordinary skill in the art "would have found [the subject matter of limitation 1.b] obvious in view of Logan." Pet. 17 (referencing Ex. 1002 ¶ 69). Petitioner contends that Logan teaches that a user can enter a set of preferences into the user's MNC and transmit those preferences to the system server, using datastream 134. *Id.* at 19 (referencing Ex. 1015 ¶¶ 5, 11, 25, 46, 55; Ex. 1002 ¶ 71). Petitioner explains that an exemplary preference includes

routing calls to a specific phone number (for example, one associated with a home location or office location) only when the phone is at a specific location (such as the user's home or office) or at specific times. And, if the phone is not at one of the locations or the time is not within the set time, the call is routed to voicemail. *Id.* at 19–20 (referencing Ex. 1015 ¶¶ 11, 27–28, 39, 43; Ex. 1002 ¶ 72).

Petitioner contends that a person having ordinary skill in the art would have been motivated to implement Logan's server-based call processing rules into Backhaus's system. Pet. 20–21. Petitioner reasons that

> there would be common situations where subscriber TD 110 is not able to provide voicemail/preset responses to the unanswered call, e.g., when it is turned off or out of battery. Thus, it would have been beneficial to implement voicemail/preset response capabilities in a server that is associated with subscriber TD 110, i.e., SLS server 205 in SLS platform 115, as it would have allowed the server to provide voicemail/preset responses to unanswered calls even when subscriber TD 110 is unable to provide the same.

Id. at 21 (referencing Ex. 1002 ¶ 74). Petitioner adds that a person having ordinary skill in the art "would have likewise been motivated to acquire the voicemail/preset responses and associated user-specified configurations from TD 110, and store the same in a database accessible to SLS server 205 (e.g., central SLS database 116) for responding to incoming calls when subscriber TD 110 is not available." *Id.* at 21 (referencing Ex. 1002 ¶ 74).

Petitioner also contends that a person having ordinary skill in the art would have found it beneficial to provide these preferences for each of the numbers associated with a handset, as disclosed in Logan, to "allow[] the subscriber in Backhaus to better manage incoming calls to each of the primary and SLS numbers by automatically processing these calls based on

subscriber-specified preferences set for each number (e.g., location-based and/or time-based call processing/forwarding features)." Pet. 21–22 (referencing Ex. 1015 ¶ 24; Ex. 1002 ¶ 75).

Petitioner contends that a person having ordinary skill in the art would have had a reasonable expectation of success in making the proposed modification to Backhaus's system, as it was well known to implement voicemail and preset responses, and call forwarding on a server of a telecommunications system. Pet. 22–23 (referencing Ex. 1005 ¶¶ 31, 38, 50, 71; 1008 ¶¶ 158–159, 164; Ex. 1015 ¶¶ 25–37; Ex. 1002 ¶ 76). Also, Petitioner contends that it was known to have a subscriber provide information to configure these features. *Id.* at 23–24 (referencing Ex. 1008 ¶¶ 96, 154, 159, 160, 164; Ex. 1002 ¶ 77). Petitioner adds that Backhaus discloses transmitting information from a handset to the server over a data channel. *Id.* at 24–25 (referencing Ex. 1005 ¶¶ 29, 32, 71–73; Ex. 1002 ¶ 77).

(2) Patent Owner's responsive arguments, Petitioner's reply arguments, Patent Owner's sur-reply arguments, and our consideration of the arguments

Patent Owner argues that neither Backhaus nor Logan, alone or in combination, teaches a server acquiring primary call processing rules from a handset. PO Resp. 35. Patent Owner argues that Backhaus does not disclosure that the services available to the secondary number, such as voicemail and automated response services, are available to the primary number. *Id.* at 35–36. Patent Owner emphasizes that Backhaus indicates that the services for the secondary number are separate from services for the primary number. *Id.* at 36.

Petitioner replies that Backhaus at least suggests services associated with the primary number, stating that similar features and services may be provided for the primary number. Pet. Reply 20 (citing Pet. 16; referencing Ex. 1005 ¶ 68). Petitioner argues that Patent Owner's reading misrepresents Backhaus's disclosure. *Id.* Petitioner argues that its reading of Backhaus is consistent with Backhaus's disclosure that services may also be provided to the primary number. *Id.* at 20–21.

Patent Owner does not address these arguments in its Sur-reply.

With respect to Logan's teachings, Patent Owner argues that Petitioner relies on teachings from Logan regarding the secondary phone number, not the primary number. PO Resp. 36–37. Patent Owner argues that "[n]one of the other portions of Logan cited by the Petition describes rules acquired by the server for the ***primary*** number." *Id.* at 37. Patent Owner also argues that there would not have been a motivation to combine Logan's teachings with Backhaus, as Petitioner's rationales relate to the primary number, and Logan does not teach primary number processing rules. *Id.* at 38.

Petitioner replies that Logan expressly discloses that a user's preferences can control forwarding calls to virtual numbers and a base number (the primary number). Pet. Reply 21. Petitioner argues that "Logan explained that 'a user, via his [MNC] 140 can **enter a set of preferences that are transmitted to the system server 130** via datastream 134,' 'notify[ing] the system server of which calls a user desires to receive.'" *Id.* (quoting Ex. 1015 ¶ 29). Petitioner also argues that Patent Owner's motivation argument is based on its faulty understanding of Logan's teaching. *Id.* at 21–22.

Patent Owner does not address these arguments in its Sur-reply.

We have considered Patent Owner's arguments and find, on the complete record, that Petitioner proves, by a preponderance of the evidence, that Logan teaches a server acquiring digital information from the handset over at least one data channel, the first digital information indicating primary call processing rules for handling calls directed to the primary telephone number. As Petitioner contends, Logan discloses a user initially setting up call preferences using the Multi Number Cellphone, where those preferences are transmitted to the system server. Ex. 1015 ¶ 29; *see also* Pet. 19 (citing Ex. 1015 ¶ 29); Pet. Reply 21 (same). Also, Logan discloses that the system manages incoming calls or both virtual numbers and the base number. *See* Ex. 1015 ¶ 11 (disclosing "a system and method for call forwarding, . . . in which a cellular telephone user, based upon his or her unique user preferences, can control the forwarding of calls from the caller to a series of virtual numbers, *as well as the users cellular telephone 'base' or owned number*" (emphasis added) (cited at Pet. 18, 19)); *see also* Ex. 1003 ¶ 48 (emphasizing Logan's call forwarding preferences apply to a base number).

We also find that Petitioner has proven, by a preponderance of the evidence, that a person having ordinary skill in the art would have had reason to modify Backhaus's system based on Logan's teachings of setting user preferences concerning call forwarding, and would have had a reasonable expectation of success in combining the teachings. *See* Pet. 20–25 (providing Petitioner's reasoning). For example, Petitioner reasons that "it would have been beneficial to implement voicemail/preset response capabilities in a server that is associated with subscriber TD 110 . . . as it would have allowed the server to provide voicemail/preset

responses to unanswered calls even when subscriber TD 110 is unable to provide the same." *Id.* at 21 (referencing Ex. 1002 ¶ 74).

Petitioner also contends that a person having ordinary skill in the art "would have found it beneficial to specify/select call forwarding/processing preferences for each of the multiple numbers associated with a handset, similar to as disclosed in Logan when implementing Backhaus." Pet. 21 (referencing Ex. 1002 ¶ 74). Petitioner continues that incorporating Logan's teachings "would have allowed the subscriber in Backhaus to better manage incoming calls to each of the primary and SLS numbers by automatically processing these calls based on subscriber subscriber-specified preferences set for each number (e.g., location-based and/or time-based call processing/forwarding features)." *Id.* at 21–22 (referencing Ex. 1005 ¶¶ 3–8; Ex. 1015 ¶ 24; Ex. 1002 ¶ 75).

With respect to Petitioner's contentions directed to whether a person having ordinary skill in the art would have had a reasonable expectation of success, Petitioner contends that "[i]t was well known to implement voicemail/preset response and call forwarding capabilities on a server associated with a telecommunication device." Pet. 22–23 (referencing Ex. 1008 ¶¶ 158–159, 164; Ex. 1015 ¶¶ 25–37). Petitioner also argues that "it was known to acquire information from a subscriber for configuring the voicemail/preset responses and associated features via a data channel (e.g., the Internet). *Id.* at 23–24 (referencing Ex. 1008 ¶¶ 96, 154, 159, 164; Ex. 1005 ¶¶ 29, 32); *see also id.* at 24 (discussing Backhaus's disclosure of data communications protocols), 25 (contending that the combination represents an application of known technologies).

(3) Conclusion, limitation 1.b

Upon review of the information in the Petition and corresponding evidence, including Petitioner's reasoning for combining the teachings of Backhaus and Logan, we find that Petitioner has proven, by a preponderance of the evidence, that the combination of Backhaus and Logan teaches or suggests the subject matter of limitation 1.b of claim 1. Also, on the complete record, we find that Petitioner provides persuasive reasons, with rational underpinnings, why a person having ordinary skill in the art would have been motivated to combine the teachings of Backhaus and Logan. *Cf. KSR Int'l Co.*, 550 U.S. at 418 (stating that, to facilitate the analysis of an obviousness position, the proponent should provide "some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness"). Because we find that the combined teachings of Backhaus and Logan teach or suggest the subject matter of limitation 1.b, we need not determine of Backhaus alone suggests the subject matter as Petitioner asserts.

d) Limitation 1.c

Claim 1 also recites "storing the primary call processing rules in the at least one computer memory device." Ex. 1001, 10:9–10 (limitation 1.c of claim 1). Petitioner contends that Logan teaches "that the user-entered 'preferences notify the system server of which calls a user desires to receive,'" and "that the server 'determines if the preferences set up by the called party indicate whether the call should be forwarded to the user.'" Pet. 25 (referencing Ex. 1015 ¶¶ 28–29). Petitioner contends that a person having ordinary skill in the art would have understood that Logan stores the processing rules in memory or in a database, at least temporarily, to provide

these operations. *Id.* at 25–26 (referencing Ex. 1002 ¶ 80); *see also id.* at 26–27 (discussing reasons to combine the teachings of Backhaus and Logan, consistent with the reasoning for limitation 1.b).

Upon review of the information in the Petition and corresponding evidence, and based on our analysis of Petitioner's reasons to combine the teachings of Backhaus and Logan as discussed above in connection with our analysis of limitation 1.b, we find Petitioner has proven, by a preponderance of the evidence, that the combination of Backhaus and Logan teaches or suggests the subject matter of limitation 1.c of claim 1.

Patent Owner does not dispute Petitioner's contentions with respect to this limitation.

e) Limitation 1.d

Claim 1 also recites "acquiring second digital information from the handset over the at least one data channel, the second digital information indicating secondary call processing rules for handling calls directed to the secondary telephone number." Ex. 1001, 10:11–16 (limitation 1.d of claim 1). Petitioner contends that Backhaus teaches the recited secondary call processing rules. Pet. 27. Petitioner contends that Backhaus teaches that TD 110 uses a voicemail or messaging service or provides automated responses. *Id.* (referencing Ex. 1005 ¶¶ 35, 68; Ex. 1002 ¶ 82; cross referencing the Petition's analysis for limitation 1.b).

Alternatively, Petitioner contends that Logan teaches the subject matter of limitation 1.d. Pet. 27–28. Petitioner contends that Logan discloses call processing rules such as voicemail and preset responses and call forwarding. *Id.* at 28 (referencing contentions in the Petition for limitation 1.b). Petitioner contends that a person having ordinary skill in the

art would have been motivated to implement Logan's teachings of sending rules over a digital channel from the MNC to a server into Backhaus's system for the same reasons asserted for limitation 1.b. *Id.* at 28–29. Specifically, Petitioner contends that the same reasoning for combining the teachings of Backhaus and Logan apply to rules associated with the primary number (limitation 1.b) and a secondary number, such as Backhaus's SLS number (limitation 1.d). *See id.*

Upon review of the information in the Petition and corresponding evidence, and considering our analysis of limitation 1.b above, we determine Petitioner has proven, by a preponderance of the evidence, that the combination of Backhaus and Logan teaches or suggests the subject matter of limitation 1.d of claim 1.

Patent Owner does not dispute Petitioner's contentions with respect to this limitation.

f) Limitation 1.e

Claim 1 also recites "storing the secondary call processing rules in the at least one computer memory device." Ex. 1001, 10:17–18 (limitation 1.e of claim 1). Similar to the contentions for limitation 1.c, Petitioner contends that the combined teaching of Backhaus and Logan teaches or suggests storing the secondary call processing rules in memory or a database, as the system server uses the rules to process calls. Pet. 29–30 (referencing the contentions in the Petition for limitations 1.c and 1.d; Ex. 1002 ¶ 85).

Upon review of the information in the Petition and corresponding evidence, and considering our analysis of limitation 1.c and 1.d above, we find Petitioner has proven, by a preponderance of the evidence, that Backhaus discloses the subject matter of limitation 1.e of claim 1.

Patent Owner does not dispute Petitioner's contentions with respect to this limitation.

g) Limitation 1.f

Claim 1 recites

> receiving an incoming call over at least one voice channel at a switch, the switch being associated with a bridge telephone number such that calls directed to the bridge telephone number are automatically routed to the switch, the incoming call being directed to a handset-associated telephone number, the handset-associated telephone number being the primary telephone number or the secondary telephone number.

Ex. 1001, 10:19–26 (limitation 1.f of claim 1). Petitioner contends that calls directed to a subscriber's primary or SLS numbers are routed through communications network 125. Pet. 30 (referencing Ex. 1005 ¶ 32, Fig. 1). Petitioner contends that Backhaus discloses that network 125 may be a public switched telephone network, using signaling system seven ("SS7") protocol. *Id.* at 30–31 (referencing Ex. 1005 ¶ 32; Ex. 1011, 5–6, 43, 103–105; Ex. 1002 ¶ 86).

Petitioner contends that a person having ordinary skill in the art "would have understood that network 125 necessarily includes the claimed 'switch,' such as the signal switching points." Pet. 31 (referencing Ex. 1002 ¶ 87). For example, Petitioner contends that a public switched telephone network would include signal switching points as a "necessary part" of the network. *Id.* (referencing Ex. 1002 ¶ 72; Ex. 1011, 62–63, 81; Ex. 1007 ¶ 4). Petitioner contends that a public switched telephone network would include "'a voice switch' that 'processes voice-band traffic.'" *Id.* (referencing Ex. 1011, 62–63, 81; Ex. 1002 ¶ 87).

Petitioner contends that a person having ordinary skill in the art "would have also understood that calls are established and routed through the [public switched telephone network] by SSPs in network 125, including the use of a local SSP[,]" where "[a] local SSP is a switch that connects to a telecommunication device or server so as to allow the device/server to access the" public switched telephone network. Pet. 32 (referencing Ex. 1011, 6–7, 82; Ex. 1007 ¶ 4, Fig. 1A; Ex. 1002 ¶ 88); *see also id.* at 33 (providing an annotated version of Ex. 1007, Fig. 1A, showing a local switch 12 connected to server 50 in a public switched telephone network).

Petitioner contends that Backhaus's relationship number corresponds to the recited bridge telephone number, explaining how calls directed to Backhaus's relationship number are automatically routed to the switch associated with the SLS platform. Pet. 33–35 (referencing Ex. 1005 ¶¶ 32–34, 43, 49, 57, 59, 60–61; Ex. 1002 ¶ 89).

Petitioner contends that Backhaus teaches that calls from a third party to a subscriber's SLS number are routed by network 125 through the local switch to SLS platform 115, then TD 110, the user's handset. Pet. 35 (referencing Ex. 1005 ¶¶ 32, 34–35). Petitioner contends that, as such, the recited switch necessarily receives the incoming call. *Id.* at 35–36 (referencing Ex. 1002 ¶ 90). Petitioner contends, consistent with disclosure in the '770 patent, a public switched telephone network carries calls over a voice channel. *Id.* at 36.

Upon review of the information in the Petition and corresponding evidence, we find Petitioner has proven, by a preponderance of the evidence, that Backhaus teaches the subject matter of limitation 1.f of claim 1. As to the recited "switch," we agree with Petitioner that a call routed through a

PSTN would necessarily be routed to a switch associated with Backhaus's server. *See* Pet. 32; *see, e.g.* Ex. 1011, 6–7 (describing routing calls with a party's local switch); Ex. 1007, Fig. 1A (depicting a server connected to a PSTN through a switch in the PSTN).

Patent Owner presents an argument directed to the recited "channel" and Petitioner's contentions for limitations 1.f and 1.g, but otherwise does not dispute Petitioner's contention with respect to this limitation. PO Resp. 31–35. We address this argument below, in our analysis of limitation 1.g.

h) Limitation 1.g

Finally, claim 1 recites

> based on the primary call processing rules or the secondary call processing rules: transmitting pre-call information to the handset over the at least one data channel the pre-call information including the bridge telephone number and the handset-associated telephone number, such that the handset is capable of displaying the handset-associated telephone number to a user and, based on user input, accepting the incoming call by connecting with the switch over the at least one voice channel using the bridge telephone number.

Ex. 1001, 10:27–37 (limitation 1.g of claim 1).

(1) Petitioner's contentions

Petitioner contends that Backhaus teaches "transmitting pre-call information to the handset over the at least one data channel the pre-call information including the bridge telephone number and the handset-associated telephone number, such that the handset is capable of displaying the handset-associated telephone number to a user" in two different ways. Pet. 37–43 (discussing the "first way"), 43–45(discussing the "second way").

As to the "first way," Petitioner contends that Backhaus discloses assigning a relationship number (the recited bridge telephone number) to a third party the first time that third party calls the subscriber's secondary number. Pet. 37. Petitioner continues that Backhaus's system creates a relationship number and stores that number in the Subscriber Relationship ID Table in the SLS database. *Id.* at 37–38 (referencing Ex. 1005 ¶¶ 42, 53, 54, Fig. 3A; Ex. 1002 ¶¶ 93, 94).

Petitioner contends that, once the relationship number is created and stored, the SLS platform calls the subscriber. Pet. 39. Petitioner contends that Backhaus discloses that the SLS platform may send a "specially encoded message" to the application running on the subscriber's phone, with the message including the relationship number and the primary number of the third party. *Id.* at 39–40 (referencing Ex. 1005 ¶¶ 10, 55, 64). Petitioner contends that a person having ordinary skill in the art "would have understood that the encoded message corresponds to the claimed 'pre-call information' because it is transmitted before the voice call is connected between the calling third party and the called subscriber." *Id.* at 40 (referencing Ex. 1005 ¶¶ 55, 56; Ex. 1002 ¶ 95).

Petitioner contends that Backhaus discloses that IP-based communications is used for information between the SLS module 105 on TD 110 and the SLS platform 115 and that "Backhaus explains that the IP-based communication 'minimize[s] temporal delays in allocating and acquiring relationship numbers between an SLS module 105 and an SLS platform 115.'" Pet. 41 (referencing Ex. 1005 ¶ 73)). Petitioner contends that, as such, a person having ordinary skill in the art would have found transmitting the information over an IP-based communications channel

beneficial. *Id.* Petitioner contends that a person having ordinary skill in the art "would have had the skill in implementing, and expectation of success in achieving, the above implementation as Backhaus and Logan already use IP-based communications for transmitting data between TD 110 and SLS platform 115." *Id.* (referencing Ex. 1005 ¶¶ 29, 32, 73, claim 15; Ex. 1015 ¶ 5, claim 2; cross-referencing the Petition's analysis for limitation 1.b).

Petitioner also contends that a person having ordinary skill in the art "would have found it obvious to include" the hand-set associated telephone number. Pet. 42. Petitioner explains that "Backhaus discloses that incoming call signal may include the calling line identification (CLID), which may be 'displayed for the benefit of the subscriber on display component 103' of subscriber TD 110." *Id.* (quoting Ex. 1005 ¶ 33). Petitioner adds that "Backhaus explains that 'any data uniquely associated with a call to a primary number or an SLS number may be displayed for the benefit of a subscriber.'" *Id.* (quoting Ex. 1005 ¶ 33 (emphasis omitted)).

> Petitioner contends that a person having ordinary skill in the art would have been motivated and found it beneficial to include the primary number and/or an SLS number in its transmission of pre-call information because such information would have enabled subscriber TD 110 to display whether it is the primary number or SLS number(s) that the calling party intends to call, allowing the subscriber to determine whether the call is for a personal or business matter for example, particularly when the subscriber has multiple SLS numbers.

Pet. 42 (referencing Ex. 1005 ¶¶ 55, 104, 133; Ex. 1002 ¶ 98). Petitioner also contends that a person having ordinary skill in the art would have had a reasonable expectation of success in providing this information. *Id.* at 43 (providing reasoning).

As to the "second way," Petitioner contends that Backhaus teaches "processes for handling data communication between subscriber TD 110 and SLS platform 115 over network 125." Pet. 43 (referencing Ex. 1005 ¶¶ 71–74, Fig. 4D). Petitioner explains that, for a situation where the subscriber wishes to call a third party that does not have a relationship number established in the system, SLS module 105 on subscriber TD 110 requests a new relationship number from SLS platform 115. *Id.* at 43–44 (referencing Ex. 1005 ¶ 71). In response, SLS platform 115 assigns a relationship number and returns that number to TD 110. *Id.* at 44 (referencing Ex. 1005 ¶ 74).

Petitioner contends that a person having ordinary skill in the art "would have understood that the transmitted information (which includes a relationship number) described above corresponds to the claimed 'pre-call information' because it is transmitted before a call is connected between a third party and the subscriber," for example, "before a call is connected when the third party calls the subscriber as described in the context of [Backhaus's] Figure 4B." Pet. 44 (referencing Ex. 1005 ¶¶ 67–68, 71, 74; Ex. 1002 ¶ 100).

Petitioner also contends that Backhaus discloses that communications between SLS platform 115 and TD 110 may be through protocols or mechanisms that include data channels, including over an IP-based communications channel as explained for the "first way." Pet. 44–45 (referencing Ex. 1005 ¶¶ 71–73; Ex. 1002 ¶ 101; cross-referencing the Petition's analysis for limitation 1.b).

Petitioner contends that

> to the extent that the disclosed "pre-call information" does not include "the handset-associated telephone number," which may be "the primary telephone number or the secondary telephone number," a [person having ordinary skill in the art] would have found it obvious to include this information for reasons similar to as described above (e.g., such information would have enabled subscriber TD 110 to display whether it is the primary or an SLS number that the calling party intends to call, allowing the subscriber to determine whether the call is for a personal or business matter, for example, particularly when the subscriber has multiple SLS numbers).

Id. at 45 (referencing Ex. 1002 ¶ 102).

Petitioner contends that Backhaus teaches "that, when a known third party calls subscriber's SLS number, SLS platform 115 'queries the central SLS database 116 for the relationship number that maps to the combination of the third party CLID and subscriber's SLS number' and 'the subscriber's primary number.'" Pet. 45–46 (referencing Ex. 1005 ¶ 67). Petitioner adds that "SLS platform 115 then calls subscriber's TD 110 using the relationship number for connecting the call." *Id.* at 46 (referencing Ex. 1005 ¶¶ 52–55, 67).

Additionally, Petitioner contends that Backhaus teaches the subject matter "'based on user input, accepting the incoming call by connecting with the switch over the at least one voice channel' using the [relationship] number." Petitioner contends that Backhaus teaches that a subscriber is alerted to an incoming call, but may elect not to answer it, that is, answering the call is the user input. Pet. 49 (referencing Ex. 1005 ¶ 68).

Next, Petitioner contends that the combined teaching of Backhaus and Logan teaches or suggests

> the process of "transmitting pre-call information to the handset over the at least one data channel the pre-call information including the bridge telephone number and the handset-associated telephone number, such that the handset is capable of displaying the handset-associated telephone number to a user and, based on user input, accepting the incoming call by connecting with the switch over the at least one voice channel using the bridge telephone number" is "based on the primary call processing rules or the secondary call processing rules."

Pet. 47. Petitioner directs us to the analysis in the Petition for limitations 1.b through 1.d for Logan's teachings of call processing rules and how and why they would be implemented in Backhaus's system. *Id.* at 47–49.

> *(2) Patent Owner's responsive arguments, Petitioner's reply arguments, and Patent Owner's sur-reply arguments, and our consideration of the arguments*
>
> *(a) Petitioner's "first way"*

Patent Owner argues, with respect to Petitioner's contentions with directed to the "first way," that Backhaus does not disclose that the information is sent over a data channel. PO Resp. 20. Patent Owner argues that the concept of caller ID is well known and, caller ID is part of a voice call. *Id.* (referencing Ex. 2010 ¶¶ 68–69). Patent Owner also argues that Backhaus states that its teachings concern the calling party of the call, which confirms that the calling party information is part of the call. *Id.*; *see id.* at 21 (explaining how Backhaus handles an incoming call where a relationship number is created). Patent Owner also argues that a person having ordinary skill in the art would have understood that, when a call is ringing, the call is using a voice channel.

Petitioner replies that Backhaus discloses transmitting a special encoded message to TD 100, which would be over a data channel. Pet. Reply 11 (citing Pet. 40–41). Petitioner also argues that Backhaus discloses using IP-based communications. *Id.* at 12. Petitioner adds that "Backhaus's 'encoded message' also functions differently from the conventional CLID. The 'encoded message' includes a combination of numbers for the phone's app to store the combination of numbers in a local database." *Id.* at 13 (citing Pet. 11, 39–40; referencing Ex. 1005 ¶¶ 55–57).

Patent Owner replies that "[t]he Reply offers no credible response to Backhaus' express teaching that this specially encoded message is included in the 'calling party field of the call.'" PO Sur-reply 11 (referencing Ex. 1005 ¶55). Patent Owner complains that Petitioner's argument directed to Backhaus teaching IP communications (in its paragraph 73) is an improper new argument, and that paragraph 73 applies to outgoing calls, not incoming calls. *Id.* at 13–14. Patent Owner also argues that there would have been no motivation to separate the caller ID into a data channel.

We have considered Patent Owner's arguments and find, on the complete record, that Petitioner proves, by a preponderance of the evidence, that it would have at least been obvious, from Backhaus's teachings, to send pre-call information from the SLS platform to the handset using a data channel. As Petitioner argues, the information being sent from Backhaus in the scenario where a third party calls for the first time and a relationship number is created, is in an encoded message. *See* Pet. 39–40. Indeed, that message may including the relationship number, the third-party's primary number, and other meta data. Ex. 1005 ¶ 55. As Backhaus explains, this information will be stored on the handset by the SLS module. *Id.* ¶ 56.

Even if the embodiment Backhaus describes at paragraph 55 does not use a data channel to send this encoded message, we find that Petitioner has proven, by a preponderance of the evidence, that a person having ordinary skill in the art would have had reason to use an IP-based communications channel to transmit this information. *See* Pet. 41–42. Backhaus itself provides the motivation for this modification. As Petitioner contends, Backhaus states that "IP-based communication 'minimize[s] temporal delays in allocating and acquiring relationship numbers between an SLS module 105 and an SLS platform 115.'" Pet. 41 (quoting Ex. 1005 ¶ 73). Indeed, this statement is directed to the exact action that is being considered here—acquiring relationship numbers between the SLS platform and SLS module. Backhaus' disclosure of using IP-communications demonstrates that a person having ordinary skill in the art would have had a reasonable expectation of success in implementing the process.

We do not agree that Petitioner's Reply argument is a new argument. The Petition, at page 41, makes the argument. We also do not agree with Patent Owner and Dr. Akl that a person having ordinary skill in the art would not have been motivated to employ IP-based communications for the pre-call information. Dr. Akl testifies that

> [i]f the relationship number was split into a separate transmission[] and transmitted faster than the call itself, as the Petition appears to suggest, then the relationship number could arrive before the call. In this case, the handset would have a notification relating to a call that is not ready to accept, which would be a bad experience for the user because the user would be able to see the incoming call notification but would be unable to accept it.

Ex. 2010 ¶ 81. But this testimony ignores the fact that the scenario discussed in Backhaus is the case where a third party caller calls for the first time, and a relationship number is created. *See* Ex. 1005 ¶ 53. If the pre-call information arrives before the call, then the SLS module on the phone can use the information to display the caller information once the call is connected. Such an approach may avoid the situation where "unknown caller" needs to be displayed, for example. *See id.* ¶ 55. Indeed, Backhaus suggests Petitioner's proposed use. *See id.* ¶ 73 ("Such channels can be used in setting up the relationship databases, sharing information between the SLS module 105 and the SLS platform 115."). Because Dr. Akl's testimony is inconsistent with Backhaus's express teachings, we give it little weight.

We do not agree with Patent Owner that Backhaus's paragraph 73 is limited to outgoing calls. Paragraph 73 provides teaching on data communication protocols that may be used in providing SLS services in general. *See* Ex. 1005 ¶ 73 ("In fact, it is anticipated that any mechanism that can be used to establish a communication path between the SLS module 105 and the SLS platform 115 *for the purposes of supporting the SLS service* can be utilized." (emphasis added)). For example, in addition to listing sharing information between the SLS platform and SLS module, paragraph expressly states that "[s]uch channels can be used in setting up the relationship databases." *Id.* (argued at Pet. Reply 14). Patent Owner does not explain how this task, as well as sharing information between the SLS platform and SLS module, would be limited to an outgoing call.

Also, under Petitioner's "first way," Backhaus teaches or suggests transmitting the pre-call information after the call is received at the switch, that is, in an order that satisfies the claim limitation under Patent Owner's

proposed claim construction requiring a specific order of the steps of claim 1, a construction we address in our claim construction section above. So, under Petitioner's "first way," a call from a third party that does not have a relationship number is received at the switch, then sent to Bachaus's server. The server then assigns a relationship number and transmits pre-call information over an IP-based communications channel to the handset, then routes the incoming call to the handset. *See* Pet. 37–42.

(b) Petitioner's "second way"

Patent Owner argues, with respect to Petitioner's contentions directed to the "second way," that Petitioner does not contend that the transmission of a relationship number to the TD 110 is by way of a data channel. PO Resp. 27. Patent Owner argues that "Backhaus contains no teaching and the Petition does not explain why it would be obvious to use a data channel for this specific transmission." *Id.* (referencing Ex. 2010 ¶ 84).

Patent Owner also argues that Petitioner's reliance on the disclosure in Backhaus's paragraphs 71 through 74 relate to an outgoing call, and is irrelevant to the claims, which relate to an incoming call. PO Resp. 28. Patent Owner also argues that, under Petitioner's theory, the information is not pre-call information under Patent Owner's proposed construction. *Id.* Patent Owner also argues that the pre-call information is not related to a specific incoming call, as required by the claim. *Id.* at 29.

Petitioner replies that "as explained in the Petition, Backhaus discloses 'data communication' processes involving platform 115 to transmit the relationship number to TD 110." Pet. Reply 9 (citing Pet. 43–45; referencing Ex. 1005 ¶¶ 71–74).

Petitioner also replies that its reliance on paragraphs 71 through 74 is not irrelevant, because "after TD 110 acquired the relationship number associated with a third party, Backhaus's call routing process 'start[s] over the method 400' at Figure 4A." Pet. Reply 9–10 (citing Pet. 43–44; referencing Ex. 1005, [0074], Fig. 4D); *see also id.* at 10 (providing an excerpt from Backhaus's Figure 4D).

Petitioner also replies that Backhaus discloses the SLS platform transmitting pre-call information after an incoming call is received. Pet. Reply 10–11 (citing Pet. 12; referencing Ex. 1005 ¶ 66).

Patent Owner repeats that the disclosure in Backhaus's paragraphs 71 through 74 is impossible to reach for an outgoing call. PO Sur-reply 15.

We have reviewed Patent Owner's arguments and determine, on the complete trial record, that Petitioner proves, by a preponderance of the evidence, that Backhaus discloses transmitting pre-call information over a data channel under Petitioner's "second way." As an initial point, as explained in our claim construction analysis above, we do not adopt Patent Owner's construction of claim 1 requiring a specific order of steps encompassing limitation 1.g. As such, Patent Owner's arguments directed to Petitioner's "second way" not satisfying its proposed claim construction are inapposite. *See* PO Resp. 28–29; PO Sur-reply 16.

Patent Owner's argument that the disclosure in Backhaus's paragraph's 71–74 is "impossible to reach in the flow for an outgoing call" is also inapposite, as it seems to misunderstand Petitioner's argument. *See* PO Sur-reply 15; *see also* PO Resp. 28 ("Moreover, this "second way" relies on the teachings in Backhaus ¶¶ [0071]–[0074], which as explained above is impossible to reach in connection with an outgoing call, and thus this

teaching is irrelevant to the Petition's second way."). Patent Owner states that Petitioner "argues that because the final step of Figure 4D is to start over at Figure 4A, it is proper to rely on these teachings in Backhaus [that is, paragraphs 71 through 74]." PO Sur-reply 15. Patent Owner replies that

> all that the final step of Figure 4D means is that the Backhaus platform goes back to the beginning to wait for a separate incoming transmission (either an incoming call from a third party to a subscriber, which is handled in Figures 4A and 4B; an outgoing call from a subscriber to a third party, which is handled in Figure 4C; or a communication from the SLS client to the SLS platform, which is handled in Figure 4D).

Id. at 15–16. Patent Owner concludes that a person having ordinary skill in the art would not have "arbitrarily pick[ed] and cho[]se aspects of different paths to combine in an arbitrary fashion to try and match the claims" because "Backhaus'[s] platform operates in a loop where it completes one path and goes back to the beginning to wait to see what the next incoming communication." *Id.* at 16.

We find that Petitioner is not picking and choosing arbitrary parts of the flow of Figures 4A–4D in support of its "second way." As Petitioner contends, "Backhaus discloses with reference to FIG. 4D processes for handling data communication between subscriber TD 110 and SLS platform 115 over network 125." Pet. 43 (referencing Ex. 1005 ¶¶ 71–74, Fig. 4D). Petitioner explains that

> When the subscriber of TD 110 desires to call a third party but "no relationship number has been associated with the actual third party number," the SLS module 105 on subscriber TD 110 provides a "request for the new relationship number, along with the third party number it desires to call, to the SLS platform 115 via the communication."

Id. at 43–44. That is, SLS module 105 sends a data communication to SLS platform 115 requesting a new relationship number. This number would be returned by a data channel. *See* Pet. 44–45; Ex 1005 ¶ 73 ("Such [data] channels can be used in setting up the relationship databases, [and] sharing information between the SLS module 105 and the SLS platform 115 . . . ."). As such, the data transmission is not necessarily part of an outgoing call, but rather based on the anticipation or desire to make an outgoing call to a third party not in the relationship number data base. *See* Pet. Reply 8 ("Backhaus discloses that TD 110 requests from SLS platform 115 a new relationship number, along with the third party number the subscriber desires to call." (citing Pet. 43–44; referencing Ex. 1005 ¶ 71)), 9 ("Backhaus discloses 'data communication' processes involving platform 115 to transmit the relationship number to TD 110." (citing Pet. 43–45; referencing Ex. 1005 ¶¶ 71–74)).

As Petitioner argues, this information would be "pre-call information," because it would be transmitted to TD 110 before any call would be received from the third party at some later time. Pet. 44. And, as Petitioner contends, the process of Backhaus would return to the start and await either a call from a third party or an outgoing call from the subscriber. *See* Pet. Reply 9–10; Ex. 1005, Fig. 4D (showing "Go to Start" after the completion of block 450). Indeed, Patent Owner recognizes this aspect of the process. *See* PO Sur-reply 15–16. As Petitioner argues, this aspect of Backhaus's process is what makes the transmission of the relationship number for a new third party to whom the subscriber desires to call "pre-call" information. Any time after the process of Figure 4D occurs and a relationship number is acquired for a third party, the process would handle

an incoming communication, including a call from that third party, through the flow process of Figures 4A through 4D. *See* Pet. 44 (contending that a person having ordinary skill in the art would consider the information generated through the process of Figure 4D "pre-call" information "because it is transmitted before a call is connected between a third party and the subscriber (e.g., before a call is connected when the third party calls the subscriber as described in the context of Figure 4B)"); Ex. 1005 ¶ 20 ("FIGS. 4A-4D collectively illustrate an exemplary method for routing calls between a third party TD and a Subscriber TD." (quoted at Pet. Reply 10)).

We need not address Patent Owner's argument that Petitioner's reliance on the disclosure at Backhaus's paragraph 66 is a new argument. *See* PO Sur-reply 16–18. We do not rely on this argument by Petitioner in reaching our findings and conclusions.

(c) Using the bridge telephone number

Patent Owner argues that limitation 1.g requires that handset to accept the call by connecting with the switch using the bridge telephone number. PO Resp. 19 (referencing Ex. 2010 ¶ 64); *see, e.g.*, Tr. 89:13–15 ("And we think . . . it's clear that the bridge telephone number is for connecting to the incoming call and it's for use by the handset in particular."). Patent Owner argues that "the Petition's only argument is that the SLS platform 'calls subscriber's TD 110 *using the relationship number* for connecting the call.'" PO Resp. 19 (quoting Pet. 46). Patent Owner continues that "[t]he Petition's argument is directed solely to use of the number *by the server*, and thus fails to render this limitation obvious." Patent Owner also argues that Backhaus's SLS platform calls the primary number, not the relationship number as Petitioner contends. *Id.* at 19–20 (referencing Ex. 1005 ¶ 54). Instead,

"[t]he relationship number is only provided as information in the 'calling party field of the call.'" *Id.* at 20 (referencing Ex. 1005 ¶ 55).

Petitioner replies that "Backhaus discloses that, when a third party calls [a] subscriber's SLS number, SLS platform 115 calls [the] subscriber's TD 110 ('handset') from a relationship number ('bridge telephone number')." Pet. Reply 6 (citing Pet. 45–46; referencing Ex. 1005 ¶ 67). Petitioner continues that "[t]he handset recognizes the call is from SLS platform 115 as the call originates from a relationship number." *Id.* (citing Pet. 46; referencing Ex. 1005 ¶ 67). Petitioner then states that "[t]he subscriber is then 'alerted to the incoming call' and 'the call is connected to the subscriber TD 110' when the subscriber answers the call." *Id.* (citing Pet. 46–47; referencing Ex. 1005 ¶ 68). Petitioner argues that Patent Owner's responsive argument is based on a narrow reading of the limitation. *Id.* at 7.

Petitioner argues that "[n]ot only is the relationship number used to call the disclosed 'handset,' the call is capable of being accepted by the 'handset.'" Pet. Reply 7. *See also id.* at 7–8 (providing quotes from Ex. 1005 ¶¶ 67, 68).

Patent Owner replies that its interpretation of the "using the bridge telephone number" language is based on the express language of the claims. PO Sur-Reply 8–9. Patent Owner makes clear that it is not arguing that its reading of the claim "requires the handset to place a call to the bridge telephone number." *Id.* at 9 n.1 (quoting Inst. Dec.). Patent Owner explains that it "only contends that the handset must be the device that uses the bridge telephone number to accept the call (in any fashion, whether by placing a call or otherwise)." *Id.* Patent Owner argues that Petitioner's argument in

reply that the handset handles the call is an improper new argument, as the Petition only identifies that SLS platform. *Id.* at 9.

Patent Owner also argues that Petitioner's alleged new argument fails, "because it does not show any connection between using the relationship number and accepting the call, which is what the claim language requires." PO Sur-reply 10. Patent Owner argues that Petitioner contends that the handset handles and displays the caller ID, rather than accepting the call. Patent Owner argues that "Dr. Akl explained that a [person having ordinary skill in the art] would [have] underst[oo]d that the calling party field in Backhaus is not used to connect the call." *Id.* (referencing Ex. 2010 ¶ 66).

We have considered Patent Owner's arguments and find, on the complete record, that Petitioner proves, by a preponderance of the evidence, that Backhaus teaches or suggests that the handset is capable of displaying pre-call information to a user and, based on user input, accepting the incoming call by connecting with the switch over the at least one voice channel using the bridge telephone number. As Petitioner contends, regardless of whether we consider the "first way" or "second way," Backhaus's system sends the relationship number to the subscriber and, "when a third party calls [a] subscriber's SLS number, SLS platform 115 calls [the] subscriber's TD 110 ('handset') from a relationship number ('bridge telephone number')." Pet. Reply 6; *see* Pet. 40 (indicating that the pre-call information includes the relationship number), 44 (same); Ex. 1005 ¶ 67 ("At block 426, the relationship number in the calling party field of the call signaling causes the SLS module 105 to handle the call"). Backhaus discloses that "the subscriber is alerted to the incoming call and at block 430 the call is connected to the subscriber TD 110 by the SLS platform 115

when the subscriber answers the call." Ex. 1005 ¶ 68 (cited as Pet. 44). As such, Backhaus discloses that the subscriber's handset, based on user input, accepts the incoming call using the relationship number. It is the relationship number that causes the SLS module on the handset to display information such that the user provides the necessary input to answer the call. In this way, the handset *is capable of* accepting the incoming call by *using* the bridge telephone number as recited in the claims. Said a different way, the handset (and specifically, the SLS module on the handset) uses the bridge number to display the caller information so that the user knows whether to provide input to cause the handset to accept the call.

We do not agree with Patent Owner that Petitioner's argument in Reply about the handset handling the incoming call is a new argument. The Petition expressly states that "'the call is connected to the subscriber TD 110 by the SLS platform 115 when the subscriber answers the call' although the subscriber may 'elect[] not to answer' the call." Pet. 46 (quoting Ex. 1005 ¶ 68); *see also id.* at 47 ("Thus, Backhaus discloses 'accepting the incoming call' based on 'user input.'"). That is, the subscriber answering the call on the handset is the user input and the call is handled by the handset.

(d) Handset-associated telephone number

Patent Owner argues that the Petition never states that the pre-call information includes the handset-associated telephone number. Patent Owner criticizes Petitioner's obviousness contention, saying that "the mere fact that ***any*** information ***can*** be displayed is not sufficient for obviousness." PO Resp. 29–30 (referencing Ex. 2010 ¶ 91).

Patent Owner criticizes Petitioner's reasoning for adding the information, saying that Backhaus's system does not handle call routing for

primary numbers. PO Resp. 30 (citing to Petitioner's declarant's deposition testimony for support, Ex. 2009, 58:7–16; referencing Ex. 2010 ¶ 92). Patent Owner argues that "[t]he Petition makes passing reference to having multiple SLS numbers . . ., but even that would not provide a motivation for the claims." *Id.* Patent Owner argues that "even if a subscriber has two different SLS numbers, there still is no reason to put the handset-associated number in the pre-call information, because the relationship number cannot be reused and so the relationship number alone is sufficient to identify which number the third-party called." *Id.* at 31 (referencing Ex. 2010 ¶¶ 93–102).

Petitioner replies that Backhaus discloses that, under certain circumstances when a third party caller is also an SLS subscriber, then calls to a primary number may be routed to the SLS platform. Pet. Resp. 16 (citing Pet. 22–23; referencing Ex. 1005 ¶¶ 47, 49, 59). Petitioner also argues that Patent Owner did not consider the complete testimony from Dr. Lin. *Id.*

Petitioner also explains that, when a subscriber has multiple SLS numbers, then a relationship number could be reused—same relationship number for third parties for different SLS numbers. Pet. Reply 17.

Patent Owner replies that "[t]he Petition is expressly limited to 'when a known third party calls subscriber's SLS number,' i.e., when the call is directed ***to an SLS number*** not the user's primary number." PO Sur-reply 18 (citing Pet. 45). Patent Owner argues that the Reply does not argue that a relationship number can be reused for a given subscriber. *Id.* Patent Owner also argues that the handset would look up the number being called on the local database on the handset, so the transmission from the SLS platform would not need the handset number. *Id.* at 19.

We have considered Patent Owner's arguments and find, on the complete record, that Petitioner has proven, by a preponderance of the evidence, that a person having ordinary skill in the art would have had reason to modify the pre-call information to include the handset-associated telephone number as Petitioner proposes.

As Petitioner argues, Backhaus suggests the proposed modification. Backhaus states that

> Notably, although the exemplary embodiments described in the present disclosure use the CLID as an example of data that may be displayed for the benefit of the user of a subscriber TD 110, it will be understood that any data associated with the third party TD 120, subscriber TD 110, SLS platform 115 or the like may be rendered for the benefit of the user of the system 100 and, as such, only describing that the CLID is displayed will not limit the scope of what is envisioned by the disclosure. Moreover, it is envisioned that any data uniquely associated with a call to a primary number or an SLS number may be displayed for the benefit of a subscriber to the system 100.

Ex. 1005 ¶ 33. As is clear from this disclosure, Backhaus suggests modifying the data sent to the subscriber TD 110 associated with a call. Although paragraph 33 is associated with a call to the primary number, bypassing the SLS platform, the above disclosure makes clear that its suggestion applies to calls to an SLS number.

Petitioner states that it would be beneficial for a subscriber, particularly a caller with multiple SLS numbers, to know which number is being called. Pet. 42. We agree that a caller with multiple SLS numbers would benefit from knowing which number was called.

As to Patent Owner's reply argument that Petitioner's position is limited to when a known third party places an incoming call (quoting

Pet. 45), the quoted text is directed to accepting the incoming call. Petitioner's two ways of transmitting data from the SLS platform to the handset occurs before accepting the call.

We do not credit Dr. Akl's testimony that a single subscriber cannot have the same relationship number for different contacts. As Dr. Akl recognizes, Backhaus discloses that "a given relationship number, such as relationship number 1.678.222.0001 in the present example, ***may be used as a relationship number for many different SLS subscribers*** as it is the combination of the subscriber's primary number and/or the SLS number and the relationship number that map to the external number." Ex. 2010 ¶ 53 (quoting Ex. 1005 ¶ 53 (emphasis added in Ex. 2010)). Significantly, Backhaus teaches that "it is the combination of the subscriber's primary number and/*or* the SLS number and the relationship number that map to the external number." Ex. 1005 ¶ 53 (emphasis added). As such the combination of an SLS number and relationship number may be unique, but a single subscriber may have multiple SLS numbers. *See* Ex. 1005 ¶ 133 ("[A] subscriber TD may have multiple SLS numbers. . . . Consequently, based on a combination of the indicated SLS number and the relationship number and the primary service number, the call may ultimately redirected from the SLS platform to the third party TD per variations of the methods described herein.") (cited at Pet. 42–43).

(e) "Channel"

Patent Owner argues that, for limitation 1.g, "the Petition relies on (1) a call leg with one end at the SLS platform; (2) that has a calling party field; and (3) that has not yet been connected on both ends." PO Resp. 32. Patent Owner argues that this reliance is inconsistent with the Petition and

limitation 1.f. *Id.* Patent Owner argues that, for limitation 1.f., the Petition relies on the first leg of the same call: the call from the third-party that gets routed to the SLS platform. *Id.* Petitioner explains that "the Petition relies on (1) a call leg with one end at the SLS platform; (2) that has a data identifying the called number; and (3) that has not yet been connected on both ends." *Id.* at 33.

We have considered Patent Owner's argument and find that it does not demonstrate a deficiency in Petitioner's contentions. As we indicated above, we agree with Petitioner that it would have been obvious to use an IP-based connection over a data channel to communicate the pre-call information. As such, this alleged inconsistency is not implicated. Also, this argument does not affect Petitioner's arguments under the "second way."

(3) Conclusion – limitation 1.g

For the reasons discussed above, we find, on the complete trial record, that Petitioner proves, by a preponderance of the evidence, that the combination of Backhaus and Logan teaches or suggests the subject matter of limitation 1.g.

i) Conclusion – Claim 1

For the reasons discussed above, we conclude, on the complete record, that Petitioner has proven, by a preponderance of the evidence, that claim 1 is unpatentable under 35 U.S.C. § 103 over Backhaus and Logan.

2. Dependent claims 2–5

Petitioner also contends that dependent claims 2–5, which depend from claim 1, are obvious over Backhaus and Logan. Pet. 3, 49–60. We address these claims below.

a) Dependent claim 2

Claim 2 depends from independent claim 1 and recites "wherein the handset-associated telephone number is the secondary telephone number, and the pre-call information is transmitted based on the secondary call processing rules." Ex. 1001, 10:38–41. Petitioner argues that the combination of Backhaus and Logan discloses secondary processing rules as discussed in the analysis in the Petition for claim 1, and that calls directed to the SLS number would be processed by secondary processing rules. Pet. 50.

Upon review of the information in the Petition and corresponding evidence, including our analysis of Petitioner's reasons to combine Backhaus and Logan, and our analysis of claim 1, we find Petitioner has proven, by a preponderance of the evidence, on the complete trial record, that the combination of Backhaus and Logan teaches or suggests the subject matter of claim 2.

Patent Owner does not dispute Petitioner's contentions as to the subject matter of claim 2, except for the arguments made for claim 1, which we address above in our analysis of claim 1. *See* PO Resp. 38.

b) Dependent claim 3

Claim 3 depends from independent claim 1 and recites "wherein the pre-call information includes a plurality of call handling choices for display by the handset and selection via the user input." Ex. 1001, 10:42–44. Petitioner contends that Backhaus discloses that a subscriber, upon receiving a call, can choose to answer or not answer the call. Pet. 51. Petitioner contends that a person having ordinary skill in the art "would have understood [that] there would be scenarios where a user may nonetheless desire sending the incoming calls (that are not forwarded to voicemail by a

server) to voicemail, e.g., when the user is already on another call." *Id.* at 52–53.

Petitioner contends that a person having ordinary skill in the art "would have found it beneficial to also display on the handset [(in addition to answering or declining)] an option to send the incoming call to voicemail for the user to select." Pet. 54.

Upon review of the information in the Petition and corresponding evidence, including our analysis of Petitioner's reasons to combine Backhaus and Logan, and our analysis of claim 1, we find Petitioner has proven, by a preponderance of the evidence, on the complete trial record, that the combination of Backhaus and Logan teaches or suggests the subject matter of claim 3.

Patent Owner does not dispute Petitioner's contentions as to the subject matter of claim 3, except for the arguments made for claim 1, which we address above in our analysis of claim 1. *See* PO Resp. 38.

c) Dependent claim 4

Claim 4 depends from independent claim 1 and recites the steps of

> receiving an outgoing call request from the handset over the at least one data channel, the outgoing call request including an originating telephone number and a contact telephone number to be called, the originating telephone number being the primary telephone number or the secondary telephone number;
>
> connecting with the handset at the switch over the at least one voice channel using the bridge telephone number; and
>
> transmitting an outgoing call over the at least one voice channel from the switch, the outgoing call being directed to the contact telephone number and indicating the originating telephone number.

Ex. 1001, 10:45–58. Petitioner contends that "Backhaus discloses that subscriber TD 110 ('handset') makes an outgoing call request over the data channel, where the request is received by redirection module 117 of SLS platform 115 and the request includes subscriber's SLS number . . . and the third party number . . . to be called. Pet. 55 (referencing Ex. 1005 ¶ 59); *see id.* at 55–57 (explaining how Backhaus processes an outgoing call).

Petitioner contends that it would have been obvious to send the request from the handset to the SLS platform over an IP-based connection, for similar reasons as argued for claim 1. Pet. 57–58.

Petitioner contends that Backhouse discloses connecting an outbound call to a third party by connecting to a switch in network 125 and then having the call routed over network 125 to the third party. Pet. 58–59.

Upon review of the information in the Petition and corresponding evidence, including our analysis of Petitioner's reasons to combine Backhaus and Logan, and our analysis of claim 1, we find Petitioner has proven, by a preponderance of the evidence, on the complete trial record, that the combination of Backhaus and Logan teaches or suggests the subject matter of claim 4.

Patent Owner does not dispute Petitioner's contentions as to the subject matter of claim 4, except for the arguments made for claim 1, which we address above in our analysis of claim 1. *See* PO Resp. 38.

d) Dependent claim 5

Claim 5 depends from independent claim 1 and recites "wherein the at least one data channel includes an Internet protocol (IP) channel." Ex. 1001, 10:59–60. Petitioner argues that Backhaus discloses this subject matter, referencing arguments made for claim 1. Pet. 60.

Upon review of the information in the Petition and corresponding evidence, including our analysis of Petitioner's reasons to combine Backhaus and Logan, our analysis of claim 1, we find Petitioner has proven, by a preponderance of the evidence, on the complete trial record, that the combination of Backhaus and Logan teaches or suggests the subject matter of claim 5.

Patent Owner does not dispute Petitioner's contentions as to the subject matter of claim 5, except for the arguments made for claim 1, which we address above in our analysis of claim 1. *See* PO Resp. 38.

e) Conclusions – Dependent claims 2–5

We conclude, on the complete record, that Petitioner has proven, by a preponderance of the evidence, that dependent claims 2–5 are unpatentable under 35 U.S.C. § 103 over Backhaus and Logan.

F. Ground 2: Claim 6 as unpatentable over Backhaus, Logan, and Saksena

Claim 6 depends from claim 5 and recites "wherein the at least one voice channel is established in accordance with at least one of a Code Division Multiple Access (CDMA) standard and a Global System for Mobiles (GSM)standard." Ex. 1001, 10:61–64. Petitioner contends that the combined teachings of Backhaus, Logan, and Saksena render obvious the subject matter of claim 6. Pet. 3, 60–64. Specifically, Petitioner contends that Saksena discloses the subject matter of claim 6 and it would have been obvious to combine the teachings of Saksena with Backhaus's system. Pet. 60–63. We reproduce Petitioner's annotated version of Saksena's Figure 1A, below.

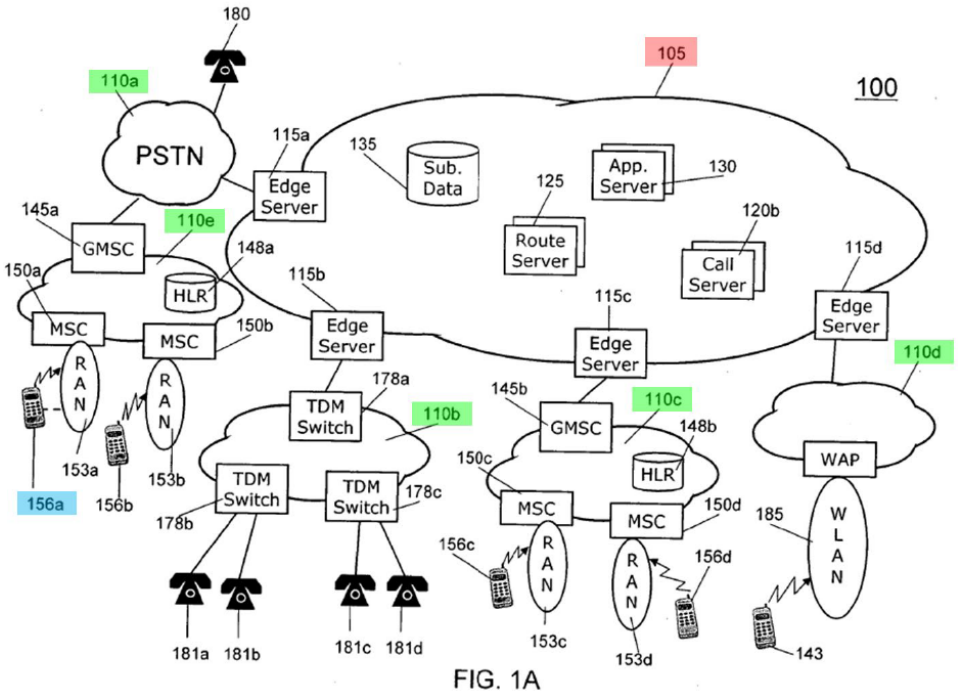


FIG. 1A

Pet. 61. Figure 1A depicts centralized network 105 (reference numeral highlighted in red) that provides telephony services to multiple devices, including cellular device 156a (reference numeral highlighted in blue) and other devices, that are associated with different networks, such as networks 110a-110e (reference numeral highlighted in green). *Id.* (referencing Ex. 1008 ¶ 77). Petitioner contends that "Saksena . . . discloses that mobile device 156a on cellular network 110e may operate using either the Global System for Mobile Communications (GSM) or Code-division multiple access (CDMA) standards." *Id.* at 62 (referencing Ex. 1008 ¶¶ 53, 82).

Petitioner contends that a person having ordinary skill in the art would have been motivated to apply Saksena's teaching of GSM and CDMA standards to Backhaus's system, with a reasonable expectation of success in doing so. Pet. 63–64. Petitioner contends that GSM and CDMA standards were common standards used in cellular networks globally. *See id.* (referencing Ex. 1008 ¶¶ 53, 82; Ex. 1002 ¶ 126); *see also* Ex. 1001,

4:46–48 (recognizing that GSM and CDMA are "standards"); Ex. 2010 ¶ 41 ("The exemplary voice channels (CDMA, GSM, LTE, 3G, and/or 4G) are all conventional voice channels that a [person having ordinary skill in the art] would be familiar with because they are used in conventional telephony.").

Upon review of the information in the Petition and corresponding evidence, including Petitioner's reasons for combining the teaching of Backhaus and Saksena and our analysis of claim 1, we find, on the complete trial record, that Petitioner has proven, by a preponderance of the evidence, that the combination of Backhaus, Logan, and Saksena teaches or suggests the subject matter of dependent claim 6.

Patent Owner does not dispute Petitioner's contentions with respect to dependent claim 6, except for the arguments made for claim 1, which we address above in our analysis of claim 1. PO Resp. 38.

Accordingly, we conclude, on the complete record, that Petitioner has proven, by a preponderance of the evidence, that claim 6 is unpatentable under 35 U.S.C. § 103 over Backhaus, Logan, and Saksena

G. Grounds 3 and 4

Petitioner contends that claims 1–5 are unpatentable over the combination of Backhaus, Logan, and Taylor, and Claim 6 is unpatentable over the combination of Backhaus, Logan, Taylor, and Saksena. Pet. 3. Because Petitioner has shown that claims 1–6 are unpatentable based on the asserted grounds analyzed above, we do not reach these additional asserted grounds. *See Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed. Cir. 1984) ("The Commission . . . is at perfect liberty to reach a 'no violation' determination on a single dispositive issue."); *Boston Sci. Scimed, Inc. v. Cook Grp. Inc.*, 809 F. App'x 984, 990 (Fed. Cir. 2020) (recognizing that

"[t]he Board has the discretion to decline to decide additional instituted grounds once the petitioner has prevailed on all its challenged claims").

III. CONCLUSION

Based on the information presented, we conclude that Petitioner has proven, by a preponderance of the evidence, that claims 1–6 are unpatentable.[7]

In summary:

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 2, 4	103	Backhaus, Logan	1–5	
3	103	Backhaus, Logan, Saksena	6	
1, 2, 4	103	Backhaus, Logan, Taylor[8]		
3	103	Backhaus, Logan, Saksena, Taylor[9]		
Overall Outcome			1–6	

[7] Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).
[8] We do not reach this asserted ground. *See* Section II.G.
[9] We do not reach this asserted ground. *See* Section II.G.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, claims 1–6 of U.S. Patent No. 9,667,770 B2 are proven unpatentable;

FURTHER ORDERED that, pursuant to 35 U.S.C. § 318(b), upon expiration of the time for appeal of this decision, or the termination of any such appeal, a certificate shall issue canceling claims 1–6 of U.S. Patent No. 9,667,770 B2; 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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