

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COMCAST CABLE COMMUNICATIONS, LLC,
Petitioner,

v.

PROMPTU SYSTEMS CORPORATION,
Patent Owner.

IPR2018-00344
Patent 7,047,196 B2

Before JAMESON LEE, ROBERT L. KINDER, and
JULIET MITCHELL DIRBA, *Administrative Patent Judges*.

DIRBA, *Administrative Patent Judge*.

JUDGMENT

Final Written Decision on Remand
Determining Some Challenged Claims Unpatentable
Granting-in-Part Petitioner's Motion to Exclude
Denying Patent Owner's Motion to Exclude
35 U.S.C. §§ 144, 318

I. INTRODUCTION

A. *Procedural History*

On December 19, 2017, Comcast Cable Communications, LLC (“Petitioner”)¹ filed a Petition seeking institution of an *inter partes* review of claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42 (the “challenged claims”) of U.S. Patent No. 7,047,196 B2 (Ex. 1001, the “’196 patent”). Paper 1 (“Pet.”). Pursuant to 35 U.S.C. § 314, we instituted *inter partes* review of the challenged claims on all grounds set forth in the Petition. Paper 10 (“Institution Decision” or “Inst. Dec.”).

After institution, Promptu Systems Corporation (“Patent Owner”) filed a Response (Paper 20, “PO Resp.”), Petitioner filed a Reply (Paper 29, “Pet. Reply”), and Patent Owner filed a Sur-Reply (Paper 38, “PO Sur-Reply”). Petitioner and Patent Owner filed motions to exclude (Papers 37, 40), which were opposed (Papers 45, 46) and the subject of corresponding replies (Papers 49, 51). An oral hearing was held on January 28, 2019, and a transcript of the hearing is included in the record. Paper 56 (“Tr.”).

On June 28, 2019, we issued a Final Written Decision determining that Petitioner had not shown any challenged claim to be unpatentable. Paper 59 (“Final Dec.”). That decision was premised on a determination that Petitioner failed to show that the prior art taught or suggested a claim limitation required by all challenged claims—“receiving said back channel to create a received back channel”—and was based on our construction of that claim phrase. *Id.* at 21–26, 29–30, 32–34. In particular, we concluded

¹ Comcast Corporation is also a real party in interest. Pet. x.

that this phrase requires receipt of a “back channel” and creation of a different “received back channel.” *See id.* at 21–26. In addition, the Final Written Decision dismissed as moot both parties’ motions to exclude because we did not rely on any of the evidence subject to the parties’ challenges. *Id.* at 31–32. Petitioner appealed. Paper 60.

On appeal, the U.S. Court of Appeals for the Federal Circuit concluded that our dispositive claim construction was in error and, consequently, vacated and remanded the Final Written Decision. *Comcast Cable Comm’ns, LLC v. Promptu Sys. Corp.*, 838 Fed. Appx. 551, 554 (Fed. Cir. 2021) (“CAFC Decision”). In particular, the Federal Circuit held that “the broadest reasonable interpretation of ‘received back channel’ is a ‘back channel that has been received.’” *Id.* “Under such a reading, the phrase ‘to create a received back channel’ describes the result of ‘receiving’ the ‘back channel.’” *Id.* The Federal Circuit instructed “the Board to consider the parties’ arguments under the correct construction.” *Id.*

On remand, we authorized additional briefing to address the impacts of the Federal Circuit’s decision and other subsequent authority regarding issues in this proceeding. Paper 63 (Order), 5. In addition, we clarified that we considered the CAFC Decision to have vacated our rulings on the parties’ motions to exclude. *Id.* at 4. The parties thereafter simultaneously filed Opening Briefs After Remand (Paper 65 (“Pet. Remand Open.”); Paper 64 (“PO Remand Open.”)) and then simultaneously filed Response Briefs After Remand (Paper 66 (“Pet. Remand Resp.”); Paper 67 (“PO Remand Resp.”)).

We have jurisdiction under 35 U.S.C. §§ 6(b) and 144(b). This Decision is a final written decision under 35 U.S.C. § 318(a) as to the patentability of the challenged claims.

For the reasons discussed in this Decision, Petitioner has shown by a preponderance of the evidence that claims 1, 2, 4–6, 12, and 13 of the '196 patent are unpatentable, and Petitioner has not shown that claims 27, 28, 30–32, and 38–42 of the '196 patent are unpatentable. Also, as explained below, Petitioner's Motion to Exclude (Paper 37) is *granted-in-part, denied-in-part*, and *dismissed-in-part*, and Patent Owner's Motion to Exclude (Paper 40) is *denied*.

B. Related Matters

The parties identify a civil action involving the '196 patent: *Promptu Systems Corporation v. Comcast Corporation*, Case No. 2:16-cv-06516 (E.D. Pa.). Pet. x; Paper 5 (PO Mandatory Notices), 2.

In addition, this proceeding is related to IPR2018-00345 (“the 345 IPR”), in which Petitioner challenged different claims of the '196 patent. *Compare* Pet. (challenging claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42), *with Comcast Cable Comm'ns, LLC v. Promptu Sys. Corp.*, IPR2018-00345, Paper 1 (Petition) (PTAB Dec. 19, 2017) (challenging claims 14, 15, 17–19, 25, 26, 53–55, 61, 62, and 64–66). In that proceeding, we determined that Petitioner had not shown any of the challenged claims to be unpatentable. *Comcast Cable Comm'ns, LLC v. Promptu Sys. Corp.*, IPR2018-00345, Paper 59, 2, 34 (PTAB June 28, 2019) (the “345 Final Decision”). In particular, in that decision, we determined that Petitioner

failed to show that the prior art taught or suggested a claim limitation required by all claims challenged in that proceeding: “a speech recognition system coupled to a wireline node in a network.” *Id.* at 21–26, 30.

Petitioner appealed the 345 Final Decision, and the Federal Circuit affirmed. *Comcast Cable*, 838 Fed. Appx. at 553–554; *see id.* at 552–553 (addressing both this proceeding and the 345 IPR in the same CAFC Decision). In particular, the Federal Circuit affirmed the Board’s construction of the claim language and found no error in the Board’s refusal to consider Petitioner’s new mapping in its reply brief in that proceeding. *Id.* at 553–554. However, the Federal Circuit did not reach the parties’ arguments regarding whether Murdock qualifies as prior art. *Id.* at 553 n.1.

C. The Petition’s Asserted Grounds

In this proceeding, Petitioner asserts the following grounds of unpatentability (Pet. 3):

Claims Challenged	35 U.S.C. §	References/Basis
1, 2, 4–6, 12, 13, 27, 28, 30–32, 38–42	103(a) ²	Murdock ³
1, 2, 4–6, 12, 13, 27, 28, 30–32, 38–42	103(a)	Murdock, Nazarathy ⁴

² The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 285–88 (2011), revised 35 U.S.C. § 103 effective March 16, 2013. Because the challenged patent was filed before March 16, 2013, we refer to the pre-AIA version of § 103.

³ US 7,013,283 B1, filed Nov. 16, 2000, issued March 14, 2006 (Ex. 1010).

⁴ US 6,490,727 B1, filed Oct. 7, 1999, issued Dec. 3, 2002 (Ex. 1013).

Claims Challenged	35 U.S.C. §	References/Basis
1, 2, 4–6, 12, 13, 27, 28, 30–32, 38–42	103(a)	Murdock, Quigley ⁵
5, 6, 31, 32	103(a)	Murdock, Nazarathy, Banker ⁶
5, 6, 31, 32	103(a)	Murdock, Nazarathy, Gordon ⁷
5, 6, 31, 32	103(a)	Murdock, Quigley, Banker
5, 6, 31, 32	103(a)	Murdock, Quigley, Gordon
1, 2, 4–6, 12, 13, 27, 28, 30–32, 38–42	103(a)	Julia, ⁸ Nazarathy
1, 2, 4–6, 12, 13, 27, 28, 30–32, 38–42	103(a)	Julia, Quigley
5, 6, 31, 32	103(a)	Julia, Nazarathy, Banker
5, 6, 31, 32	103(a)	Julia, Nazarathy, Gordon
5, 6, 31, 32	103(a)	Julia, Quigley, Banker
5, 6, 31, 32	103(a)	Julia, Quigley, Gordon

Petitioner also relies on the testimony of Christopher Schmandt to support its contentions. *See* Ex. 1019; Ex. 1029 (Reply declaration).

Patent Owner relies on the testimony of John Tinsman to dispute these contentions. *See* Ex. 2033. Patent Owner also relies on the testimony of

⁵ US 6,650,624 B1, filed May 19, 2000, issued Nov. 18, 2003 (Ex. 1014).

⁶ US 5,477,262, issued Dec. 19, 1995 (Ex. 1015).

⁷ US 6,314,573 B1, filed May 29, 1998, issued Nov. 6, 2001 (Ex. 1016).

⁸ US 6,513,063 B1, filed March 14, 2000, issued Jan. 28, 2003 (Ex. 1012).

Dr. David Chaiken regarding alleged objective indicia of nonobviousness.
See Ex. 2032.

D. Summary of the '196 patent

The '196 patent is titled “System and Method of Voice Recognition Near a Wireline Node of a Network Supporting Cable Television and/or Video Delivery.” Ex. 1001, code (54). The application that led to the '196 patent was filed on February 16, 2001, and claimed the benefit of a U.S. provisional application filed June 8, 2000. *Id.* at codes (22), (60).

The '196 patent generally relates to a “method and system of speech recognition presented by a back channel from multiple user sites within a network.” Ex. 1001, Abstract. According to the Specification, “a centralized wireline node refers to a network node providing video or cable television delivery to multiple users using a wireline physical transport between those users at the node.” *Id.* at 1:66–2:2. The Specification states that “the problems of speech recognition at a centralized wireline node in a network supporting video delivery or cable television delivery have not been addressed by [the] prior art.” *Id.* at 1:63–66. The Specification describes a “preferred embodiment [of the claimed invention that uses] a back channel containing a multiplicity of identified speech channels from a multiplicity of user sites presented to a speech processing system at a wireline node in a network that supports at least one of cable television delivery and video delivery.” *Id.* at Abstract.

Figure 3 of the '196 patent is reproduced below.

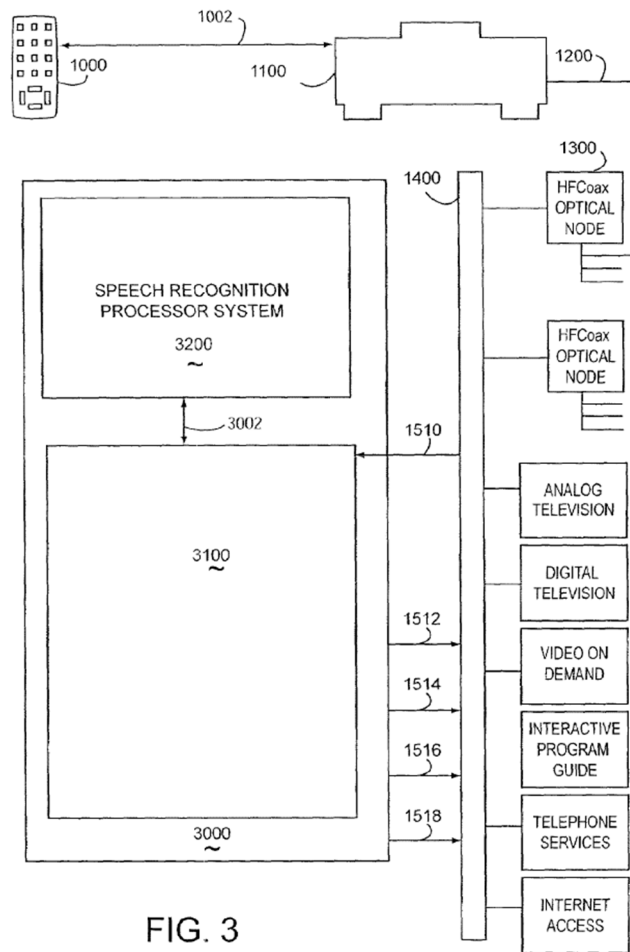


FIG. 3

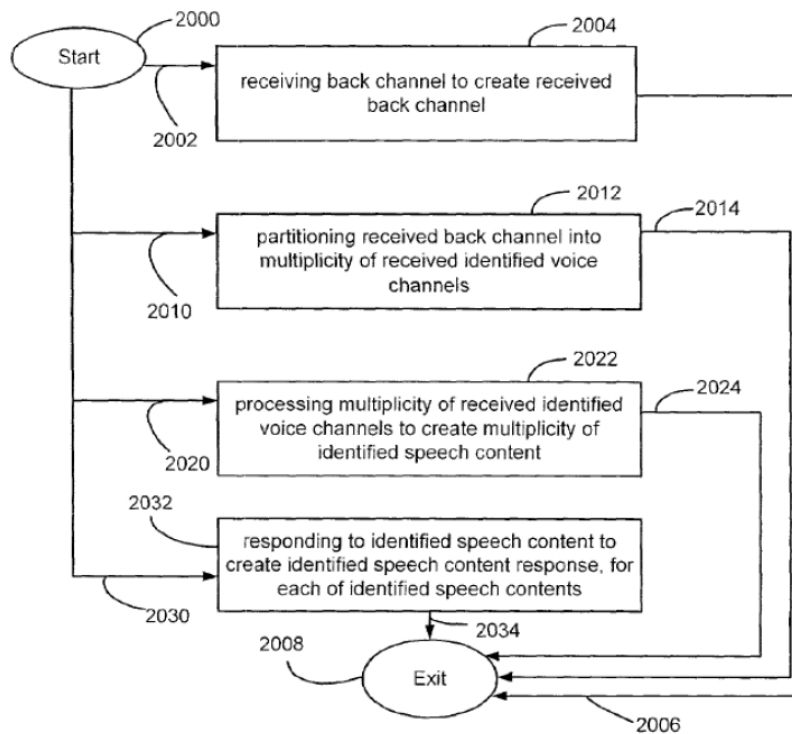
As shown above, Figure 3 illustrates:

a remote control unit 1000 coupled 1002 to set-top apparatus 1100, communicating via a two-stage wireline communications system containing a wireline physical transport 1200 through a distributor node 1300, and through a high speed physical transport 1400, possessing various delivery points 1510 and entry points 1512–1518 to a tightly coupled server farm 3000, with one or more gateways 3100, and one or more tightly coupled server arrays 3200[.]

Ex. 1001, 7:17–25. Server farm 3000 includes a central “speech recognition processor system 3200” for processing speech signals from user sites, such as from subscribers’ set-top boxes. *Id.* at Fig. 3. The Specification further

notes that “[t]he back channel is from a multiplicity of user sites and is presented to a speech processing system at the wireline node in the network.” *Id.* at 22:12–14. Specifically, “[t]he speech signal transmitted from a subscriber’s set-top box, or set-top appliance, 1100[,] is received [at the] 1510 [entry points] by the five to 40 MHz data receiving equipment.” *Id.* at 12:21–23, 12:57–58.

Figure 10 of the ’96 patent is reproduced below.



As shown above, Figure 10 “depicts a flowchart of a method using a back channel from a multiplicity of user sites containing a multiplicity of identified speech channels presented to a speech processing system at a wireline node in a network supporting cable television delivery in accordance with the invention.” Ex. 1001, 7:42–46.

E. Challenged Claims

The Petition challenges claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42 of the '196 patent. Of these, claims 1 and 27 are independent. The independent claims recite:

1. A method of using a back channel containing a multiplicity of identified speech channels from a multiplicity of user sites presented to a speech processing system at a wireline node in a network supporting at least one of cable television delivery and video delivery, comprising the steps of:

receiving said back channel to create a received back channel;

partitioning said received back channel into a multiplicity of received identified speech channels;

processing said multiplicity of said received identified speech channels to create a multiplicity of identified speech content; and

responding to said identified speech content to create an identified speech content response that is unique, for each of said multiplicity of identified speech contents.

Ex. 1001, 50:62–51:10.

27. A system supporting speech recognition in a network, said system comprising:

a speech recognition system coupled to a wireline node in said network for receiving a back channel from a multiplicity of user sites coupled to said network, further comprising

a back channel receiver, for receiving said back channel to create a received back channel;

a speech channel partitioner, for partitioning said received back channel into a multiplicity of received identified speech channels; and

a processor network executing a program system comprised of program steps residing in memory accessibly coupled to at least one computer in said processor network;

wherein said program system is comprised of the program steps of:

processing said multiplicity of said received identified speech channels to create a multiplicity of identified speech content;

responding to said identified speech content to create an identified speech content response, for each of said multiplicity of said identified speech contents; and

wherein said network supports at least one of the collection comprising: cable television delivery to said multiplicity of user sites; and video delivery to said multiplicity of user sites.

Ex. 1001, 55:9–36 (emphasis added to dispositive limitation).

II. ANALYSIS

A. *Principles of Law*

In an *inter partes* review, the petitioner has the burden of proving unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e). That burden never shifts to the patentee. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are “such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The legal 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 in evidence, objective evidence of obviousness or nonobviousness. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966). One seeking to establish obviousness based on more than one reference also must articulate sufficient reasoning with rational underpinnings to combine teachings. *See KSR*, 550 U.S. at 418.

B. The Level of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art would have:

(i) an undergraduate degree (or equivalent) in electrical engineering, computer science, or a comparable subject and at least three years of professional work experience in the field of multi-media systems including in particular speech recognition and control technologies; or (ii) an advanced degree (or equivalent) in electrical engineering, computer science, or a comparable subject and at least one year of post-graduate research or work experience in the field of multi-media systems including in particular speech recognition and control technologies.

Pet. 6 (citing Ex. 1019 ¶¶ 75–77). Patent Owner does not dispute Petitioner’s assertions regarding a person of ordinary skill in the art. *See generally* PO Resp.

Petitioner’s proposal is supported by the testimony of Mr. Schmandt and is consistent with the ’196 patent specification and the asserted prior art. *See Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 666–67 (Fed. Cir. 2000) (identifying factors); *see also Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (The “level of skill in the art is a prism or lens through

which a judge, jury, or the Board views the prior art and the claimed invention.”). Accordingly, we adopt the level of ordinary skill as articulated by Petitioner, except that we remove the qualifier “at least” because it broadens ordinary skill to include expert-level knowledge and skill. *Accord* Final Dec. 17–18 (adopting same position).

C. Claim Construction

In this *inter partes* review, claim terms are given their “broadest reasonable interpretation in light of the specification.” *Comcast Cable*, 838 Fed. Appx. at 553 (quoting 37 C.F.R. § 42.100(b) (2017)).⁹

Below, we address the proper construction of two phrases recited in the challenged claims. Given the parties’ disputes, we need not construe any other claim terms or phrases in this proceeding. *See, e.g., Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe 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))).

⁹ On October 11, 2018, the USPTO revised its rules to harmonize the Board’s claim construction standard with that used in federal district court. Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018). We apply the old version of the rule to this Petition. *See id.* (new rule applies to petitions filed on or after November 13, 2018); Paper 3 (Petition accorded a filing date of December 19, 2017).

1. *“receiving said back channel to create a received back channel”*

Independent claim 1 recites “receiving said back channel to create a received back channel.” Ex. 1001, 51:1–2. On appeal, the Federal Circuit held that “the broadest reasonable interpretation of ‘received back channel’ is a ‘back channel that has been received.’” *Comcast Cable*, 838 Fed. Appx. at 554. The Court stated that “the ‘received back channel’ is merely a relabeled ‘back channel’” and explained that the claim does not require an additional element of “creat[ing]” a received back channel. *Id.*

In this Decision, we apply the Federal Circuit’s construction of this claim phrase.

2. *“a speech recognition system coupled to a wireline node in said network”*

Independent claim 27 recites “a speech recognition system coupled to a wireline node in said network.” Ex. 1001, 55:11–12. Patent Owner argues that this language requires the “speech recognition system” and the “wireline node” to be different components (PO Resp. 20–21), and Petitioner disagrees (Pet. Reply 12–13). We agree with Patent Owner that the claimed “speech recognition system” and the claimed “wireline node” must be different components.

First, “[b]ecause claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims.” *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005). Here, the Federal Circuit has construed substantially similar language in other independent claims of the

'196 patent. Specifically, independent claims 14 and 53 of the '196 patent (which are not challenged in this proceeding, but were challenged in the related 345 IPR) recite “a speech recognition system coupled to a wireline node in a network.” Ex. 1001, 52:65–66, 58:12–13. We concluded that “‘a speech recognition system’ and ‘wireline node’ should be interpreted to be different components.” 345 Final Decision at 26; *see id.* at 24–26 (providing analysis). On appeal, the Federal Circuit agreed. *Comcast Cable*, 838 Fed. Appx. at 553. After analyzing the claim language and the Specification, the Federal Circuit stated that “[t]he broadest reasonable interpretation of ‘coupled to’ [in claims 14 and 53] requires that the ‘speech recognition system’ and ‘wireline node’ are distinct components.” *Id.* This conclusion indicates that “coupled to,” as recited in claim 27, similarly requires the claimed “speech recognition system” and “wireline node” to be distinct components.

Second, for substantially the same reasons articulated by the Board and the Federal Circuit in the 345 IPR (when analyzing the similar phrase in claims 14 and 53), we conclude that the “speech recognition system” and “wireline node” must be distinct components (in claim 27). Specifically, the claim identifies a “speech recognition system” and a separate “wireline node,” which indicates that these are distinct components. *See Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010) (“Where a claim lists elements separately, the clear implication of the claim language is that those elements are distinct components of the patented invention.” (cleaned up)). Moreover, the claim specifies that the speech recognition system is “coupled to” the wireline node, and it makes

little sense to require a component to be “coupled to” itself. Further, the Specification repeatedly refers to different components that are “coupled to” each other, and Petitioner identifies (and we perceive) no passage where the Specification refers to something as being “coupled to” itself. *See, e.g.*, Ex. 1001, 4:18–21, 9:1–8, 9:52–62; *see also* Pet. Reply 12 (citing Ex. 1001, 10:34–35, 21:21–22, 22:56–57, 26:50–51, 40:42–46).

Finally, although Petitioner appears to rely on an embodiment where the speech recognition system is arguably *in* the wireline node (*see* Pet. Reply 12–13 (citing Ex. 1001, 40:55–67)), the Specification also describes an embodiment with a speech recognition system “near” a wireline node (Ex. 1001, 5:11–15). Accordingly, the Specification “does not show a ‘clear intent’ to depart from the claim’s plain language.” *Comcast Cable*, 838 Fed. Appx. at 553 (quoting *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1373 (Fed. Cir. 2014)).

For these reasons, we conclude that the “speech recognition system” and the “wireline node” recited in independent claim 27 must be different components.

D. Summary of Asserted References

1. Murdock (Ex. 1010)

Murdock describes a “system and a concomitant method for providing programming content in response to an audio signal.” Ex. 1010, Abstract. Figure 1 of Murdock is reproduced below.

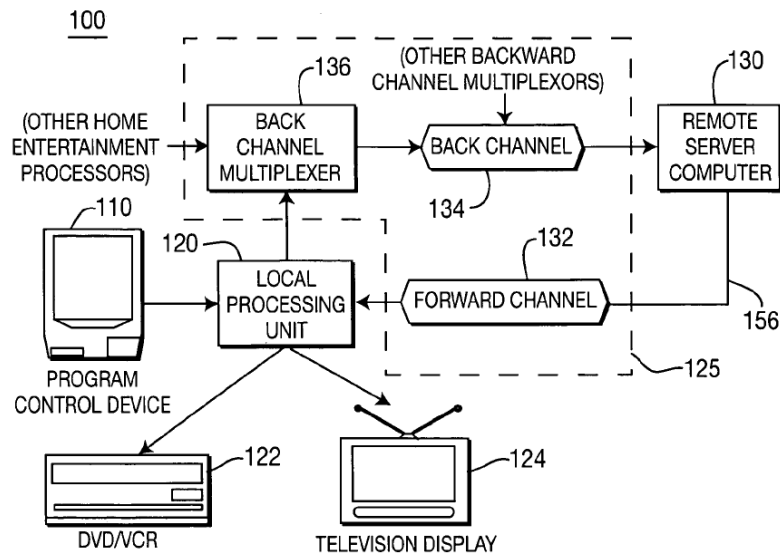


FIG. 1

As shown above, Figure 1 “depicts a high-level block diagram of a voice control system.” Ex. 1010, 1:64–65. The program control device 110 can be “a portable or hand-held controller.” *Id.* at 2:35–36. It can “capture[] the input verbal command signal from the user of the voice activated control system 100.” *Id.* at 2:22–24. “Once the input command signal is received, the program control device 110 performs a transmission, *e.g.*, a wireless transmission, of the command signal to the local processing unit 120,” which “may include a set top terminal, a cable box, and the like.” *Id.* at 2:31–34, 45–47. The input command signal is then transmitted to remote server computer 130 via back channel 134. *Id.* at 3:1–12. Remote server computer 130 “performs speech recognition on the received signal, . . . retrieves the requested program content from a program database, and transmits the retrieved program content via the forward channel 132 to the local processing unit 120.” *Id.* at 3:15–36. “Upon receipt of the requested programming content, the local processing unit 120 transmits the received

content to the video player 122 or the television recorder 124.” *Id.* at 2:61–66.

2. *Julia* (Ex. 1012)

Julia describes a “navigation of electronic data by means of spoken natural language requests.” Ex. 1012, 1:16–18. Figure 1a of Julia is reproduced below.

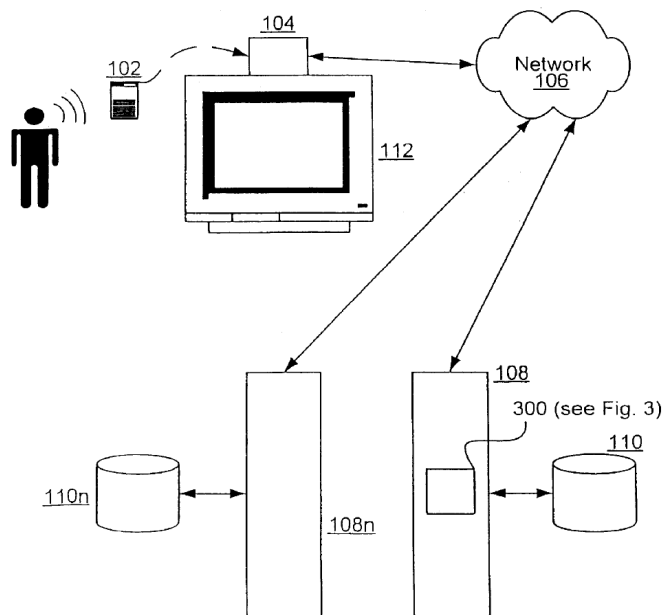


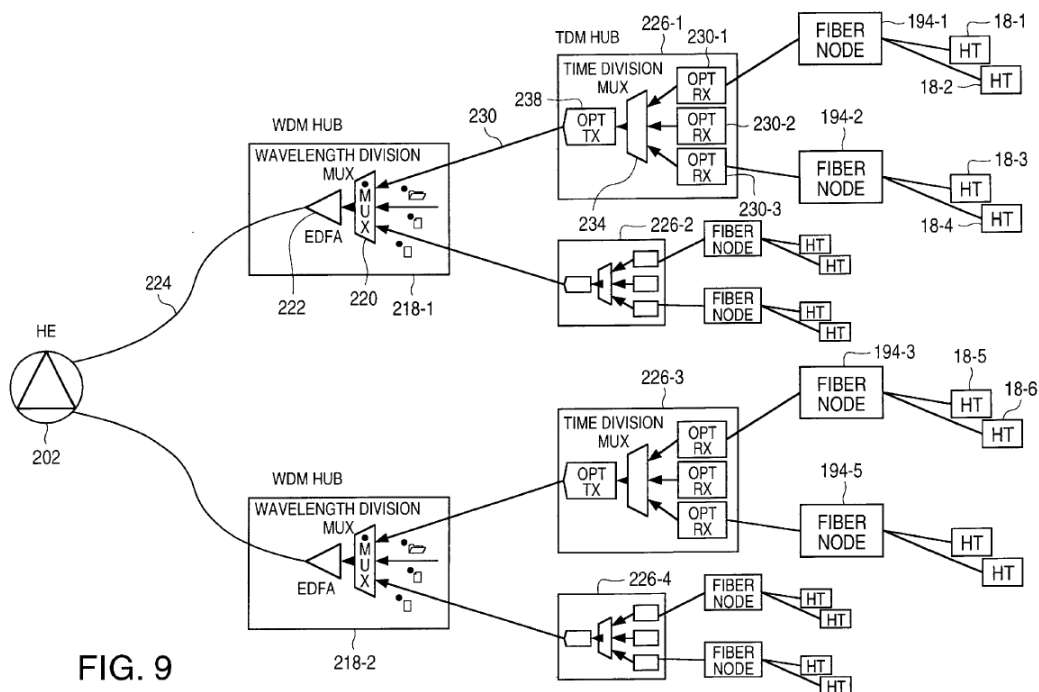
Fig. 1a

As shown above, Figure 1a “illustrates a system providing a spoken natural language interface for network-based information navigation . . . with server-side processing of requests.” *Id.* at 3:6–9. “[A] user’s voice input data is captured by a voice input device 102, such as a microphone.” *Id.* at 3:39–41. “[T]he voice data is transmitted from device 102 preferably via infrared (or other wireless) link to [a receiver in] communications box 104,” which may be a set-top box. *Id.* at 3:48–50. “The voice data is then

transmitted across network 106 to a remote server or servers 108.” *Id.* at 3:54–55. The voice data “is processed by request processing logic 300 in order to understand the user’s request and construct an appropriate query or request for navigation of remote data.” *Id.* at 3:61–64. “Once the desired information has been retrieved from data source 110, it is electronically transmitted via network 106 to the user for viewing on client display device 112.” *Id.* at 4:18–20.

3. Nazarathy (Ex. 1013)

Nazarathy describes “hybrid fiber coaxial cable networks such as [those] used in cable television where two-way digital communications are desired.” Ex. 1013, Abstract. Figure 9 of Nazarathy is reproduced below.



As shown above, Figure 9 of Nazarathy illustrates a Wavelength Division Multiplexing (“WDM”) and Time Division Multiplexing (“TDM”) network

headend (which contains the cable modem termination system) and a plurality of homes (each of which contain a cable modem).” *Id.* at 3:56–60. In Quigley, “[t]he hybrid fiber coaxial network of a cable modem system utilizes a point-to-multipoint topology to facilitate communication between the cable modem termination system and the plurality of cable modems.” *Id.* at 9:1–4. “Frequency domain multiple access (FDMA)/time domain multiple access (TDMA) is used to facilitate communication from each cable modem to the cable modem termination system, i.e., in the upstream direction.” *Id.* at 9:8–12, 48–52. “The upstream channel 491, is divided into a plurality of time intervals 110.” *Id.* at 46:31–34. “The upstream channel 491 is thus partitioned so as to facilitate the definition of time slots, such that each of a plurality of cable modems 12 may transmit data packets to the cable modem termination system 10 without interfering with one another.” *Id.* at 46:34–40.

5. *Banker (Ex. 1015)*

Banker describes an apparatus “for providing a user friendly interface to a subscription television terminal.” Ex. 1015, Abstract. Banker describes a number of user interface features such as “messaging, establishing a favorite channel list, pay-per-view, program timing, and terminal control.” *Id.*; *see also id.* at 4:1–5, 16–18. Figure 6F of Banker is reproduced below.

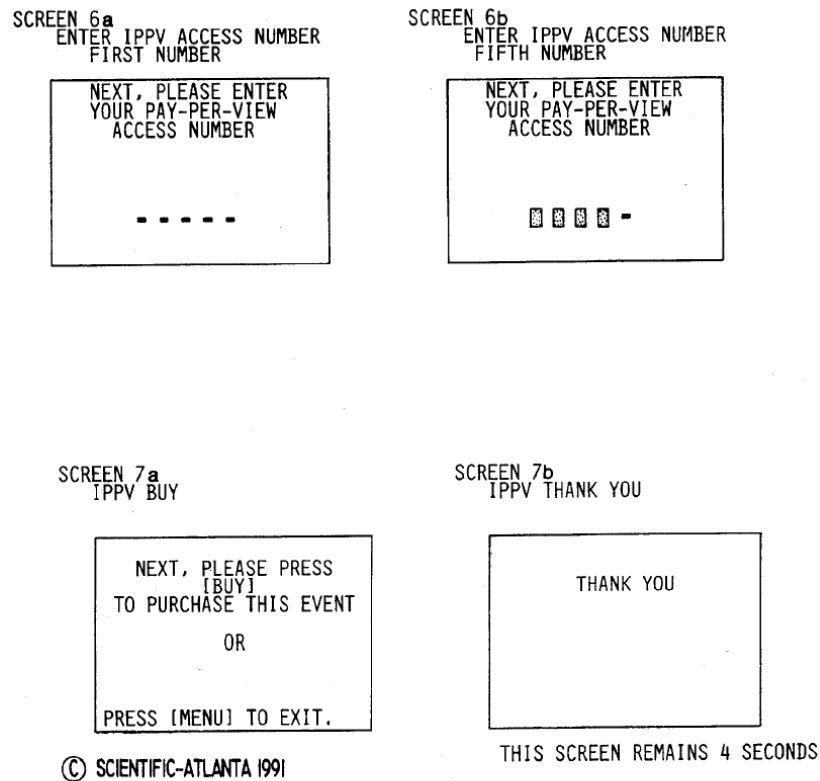


FIG.6F

As shown above, Figure 6F illustrates a sequence of screens a user would navigate through in order to purchase a pay-per-view event. *Id.* at 16:54–17:3. Banker also discusses how customers can be billed for using the subscription television terminal. *See id.* at 7:58–8:3, 12:1–15.

6. Gordon (Ex. 1016)

Gordon describes “[a] method and apparatus for providing subscription-on-demand (SOD) services for a[n] interactive information distribution system, where a consumer may subscribe to packages of on-demand programs for a single price.” Ex. 1016, Abstract. Figure 8 of Gordon is reproduced below.

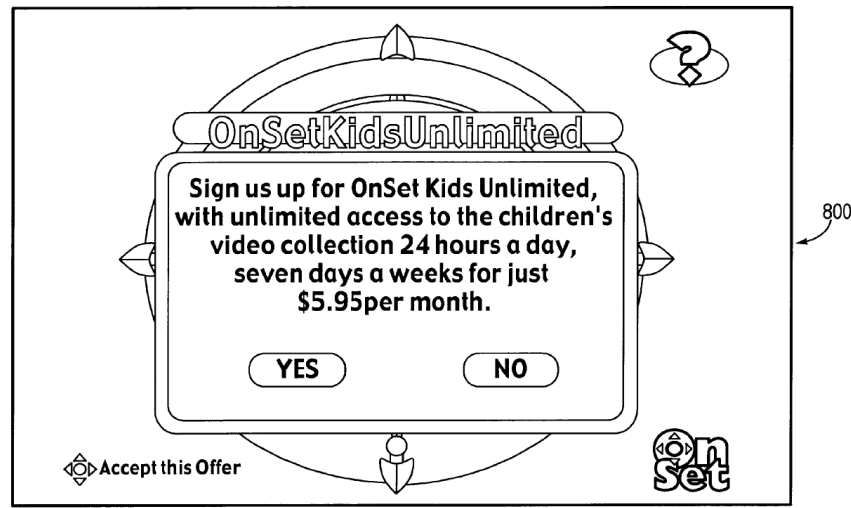


FIG. 8

As shown above, Figure 8 of Gordon shows “a menu that allows a consumer to subscribe to a selected subscription-on-demand service.” *Id.* at 3:40–41. According to Gordon, “through manipulation of the menus, the consumer selects a programming package, becomes a subscriber to that package and is billed accordingly.” *Id.* at 2:61–63.

E. Obviousness Grounds Based on Julia

Petitioner contends that claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, and 38–42 are unpatentable under 35 U.S.C. § 103(a) over Julia in view of either Nazarathy or Quigley, and claims 5, 6, 31, and 32 are unpatentable under 35 U.S.C. § 103(a) over Julia in view of either Nazarathy or Quigley and in further view of either Banker or Gordon (collectively “the Julia grounds”). Pet. 12–14, 42–68; *see supra* § I.C (table delineating grounds).

Patent Owner contends that Petitioner fails to prove several limitations of independent claims 1 and 27 and that Petitioner’s stated motivations to combine Julia with Nazarathy or Quigley are insufficient. PO Resp. 8–23. Patent Owner alleges further deficiencies in Petitioner’s

showings for dependent claims 5, 6, 13, 31, 32, and 39. *Id.* at 24–27.

Finally, Patent Owner contends that objective indicia further demonstrate nonobviousness. *Id.* at 28–41.

We have considered the parties’ arguments and evidence. We begin our discussion by addressing independent claim 1, and then turn to each of its dependent claims (i.e., claims 2, 4–6, 12, and 13). Last, we address independent claim 27 and its dependent claims 28, 30–32, and 38–42.

1. Independent Claim 1

a. Julia discloses the preamble.

The preamble of claim 1 recites: “A method of using a back channel containing a multiplicity of identified speech channels from a multiplicity of user sites presented to a speech processing system at a wireline node in a network supporting at least one of cable television delivery and video delivery” Ex. 1001, 50:62–67.

Petitioner contends that Julia discloses the preamble. Pet. 43–44 (citing Ex. 1019 ¶¶ 307–309). According to Petitioner, “Julia discloses a voice control system that can be implemented in an interactive cable television network,” and with this system, “[m]ultiple users can issue voice commands requesting television and other video content from a remote server computer (e.g., ‘a wireline node’).” *Id.* at 43 (citing Ex. 1012, 1:29–34, 4:31–35, 6:12–26). Petitioner submits that the “remote server performs speech recognition processing to identify the spoken request and then sends the requested content to the particular user.” *Id.* at 43–44 (citing Ex. 1012, 3:61–4:20).

Patent Owner does not contest Petitioner's showing for the preamble.
See generally PO Resp.

We are persuaded that Julia discloses the preamble.¹⁰ In particular, Julia's remote server 108 receives voice data from a user site (including device 102 and communications box 104) via network 106. *E.g.*, Ex. 1012, 3:61–4:20. Julia teaches that its invention may be implemented in a network supporting cable television delivery (*id.* at 1:29–43, 2:20–25, 4:31–35),¹¹ and the remote server may receive requests from multiple user sites simultaneously (*id.* at 6:12–26).

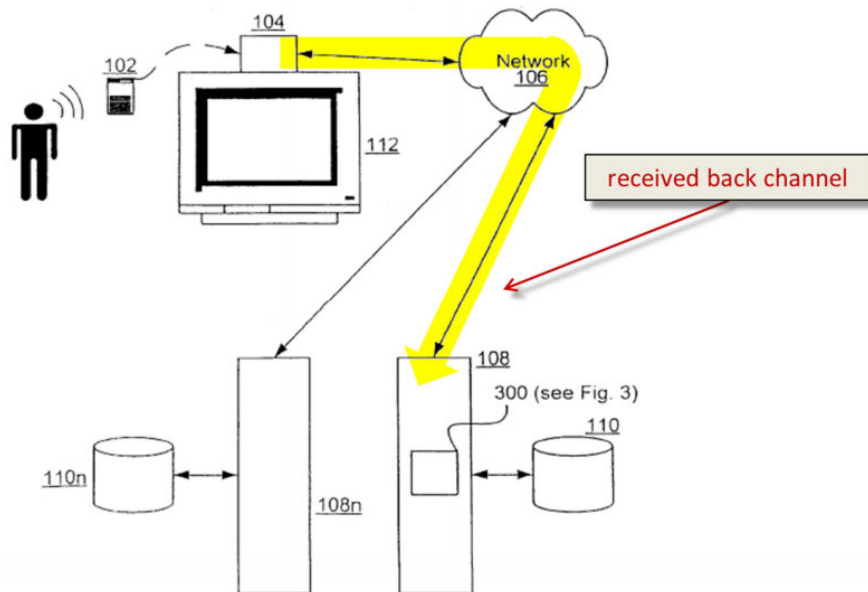
b. Julia discloses the receiving limitation.

Claim 1 next recites “receiving said back channel to create a received back channel.” Ex. 1001, 51:1–2.

¹⁰ Because Petitioner has shown that the recitations in the preamble are satisfied by Julia, we need not determine whether the preamble is limiting. *See Vivid Techs.*, 200 F.3d at 803.

¹¹ When addressing another claim limitation, Patent Owner asserts in passing that Julia discloses that network 106 “can be implemented *over cable lines*” but not “*in* an interactive cable television network.” PO Resp. 11 (emphasis added) (citing Pet. 43; Ex. 1012, 4:31–39; Ex. 2033 ¶ 35). We disagree. Julia's background explains that high-bandwidth networks like “cable” “ultimately require[] interactive navigation of content databases in a manner that is too complex for user-friendly selection by means of a traditional remote-control clicker,” so Julia proposes a “voice-driven” solution compatible with “proprietary high-bandwidth content delivery network[s].” Ex. 1012, 1:29–43, 2:20–25. In light of this background, we understand Julia to disclose implementation in a cable television network. *See id.* at 4:31–35.

Petitioner contends that Julia discloses this limitation. Pet. 44–45. Petitioner submits that a voice command is transmitted from voice input device 102 to communications box 104 and then to remote server 108 via network 106. *Id.* at 44 (citing Ex. 1012, 3:39–55). Petitioner notes that network 106 may be a cable television network and that multiple users may simultaneously transmit their voice commands. *Id.* (citing Ex. 1012, 4:31–35, 6:12–26). Petitioner contends that “[a] person of ordinary skill in the art would have known that upstream data transmissions in the cable television network disclosed Julia are transmitted on the ‘back channel.’” *Id.* (citing Ex. 1019 ¶¶ 307, 311; Pet. 7–8 (explaining that “back channel” refers to the “upstream communication channel delivering signals from multiple user sites to a central wireline node”)). From this, Petitioner asserts that “a person of ordinary skill in the art would recognize that remote server 108 receives the ‘back channel to create a received back channel,’ as recited in claim 1.” *Id.* at 45 (citing Ex. 1019 ¶¶ 311–312). To illustrate its mapping, Petitioner includes an annotated version of Julia’s Figure 1a, which is reproduced below:



Julia Fig. 1a (annotated)

Petitioner’s annotated version of Julia’s Figure 1a, shown above, highlights the connection between communications box 104, network 106, and remote server 108 and labels this connection as “received back channel.” Pet. 45.

In the Response, Patent Owner argues that Petitioner fails to address how any reference “creates a received back channel,” as the claim requires. PO Resp. 10–14. However, as Petitioner explains in its remand briefing, this argument is premised on a claim construction that was rejected by the Federal Circuit. *See* Pet. Remand Open. 2–3 (contending that the CAFC Decision negates Patent Owner’s arguments regarding this limitation); *see generally* PO Remand Resp. (not disputing Petitioner’s assessment). The Federal Circuit explained that “the phrase ‘to create a received back channel’ describes the result of ‘receiving’ the ‘back channel,’” and the claim language does not require an additional element of “creat[ing]” a received

back channel. *Comcast Cable*, 838 Fed. Appx. at 554. Accordingly, Patent Owner’s argument is misplaced.

In the Response, Patent Owner also contends that Petitioner and Mr. Schmandt inconsistently mapped claim limitations. PO Resp. 13 (alleging inconsistencies in the references to “channel” and “data”); *see also id.* at 14–18 (also arguing inconsistencies between “data” and “signals”). We disagree. Petitioner and Mr. Schmandt consistently map Julia’s upstream communications channel to the claimed “back channel.” The discussion of “data” refers to information sent via that channel, and “signals” are the way that data is transmitted. *See* Pet. Reply 10 (citing Ex. 1029 ¶ 9), 11–12 (citing Ex 1029 ¶ 14); Ex. 1029 ¶¶ 9, 14 (discussing relationship between a channel, signals, and data).

Having reviewed the parties’ arguments and the evidence of record, and applying the Federal Circuit’s claim construction, we are persuaded that Julia discloses this limitation. In particular, we are persuaded that a person of ordinary skill in the art would understand that Julia’s remote server 108 “receiv[es] said back channel to create a received back channel”—Julia’s remote server 108 receives the voice command data from user sites via an upstream communication channel. Ex. 1019 ¶¶ 307, 311; *e.g.*, Ex. 1012, 3:37–60.

c. The Julia-Nazarathy and Julia-Quigley combinations each disclose the partitioning limitation.

Claim 1 further recites “partitioning said received back channel into a multiplicity of received identified speech channels.” Ex. 1001, 51:3–4.

For this limitation, Petitioner relies on a combination of Julia and either Nazarathy or Quigley.¹² Pet. 45–47. With respect to Julia, Petitioner points to Julia’s disclosure that multiple users may simultaneously issue requests and that existing systems “support access requests from simultaneous multiple network users, as known by practitioners of ordinary skill in the art.” *Id.* at 45–46 (quoting Ex. 1012, 6:13–21). Petitioner then turns to Nazarathy and Quigley, asserting that each discloses a “prior art cable network[] in which multiple users could issue requests ‘simultaneously . . .’ to a central information source.” *Id.* at 46 (citing Ex. 1019 ¶¶ 316–320). Petitioner contends that each of these references “disclose[s] techniques for ‘partitioning’ an upstream data channel carrying multiple user signals at a central cable headend.” *Id.* at 46 (citing Ex. 1013, Abst., 13:64–14:46, 14:62–64; Ex. 1014, 9:56–10:3, 46:32–40; Ex. 1019 ¶¶ 316–317, 319; Pet. 8–9); *see id.* at 8–9 (explaining that “partitioning” includes “any approach or technique to divide a communication channel into identifiable portions,” including, for example, demultiplexing, which was well-known in the art (citing Ex. 1019 ¶¶ 87–89)).

Petitioner further contends that a person of ordinary skill in the art would have been motivated to combine Julia with Nazarathy to yield this

¹² In its remand briefing, Petitioner also contends that it “showed that Julia alone . . . discloses” this limitation. Pet. Remand Open. 3 (citing Pet. 45–47, 54; Pet. Reply 10–11). However, this is belied by the cited portions of the Petition and the Reply, which exclusively rely on a combination of Julia and either Nazarathy or Quigley. *See* Pet. 45–47; Pet. Reply 10–11; *see also* PO Remand Resp. 2 (identifying error); Tr. 11:19–24, 22:9–14, 24:6–9. To the degree Petitioner seeks to present a new argument, we do not consider it.

claim limitation and to combine Julia with Quigley to yield this claim limitation. Pet. 60–61; *see also id.* at 45–47 (citing Ex. 1019 ¶¶ 316–320). In particular, Petitioner contends that an ordinary artisan would have considered Nazarathy and Quigley in connection with Julia because “[a] skilled artisan would have known that Julia’s voice control system could be implemented using those techniques and networks.” *Id.* at 60–61 (citing Ex. 1019 ¶ 443; Ex. 1012, 6:47–59; Ex. 1013, 13:64–14:46; Ex. 1014, 9:65–10:3); *see id.* at 61 (contending that Julia’s disclosure suggests the combination). Petitioner further contends that “a person of ordinary skill in the art would have recognized the benefits of combining Julia with the teachings of Nazarathy and Quigley, as discussed above,” and the combinations “would have been no more than combining prior art elements according to known methods to yield predictable results for a person of ordinary skill in the art.” *Id.* at 61 (citing Ex. 1019 ¶ 444).

Patent Owner argues that the Petitioner fails to account for the difference between the claimed “back channel” and the claimed “received back channel” (PO Resp. 14–16), but this argument is premised on a claim construction rejected by the Federal Circuit, as explained above (*see supra* § II.E.1.b). *See also* Pet. Remand Open. 2–4 (contending that the CAFC Decision negates these arguments); *see generally* PO Remand Resp. (not disputing this assessment). In addition, Patent Owner restates its inconsistency arguments (*see* PO Resp. 14–15), but we perceive no such inconsistency (*see supra* § II.E.1.b). Thus, these arguments are misplaced.

In the Response, Patent Owner also argues that the Petition fails to address “a multiplicity of received identified speed channels” and that

neither Nazarathy nor Quigley discuss partitions “identified with speech commands.” PO Resp. 16–17 (citing Ex. 2033 ¶ 42; Pet. 8–9, 46).

Patent Owner further argues that the Petition fails to articulate a sufficient motivation to combine Julia with Nazarathy or Quigley. PO Resp. 21–23. Patent Owner critiques Petitioner’s analysis as “fall[ing] within [a] mere three paragraphs” and failing to sufficiently explain *why* a person of ordinary skill in the art would have been motivated to make the combination. *Id.* (citing Pet. 60–61). According to Patent Owner, Petitioner’s allegations “identif[y] generalized purported benefits without linking them to the features of the challenged claims” and without providing “any factual basis.” *Id.* at 22 (citing Ex. 2033 ¶ 50). Further, Patent Owner argues that Petitioner fails to sufficiently explain *how* an ordinary artisan would make the proposed combination with a reasonable expectation of success. *Id.* at 23.

We have reviewed the parties’ arguments and cited evidence. On this record, for the reasons explained below, we are persuaded that the Julia-Nazarathy combination and the Julia-Quigley combination each disclose the partitioning limitation. Moreover, as we will explain, we are persuaded that a person of ordinary skill in the art would have had a motivation to combine Julia’s system with partitioning (as disclosed in Quigley and Nazarathy) to allow Julia’s remote server to receive and process requests from multiple users simultaneously, as it discloses. We are further persuaded that either combination would have been predicable to an ordinary artisan and within his skill.

Julia's remote server 108 receives voice data from a user site (including voice input device 102 and communications box 104), and this teaches "receiving said back channel to create a received back channel," as required by claim 1. *See supra* § II.E.1.b. Julia also teaches that "multiple users, each having their own client input device, may issue requests[] simultaneously." Ex. 1012, 6:12–16. Julia's remote server 108 processes the voice data sent by the user(s) to determine each user's command, and this teaches "processing said multiplicity of said received identified speech channels to create a multiplicity of identified speech content," as required by claim 1. *See infra* § II.E.1.d. Moreover, Julia discloses that its techniques may be implemented in a network supporting cable television delivery. *Id.* at 1:29–43, 2:20–25, 4:31–35.

But Julia does not describe all implementation details. Of relevance in this proceeding, Julia does not address how multiple requests would be transmitted to remote server 108 in a cable network (other than to indicate that they would be sent via network 106). Julia does, however, indicate that a person of ordinary skill in the art would know how to accommodate requests from multiple users. *See* Ex. 1012, 6:16–26.

Nazarathy and Quigley each disclose that multiple user requests are sent from different cable modems (located at subscribers' homes) to a central cable headend by including these requests on a common upstream channel and then, at the headend, dividing them into the separate requests (or, in the parlance of the claim, "partitioning" them). *See* Pet. 46. Specifically, Nazarathy describes a cable television network where a headend receives "reverse (upstream) transmissions" from home terminals

(e.g., “digital cable modems”) and processes those transmissions. *E.g.*, Ex. 1013, Abst., 1:6–31. Nazarathy states that data from the home terminals may be multiplexed on the upstream channel (e.g., using time division multiplexing (TDM)) and demultiplexed by the headend. *E.g.*, *id.* at 13:64–14:46, 14:62–64; *see id.* at 2:32–35 (noting that “[e]ach upstream channel frequency may be shared by many home terminals”); Ex. 1019 ¶ 316. Similarly, Quigley states that its upstream channel is “partitioned” to allow “each of a plurality of cable modems 12 [to] transmit data packets to the cable modem termination system 10 [in the headend] without interfering with one another.” Ex. 1014, 46:32–40; *see also id.* at 8:42–60 (headend includes cable modem termination system), 9:48–55 (noting that “[c]ontemporary cable modem systems . . . utilize time division multiple access (TDMA) in order to facilitate communication between a plurality of cable modems and a single cable modem termination system on each upstream channel”); Ex. 1019 ¶ 319.

We are persuaded that a person of ordinary skill in the art would have been motivated to combine Julia and Nazarathy to yield the partitioning limitation, and we are also persuaded that a person of ordinary skill in the art would have been motivated to combine Julia and Quigley to yield the partitioning limitation. As noted above, Julia discloses that its technique can be used in a cable television network and that its remote server 108 can receive and process multiple user requests simultaneously; however, Julia does not describe how this would be accomplished. Nazarathy and Quigley each describe a cable television network where a central headend partitions

an upstream channel to identify each subscriber's data. As Mr. Schmandt further explains:

Nazarathy and Quigley also provide additional details for implementing bi-directional communication systems for cable networks that fit directly into, but are not expressly described, by Julia. For example, Julia states that persons of ordinary skill in the art would appreciate how to implement its system to support receiving and processing multiple simultaneous user requests, but does not provide details regarding how such implementation should occur. . . . Nazarathy and Quigley both describe multiplexing methods that can be used for supporting simultaneous requests, as Julia suggests. . . . A person of ordinary skill in the art, looking for further details regarding how to implement Julia to support simultaneous requests, would thus naturally consider the teachings of Nazarathy and Quigley because they disclose methods for bi-directional communication that fit directly into the communication needs of Julia.

Ex. 1019 ¶ 443 (citations omitted). We credit this testimony because it is logical and supported by the cited references and because there is no persuasive evidence to the contrary.

We are further persuaded that a person of ordinary skill in the art would have known that multiplexing and then demultiplexing could be used to combine and then separate (or “partition”) data associated with different users. *See* Ex. 1019 ¶¶ 87–88. Mr. Schmandt testifies “one well-known technique for ‘partitioning’ a communication channel” involved “multiplexing (i.e., combining) several independent communication signals together for transmission to the central network node and then demultiplexing (i.e., decomposing) that signal into portions identified with each sending user location.” *Id.* ¶ 88 (citing Ex. 1001, 3:44–52 (challenged

patent describing multiplexing in the background of the invention)). We credit this testimony because it is logical and consistent with the cited evidence and because there is no contradictory evidence.

As demonstrated by our analysis above, we do not agree with Patent Owner's argument that the Petition fails to sufficiently address "a multiplicity of received identified speech channels," as required by claim 1. *See* PO Resp. 16–17. Moreover, Patent Owner's argument that neither Nazarathy nor Quigley discuss partitioning "speech commands originating from system users" is inapposite. *Id.* (quoting Pet. 8–9; citing Ex. 2033 ¶ 42). Petitioner does assert that Nazarathy or Quigley disclose speech commands; rather, Petitioner relies on Julia for this disclosure. *See* Pet. 45–47. We have considered the testimony of Patent Owner's declarant, but it suffers from the same misunderstanding. *See* Ex. 2033 ¶ 42 (parroting language of the Response).

We also disagree with Patent Owner's argument that the Petition's analysis of the rationale to combine is insufficient to show a motivation to combine. *See* PO Resp. 21–23; *accord* Inst. Dec. 30–33 (determining that Petitioner's rationale to combine was sufficient). Patent Owner cites to Mr. Tinsman's testimony; however, Mr. Tinsman simply repeats the Response's contention that the Petition is insufficient. *Compare* Ex. 2033 ¶ 50, *with* PO Resp. 22. Moreover, Mr. Tinsman's testimony summarizes Petitioner's arguments and concludes, without additional explanation, that Petitioner's "purported benefits likewise lack any factual basis" and fail to support its proposed modification. Ex. 2033 ¶ 50. We do not credit this testimony because Mr. Tinsman provides legal arguments, not technical expertise.

However, we agree with Patent Owner that two of the Petition's sentences fail to support Petitioner's rationale to combine. *See* PO Resp. 22 (citing Pet. 61). Specifically, the Petition states:

The Julia network would reap the benefits of Nazarathy (e.g., increased bandwidth) or Quigley (e.g., avoiding collisions between multiple upstream signals). Implementing Julia's voice control system on the networks of Nazarathy or Quigley would improve the user interface for those systems.

Pet. 61 (citing Ex. 1019 ¶ 444). But Petitioner fails to adequately explain the relationship between the alleged benefits (i.e., Nazarathy's increased bandwidth and Quigley's avoiding collisions) and its proposed combination. As a result, we are not persuaded that these benefits would have motivated an ordinary artisan to make the proposed combination. The second sentence appears to propose a different combination in which Julia's voice recognition is added into Nazarathy's or Quigley's system; however, Petitioner does not sufficiently explain such a combination, and we are not persuaded by it. Nevertheless, we are persuaded based on the totality of the record that a person of ordinary skill in the art would have been motivated to combine Julia with Nazarathy or Quigley for the reasons articulated above.

d. Julia discloses the processing and responding limitations.

Finally, claim 1 recites "processing said multiplicity of said received identified speech channels to create a multiplicity of identified speech content" and "responding to said identified speech content to create an identified speech content response that is unique, for each of said multiplicity of identified speech contents." Ex. 1001, 51:5–10.

Petitioner contends that Julia discloses these limitations. Pet. 47–48. In particular, Petitioner contends that Julia’s remote server 108 processes the voice data “to understand the user’s request and construct an appropriate query or request for navigation of remote data source.” *Id.* (quoting Ex. 1012, 3:61–65; citing *id.* at 7:5–7). According to Petitioner, “[a]fter identifying the information requested by a particular viewer, ‘[t]he retrieved information is transmitted across the network and presented to the user on a suitable client display device.’” *Id.* (second alteration in original) (quoting Ex. 1012, 2:65–67; citing *id.* at 4:18–20, 11:60–67).

Patent Owner again argues that the Petition’s mapping is inconsistent (*see* PO Resp. 17–18), but we disagree, as explained above (*see supra* § II.E.1.b). Patent Owner does not otherwise dispute Petitioner’s showing for these claim limitations. *See generally* PO Resp.

We are persuaded that Julia discloses the processing and responding limitations. In particular, Julia’s remote server 108 processes the data received from multiple users to identify the words spoken by each user (and the corresponding requests) and responds with information responsive to each request. *E.g.*, Ex. 1012, 3:61–4:20, 7:1–11, 6:12–26, 11:60–67, Fig. 4.

e. Patent Owner fails to show a nexus between its evidence of objective indicia and the claimed invention.

Patent Owner contends that there are objective indicia of nonobviousness “based on the success and acclaim of an AgileTV system embodying the invention of the ’196 patent.” PO Resp. 29; *see id.* at 28–41

(addressing objective indicia and supporting evidence).¹³ Petitioner disagrees. Pet. Reply 18–26.

Having considered the parties’ arguments and evidence, we determine that Patent Owner fails to show a nexus between its alleged objective indicia and the merits of the claimed invention. *See Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373 (Fed. Cir. 2019) (“The patentee bears the burden of showing that a nexus exists.” (quoting *WMS Gaming Inc. v. Int’l Game Tech.*, 184 F.3d 1339, 1359 (Fed. Cir. 1999))). Specifically, as explained below, we disagree with Patent Owner’s contentions that (1) it is entitled to a presumption of nexus and (2) the evidence shows a direct nexus between the objective indicia and the claimed invention. *See* PO Resp. 29–30.

Because Patent Owner fails to establish nexus, we accord no weight to Patent Owner’s alleged objective indicia of nonobviousness. *See Bosch Auto. Serv. Solns., LLC v. Matal*, 878 F.3d 1027, 1036 (Fed. Cir. 2017), *as amended on reh’g in part* (Mar. 15, 2018) (“Evidence of [objective indicia] is only relevant to the obviousness inquiry ‘if there is a nexus between the claimed invention and the [objective indicia].’” (alterations in original) (quoting *In re Affinity Labs of Tex., LLC*, 856 F.3d 883, 901 (Fed. Cir. 2017))).

i. Presumption of nexus

Patent Owner first contends that it is entitled to a presumption of nexus because the “AgileTV system embodied the invention disclosed and

¹³ The AgileTV system was developed by Patent Owner (then known as AgileTV) in the early 2000s. *See* Ex. 2023 ¶¶ 3, 15.

claimed in the '196 patent.” PO Resp. 30. In support, Patent Owner argues that “[t]he '196 patent describes embodiments of the AgileTV system,” as demonstrated by Mr. Chaiken’s testimony, the Specification, and the provisional application to which the '196 patent claims priority. *Id.* at 30–31 (citing Ex. 2032 ¶¶ 8–12, 13–16; Ex. 1001, 11:62–65, 12:50–56; Fig. 3; Ex. 2006, 11, 14, 29).

Patent Owner’s arguments are misplaced because Patent Owner focuses on the contents of the *disclosure* of the '196 patent (*see* PO Resp. 30–31; PO Sur-Reply 18) rather than whether a *claim* of the '196 patent covers, and is coextensive with, the AgileTV system. *See Fox Factory*, 944 F.3d at 1373 (“[P]resuming nexus is appropriate when the patentee shows that the asserted objective evidence is tied to a specific product and that product embodies the claimed features, and is coextensive with them.” (quotations omitted)); *see also WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1329 & n.3 (Fed. Cir. 2016) (explaining that a presumption of nexus is appropriate when a specific product “is the invention disclosed and claimed in the patent,” not when “the patented invention is only a component of the product” (quotations omitted)).

Applying the correct standard, we find that Patent Owner has not persuasively shown that it is entitled to a presumption of nexus. First, Patent Owner fails to show that the AgileTV system embodies the claimed features. On this point, Patent Owner provides no explanatory argument or evidence—in fact, Patent Owner does not identify *which claim* is allegedly embodied in the AgileTV system.

This missing analysis is not found elsewhere in Patent Owner's Response. In a different subsection of the Response, Patent Owner includes a sentence having elements that are somewhat similar to the limitations of claim 1. *Compare* PO Resp. 32–33, *with* Ex. 1001, 50:62–51:10. Patent Owner does not appear to rely on this sentence to show that the AgileTV embodied the claims (and does not reference claim 1). But, even if it had, we would still find this lone sentence to be insufficient. Specifically, that sentence states:

By 2003, AgileTV implemented the above-described architecture [i.e., “Server-Centric Voice Recognition”] to partition a received back channel to a multiplicity of received identified speech channels, process those to create a multiplicity of identified speech content, and responding to the multiplicity of identified speech content to create a unique identified speech content response for each identified speech content.

PO Resp. 32–33 (citing Ex. 2032 ¶¶ 9–10, 15; Ex. 2003, 9; Ex. 2007, 8; Ex. 2008, 1, 3). However, Patent Owner fails to provide analysis or evidence to support the statements that arguably correspond to the limitations of claim 1 (e.g., that the AgileTV “architecture . . . partition[ed] a received back channel”). Patent Owner cites the testimony of Mr. Chaiken, but he describes the AgileTV architecture generally and simply reiterates the quoted statement. Ex. 2023 ¶¶ 9–10, 15. Patent Owner also cites documents, but they merely show that AgileTV provided voice recognition processing at a cable headend. Ex. 2007, 8; Ex. 2008, 1, 3. Because there is insufficient documentary evidence or explanation, we afford little weight to the conclusory sentence quoted above and to Mr. Chaiken's conclusory testimony on that point. *See* 37 C.F.R. § 42.65 (“Expert testimony that does

not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”); *see also* Pet. Reply 18–19 (“Patent Owner cites no evidence describing its actual commercial product. It merely argues in a circle that the product embodied the patent because the patent allegedly describes the product.”). Accordingly, we determine that Patent Owner does not show that the AgileTV system embodies the claimed features.

Second, Patent Owner has not persuasively shown that it is entitled to a presumption of nexus because Patent Owner also fails to show that the AgileTV system is coextensive with claim 1. Patent Owner fails to address the degree of correspondence between its product and the patent claim, and the omission of this analysis is independently fatal to Patent Owner’s contention that nexus should be presumed. *See Fox Factory*, 944 F.3d at 1374 (“Although we do not require the patentee to prove perfect correspondence to meet the coextensiveness requirement, what we do require is that the patentee demonstrate that the product is essentially the claimed invention.”).

In fact, as to the coextensiveness requirement, our review of the evidence indicates that the AgileTV system included important, unclaimed features that materially impacted its functionality, relating to the accuracy and ease-of-use of its voice recognition technology. *See, e.g.*, Ex. 2002, 3; Ex. 2009, 2; Ex. 2010, 4; Ex. 2019; Ex. 2020, 7; *see also* Ex. 2032 ¶¶ 14 (acknowledging that the AgileTV system changed over time, but without addressing the substance or timing of those changes). This evidence further supports our finding that a presumption of nexus is inappropriate. *See Fox Factory*, 944 F.3d at 1375 (“A patent claim is not coextensive with a product

that includes a ‘critical’ unclaimed feature that is claimed by a different patent and that materially impacts the product’s functionality.”); *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988) (“When the thing that is commercially successful is not coextensive with the patented invention—for example, if the patented invention is only a component of a commercially successful machine or process—the patentee must show *prima facie* a legally sufficient relationship between that which is patented and that which is sold.”).

ii. Direct evidence of nexus

We next evaluate whether Patent Owner has proven “nexus by showing that the evidence of secondary considerations is the ‘direct result of the unique characteristics of the claimed invention.’” *Fox Factory*, 944 F.3d at 1373–74 (quoting *In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996)). Patent Owner asserts that “[t]he success and industry praise of the AgileTV system was the direct result of AgileTV having successfully implemented the claimed invention to provide voice recognition processing for multiple users in a cable television network.” PO Resp. 33; *see also id.* at 31–33 (alleging direct evidence of nexus), 33–40 (addressing objective indicia and evidence). We disagree.

Initially, we note that Patent Owner’s analysis is undermined by two erroneous assumptions. First, Patent Owner appears to assume that its evidence of objective indicia should show nonobviousness as long as: (a) AgileTV embodied the claim and (b) the objective indicia relate to AgileTV. But this skips the nexus requirement entirely—it does not

consider whether there is any connection between the evidence and the claimed invention. *See, e.g., Henny Penny Corp. v. Frymaster LLC*, 938 F.3d 1324, 1332 (Fed. Cir. 2019) (“[T]o be accorded substantial weight in the obviousness analysis, the evidence of secondary considerations must have a ‘nexus’ to the claims, i.e., there must be ‘a legally and factually sufficient connection’ between the evidence and the patented invention.” (quoting *Demaco*, 851 F.2d at 1392)).

Second, Patent Owner appears to assume that the claimed invention is, generally, the concept of voice recognition processing for multiple users in a cable television network. This is not appropriate. The challenged claims do not require voice recognition *in cable systems*: they encompass speech recognition in any *video delivery* network. *See* Ex. 1001, 50:64–66 (independent claim 1 reciting a method “in a network supporting at least one of cable television delivery and video delivery”), 55:33–36 (independent claim 27 reciting commensurate limitation). Thus, it is not sufficient to show a nexus between the evidence and voice recognition in cable systems specifically. *See Therasense, Inc. v. Becton, Dickinson & Co.*, 593 F.3d 1325, 1336 (Fed. Cir. 2010) (“Because the claims are broad enough to cover devices that either do or do not solve the ‘short fill’ problem, [patent owner’s] objective evidence of non-obviousness fails because it is not ‘commensurate in scope with the claims which the evidence is offered to support.’” (quoting *In re Grasselli*, 713 F.2d 731, 743 (Fed. Cir. 1983))).

That assumption is also inappropriate here because, as we have found, the general concept of voice recognition processing for multiple users in a network supporting video or cable television delivery was expressly

disclosed in the prior art (*e.g.*, Ex. 1012, 1:30–43, 2:13–25, 3:61–4:35, 6:12–26), and the law requires “a nexus to some aspect of the claim not already in the prior art.” *In re Kao*, 639 F.3d 1057, 1069 (Fed. Cir. 2011); *see also id.* at 1068 (“Where the offered secondary consideration actually results from something other than what is both claimed and *novel* in the claim, there is no nexus to the merits of the claimed invention.”).¹⁴

We have reviewed the specific arguments and evidence presented regarding alleged objective indicia (*see* PO Resp. 33–40), and we find that Patent Owner fails to show a direct nexus between the evidence and the claimed invention. We address each of Patent Owner’s alleged objective indicia in turn.

Patent Owner first argues that certain evidence demonstrates “a long-felt but unmet need for using voice recognition in cable systems.” PO Resp. 33–34 (emphasis omitted) (citing Ex. 2001; Ex. 2002, 3; Ex. 2032 ¶¶ 6–12; Ex. 2040). At most, Patent Owner demonstrates a connection between its evidence and the general concept of voice recognition in cable systems, but, as explained above, this general concept is neither novel nor required by the claims. Moreover, although Patent Owner touts its “comprehensive” solution, which included the microphone, transport, and server-side voice recognition engine (*see* PO Resp. 34), it fails to identify any correlation between these features and the invention recited in the

¹⁴ We agree with Patent Owner’s statement that a nexus could be shown between the objective evidence and “the claimed combination as a whole” (PO Sur-Reply 12), but Patent Owner fails to provide any argument or evidence to demonstrate a nexus between the evidence and the claimed combination as a whole (*see* PO Resp. 31–40; PO Sur-Reply 12–13).

challenged claims. Accordingly, we find no nexus between Patent Owner's evidence of long-felt need and the challenged claims.¹⁵

Patent Owner also argues that AgileTV received industry praise (and praise from Petitioner), but similarly fails to show any connection between the alleged praise of the AgileTV system and the claimed invention. *See* PO Resp. 35–37 (citing Ex. 2009, 3; Ex. 2010, 4, 6; Exs. 2011–2019; Ex. 2020, 4, 6–7; Ex. 2032 ¶¶ 17–25); Pet. Reply 21–23 (arguing that Patent Owner fails to tie its evidence to any novel feature of the challenged claims). For example, Patent Owner fails to show that the 2005 award by Speech Technology Magazine was related to any features recited in the challenged claims. *See* Ex. 2009, 2–3 (stating that the award is given for solutions “that have impacted organizations in innovative and unique ways”). Similarly, we find Patent Owner's other evidence lacks any apparent connection to the claimed invention. *See* Ex. 2023 ¶¶ 17–25; Ex. 2010, 4, 6; Exs. 2012–2019; Ex. 2020, 4, 6–7. In fact, the evidence indicates that AgileTV received attention for a feature that is not recited in the challenged claims—namely, voice recognition technology. *See, e.g.*, Ex. 2009, 2 (touting the product's

¹⁵ Furthermore, Patent Owner fails to show that any alleged need was long-felt. *See* PO Resp. 33–34; Pet. Reply 20–21. On this point, Patent Owner relies on Mr. Chaiken, who testifies that, “[a]s early as 2000, AgileTV recognized” a need to facilitate navigation of digital content available to cable subscribers. Ex. 2032 ¶¶ 6–7; *see also* Ex. 2001 (AgileTV business plan in April 2000). However, the '196 patent was filed shortly thereafter, in February 2001, claiming priority to applications filed on or after June 8, 2000. Ex. 1001, codes (22), (60), (63). We are not persuaded that a need allegedly recognized by one company for no more than a few months qualifies as a long-felt need.

ability to accurately recognize spoken words using “extensive, dynamically managed database of more than 100,000 phrases”); Ex. 2010, 4 (identifying “[e]ase of use and convenience of voice navigation” as one of the most compelling features); Ex. 2019 (discussion on the Kudlow & Cramer indicates that ease of use and accuracy of voice recognition were key features); Ex. 2016, 1 (Comcast executive pointing to voice recognition feature with intuitive commands); Ex. 2020, 7 (Buckingham Research Group found “interesting . . . the ease with which [the AgileTV system] could conduct searches (e.g., for all programs starring Julia Roberts)”); *cf.* Ex. 1012, 14:9–28 (prior art disclosed voice recognition with intuitive commands such as “show me movies starring John Wayne”). Accordingly, we find no nexus between Patent Owner’s evidence purporting to show industry praise and the claimed invention.

Patent Owner next contends that the AgileTV system was commercially successful because “millions of dollars” were invested. PO Resp. 37–38 (citing Ex. 2002, 3; Ex. 2003, 34; Ex. 2021, 1–2; Ex. 2032 ¶ 26). Again, Patent Owner again fails to tie any of this evidence to the challenged claims, and thus, fails to show nexus.¹⁶

¹⁶ Furthermore, we are not persuaded that the cited evidence shows commercial success. Patent Owner shows that its company had investors (*see, e.g.*, Ex. 2032 ¶ 26 (summarizing other exhibits); Ex. 2003, 34 (identifying other products)), but fails to show that the AgileTV system itself was commercially successful. For example, Patent Owner introduces no evidence regarding the market share of the AgileTV system, and the evidence does not show any significant revenue for that product. *See* PO Resp. 37–38; *see also* Pet. Reply 24 (identifying deficiencies in Patent Owner’s evidence).

Finally, Patent Owner contends that Petitioner previously licensed the patent and copied the claimed invention. PO Resp. 38–40 (citing Exs. 2022–2029; Ex. 2032 ¶¶ 27–32). These allegations fare no better.

As to the former, we find no sufficient connection between the ’196 patent and the cited License and Development Agreement (“LDA”; Exhibit 2022). *See* PO Resp. 38–39; Pet. Reply 24–25 (arguing that the license to the ’196 patent in the LDA was limited, provided for no consideration, and simply “prudent” given the business efforts). The purpose of the LDA was to evaluate the AgileTV system for possible deployment in Petitioner’s products, and it included a patent license tailored to that goal. *See* PO Resp. 38–39 (identifying “the limited purposes” of the license and citing Ex. 2022, 8); Ex. 2022, 1, 8; Ex. 1024 (testimony of Mr. Paul Cook), 160:20–107:9. The license also included all patents owned or licensable by Patent Owner at the time; an exhibit to the LDA listed twenty-one patents and applications, as well as the application that would later issue as the ’196 patent. Ex. 2022, 77–78; *see id.* at 4 (license includes “AgileTV Patents”), 42–43 (“AgileTV Patents” includes all patents owned by AgileTV during the coverage period). Based on these facts, we find that the license to the yet-to-be-issued ’196 patent was incidental to the LDA, and the parties entered into that agreement for reasons unrelated to the ’196 patent. Accordingly, we determine that the LDA alone does not establish a legally or factually sufficient nexus with the ’196 patent. *See Shoes by Firebug LLC v. Stride Rite Children’s Grp., LLC*, 962 F.3d 1362, 1372 (Fed. Cir. 2020) (“Because the licenses include numerous intellectual property rights in addition to the [challenged] patents, the agreements on

their face do not establish a nexus between the commercial interest in Firebug’s products and the claims of the [challenged] patents.”).

As for the allegations of copying, we find the evidence insufficient to support Patent Owner’s contention. *See* PO Resp. 39–40. Patent Owner asserts that Petitioner’s X1 System “is practically identical to the AgileTV solution installed in [Petitioner’s] cable network in the mid-2000” and that the “X1 System practices the invention claimed in the ’196 patent.” *Id.* However, Patent Owner fails to provide sufficient evidence or analysis to support either contention. Patent Owner cites to its preliminary infringement contentions at district court (Ex. 1017, 38–81) and an instructional video for “Promptu Voice Controlled Television” for Comcast Cable (Ex. 2026), but provides no explanation of the contents or significance of these exhibits. We reject Patent Owner’s apparent attempt to incorporate by reference contents of these documents into the Response (*see* 37 C.F.R. § 42.6(a)(3)), and the information wholly contained within the Exhibits will not be considered to be part of the Response. *Cf. infra* § II.F.2.b (similarly refusing to allow attempted incorporation by reference of extensive declaration testimony regarding whether Murdock is entitled to the filing date of its provisional application). Patent Owner also points to Mr. Chaiken’s declaration, where he testifies that “acquaintances of mine who were aware of the scope of my work at AgileTV told me they confused Comcast’s functionality with the AgileTV solution.” Ex. 2032 ¶ 34. As explained in § III.A.6, we exclude statements by Mr. Chaiken’s unidentified acquaintances as hearsay; they have occurred outside of this proceeding (because they are not offered in declarations from the persons uttering them), and Patent Owner presents the

statements in an attempt to establish the truth of the matter implicitly asserted (that Petitioner copied the AgileTV system). No other evidence supports Mr. Chaiken's assertion of copying (*see, e.g., id.* ¶ 35), and we note that Mr. Chaiken does not testify to the accuracy or import of the preliminary infringement contentions (Ex. 1017) or instructional video (Ex. 2026) cited by Patent Owner. Thus, on this record, Patent Owner fails to show that Petitioner's X1 System meets the limitations of any challenged claim. Consequently, Patent Owner fails to show any copying of the claimed invention.

f. Conclusion for claim 1

We have considered the evidence presented by both parties related to the objective indicia of nonobviousness. As explained above, we find that Patent Owner fails to show a nexus between the evidence of objective indicia and the claimed invention. Consequently, we accord no weight to the evidence of nonobviousness.

On the other hand, we find the evidence of obviousness to be strong. Julia teaches the preamble language as well as the receiving, processing, and responding limitations of claim 1. *See supra* § II.E.1.a–b, d. The Julia-Nazarathy combination and the Julia-Quigley combination each disclose the partitioning limitation of claim 1, and a person of ordinary skill in the art would have been motivated to make these combinations to yield the partitioning limitation. *See supra* § II.E.1.c. In particular, Julia discloses that its technique can be used in a cable television network and that its remote server can receive and process multiple user requests simultaneously,

but fails to describe specifically how this would be accomplished. An ordinary artisan would have been motivated to look to other references that describe cable television networks (including Nazarathy and Quigley), and given the references' disclosures, an ordinary artisan would have found it obvious to implement Julia's processing of multiple user requests in a cable network by combining those requests on the back channel and partitioning those requests at the headend (e.g., by multiplexing and demultiplexing the information).

Considering the entirety of the evidence before us, we determine that the evidence of obviousness outweighs that of nonobviousness. Accordingly, we find that Petitioner has established by a preponderance of the evidence that claim 1 is unpatentable as obvious over the Julia-Nazarathy combination and over the Julia-Quigley combination.

2. Dependent Claims 2, 4, and 12

Petitioner contends that the subject matter of dependent claims 2, 4, and 12 would have been obvious over Julia in view of either Nazarathy or Quigley. Pet. 48–52. Patent Owner does not address Petitioner's showing for these claims. *See generally* PO Resp.

Claim 2 depends from claim 1 and further recites:

wherein at least one of said identified speech channels has an associated user site; and

wherein the step partitioning said received back channel is further comprised of the step of:

partitioning said received back channel into a multiplicity of said received identified speech channels from said associated user site;

wherein the step processing said multiplicity of said received identified speech channels is further comprised the step of:

processing said multiplicity of said received identified speech channels from said associated user site to create a multiplicity of said identified speech contents; and

wherein the step responding to said identified speech content is further comprised the step of:

responding to said identified speech content from said associated user site to create said identified speech content response for said associated user site.

Ex. 1001, 51:12–30. Petitioner contends that Julia discloses the limitations additionally recited by this claim, except for the partitioning limitation, for which Petitioner points to Julia in combination with Nazarathy or Quigley. Pet. 48–51. In support, Petitioner relies on its discussion of claim 1 and further states that Julia discloses processing each voice command and transmitting the requested information back to the associated user via its communications box 104. *Id.* (citing Ex. 1012, 2:65–67, 3:37–55, 3:61–66, 4:18–20, 11:60–67, Fig. 1a; Pet. 45–48; Ex. 1019 ¶¶ 332, 334–337, 339, 341).

Claim 4 depends from claim 2 and further recites:

wherein the step responding to said identified speech contents from said associated user site is comprised of the steps of:

processing said identified speech content response to create said identified user site response; and

sending said identified user site response to said identified user site.

Ex. 1001, 51:46–54. Petitioner contends that Julia discloses the limitations additionally recited by this claim. Pet. 51–52. Specifically, Petitioner contends that Julia discloses processing voice data to understand the user's

request, retrieving the requested information, and transmitting it to communications box 104 for display. *Id.* (citing Ex. 1012, 3:61–66, 4:18–20; Ex. 1019 ¶ 343).

Claim 12 also depends from claim 2, and it further recites:

wherein the step responding to said identified speech content from said associated user site is further comprised of the step of:

responding to said speech content identified as to said user site based upon natural language to create a speech content response of said speech content identified with said user site.

Ex. 1001, 52:48–55. Petitioner contends that Julia discloses the limitations additionally recited by this claim. Pet. 52. In support, Petitioner relies on its discussion of claims 1 and 2, and Petitioner also quotes Julia’s express statement that it “relates generally to the navigation of electronic data by means of spoken *natural language* requests.” *Id.* (quoting Ex. 1012, 1:16–20; citing Ex. 1012, 3:37–39, 7:1–8:32; Pet. 47–51; Ex. 1019 ¶¶ 363–366).

Patent Owner does not address Petitioner’s showing for these claims and has therefore waived any opposition. *See generally* PO Resp.; *see also* Paper 11 (Scheduling Order), 3 (“The patent owner is cautioned that any arguments for patentability not raised in the response will be deemed waived.”).

Petitioner’s assertions as to claims 2, 4, and 12 are supported by the cited evidence and are persuasive. Moreover, as noted above in the context of independent claim 1, we have determined that the objective evidence of nonobviousness is entitled to no weight because Patent Owner fails to show a nexus with the merits of the claimed invention, and the same is true for

these dependent claims. Furthermore, Patent Owner has not submitted objective evidence of nonobviousness evidence specifically directed to the features of these dependent claims.

Considering the entirety of the evidence before us, we determine that Petitioner has established by a preponderance of the evidence that claims 2, 4, and 12 are unpatentable as obvious over Julia in view of Nazarathy and over Julia in view of Quigley.

3. Dependent Claims 5 and 6

Petitioner contends that the subject matter of dependent claims 5 and 6 would have been obvious over Julia in view of either Nazarathy or Quigley and also in further view of either Banker or Gordon. Pet. 61–65. Patent Owner disputes Petitioner’s showing for claim 5 (PO Resp. 24–26) and contends that Petitioner’s assertions for claim 6 are similarly defective (*id.* at 26).

Claims 5 and 6 both depend from dependent claim 2 and specify that “the step responding to said identified speech contents from said associated user site is comprised of” additionally recited steps. Ex. 1001, 51:56–58, 5:65–67. Claim 5 further recites:

assessing said speech content response identified as to said user site to *create a financial consequence identified as to said user site*; and

billing said user site based upon said financial consequence.

Id. at 51:59–63 (emphasis added). Claim 6 similarly recites:

assessing said speech response to create a financial consequence identified with said user site;

displaying said financial consequence to create a displayed financial consequence at said user site;
confirming said displayed financial consequence from said user site to create a financial commitment; and
billing said user site based upon said financial commitment.

Id. at 52:1–8.

We focus our discussion on claim 5 because it is representative of the parties’ dispute.

a. Julia alone does not disclose the assessing and billing limitations

Petitioner contends that Julia discloses the assessing and billing limitations of claim 5. Pet. 62–63. In particular, Petitioner submits that Julia’s system can be implemented in the “Diva Systems video-on-demand system,” and Petitioner contends that a person of ordinary skill in the art would know “the Diva System provided pay-per-view functionality.” *Id.* at 62 (citing Ex. 1012, 1:30–43, 3:61–4:17, 6:47–59; Ex. 1019 ¶ 345). Petitioner further contends that an ordinary artisan would understand that such functionality “would require a purchase, resulting in a bill” and, thus, contends that the limitations are satisfied. *Id.* at 62–63 (also citing Ex. 1019 ¶ 347).

We are not persuaded, and we agree with Patent Owner’s argument that Petitioner fails to show that Julia discloses “creat[ing] a financial consequence identified as to said user site,” as required by claim 5. *See* PO Resp. 24–26. Julia states that its system may be implemented in “the Diva Systems video-on-demand system” (Ex. 1012, 6:47–59), but Petitioner fails to show that this discloses the assessing and billing limitations of claim 5.

First, we are not persuaded that Julia’s disclosure of “video-on-demand” satisfies the assessing and billing limitations. In particular, contrary to Petitioner’s argument, we do not agree that any debt or payment qualifies as the claimed “financial consequence” (*see* Pet. Reply 15–16; *see also* Pet. 62–63)—claim 5 specifies assessing *the speech content response* (recited in independent claim 1) *to create* the financial consequence. Thus, even if an ordinary artisan would have understood video-on-demand to require a paid subscription (as Petitioner contends), we are not persuaded that such a subscription-based service would create a financial consequence based on an assessment of a response to a user’s voice command (e.g., by charging a fee for providing a particular video requested by a user). Although we agree that “pay-per-view” would satisfy these claim limitations, Petitioner has not established that “video-on-demand” means or requires “pay-per-view.” For example, the fact that a given a video rental system could qualify as both “video-on-demand” and “pay-per-view” fails to show that these terms are synonymous. *See* Pet. Reply 16 (citing 1029 ¶ 22).

Second, we are not persuaded that Julia’s reference to “the Diva System[]” discloses the assessing and billing limitations because Petitioner also has not established that “the Diva Systems video-on-demand system” specifically means or requires pay-per-view. Ex. 1012, 6:58–59. Mr. Schmandt testifies that “[a] person of ordinary skill in the art would have known that the Diva System provided pay-per-view functionality” (Ex. 1019 ¶ 345), but we accord little weight to this testimony because it does not disclose the underlying facts or data upon which his opinion is

based (*see* 37 C.F.R. § 42.65(a)). Moreover, even if “pay-per-view” was a functionality provided by a Diva System, that does not mean the “pay-per-view” functionality was required or used in all applications of the system. (For example, Mr. Schmandt has not testified that “the Diva Systems video-on-demand system” provides only “pay-per-view” video service.) Thus, even if we were to agree that the Diva System provided pay-per-view, Julia’s contemplated implementation on a Diva System *may, or may not*, mean that it would be implemented in the Diva System’s pay-per-view feature.¹⁷ Thus, Julia’s reference to the Diva system does not disclose pay-per-view, or the assessing and billing limitations of claim 5.

b. Julia-Banker discloses the assessing and billing limitations

As Petitioner points out (Pet. Reply 14), the Petition also contends that the assessing and billing limitations are disclosed by the combination of Julia and Banker. Pet. 63 (citing *id.* at 35–38; Ex. 1019 ¶¶ 348–349). In particular, Petitioner contends that Banker discloses a pay-per-view system in which a user purchases a particular movie and is billed for the purchase. *Id.* at 36–37 (citing Ex. 1015, 7:60–63, 16:43–50, 16:62–17:3, Fig. 6F; Ex. 1019 ¶ 184). Petitioner further contends that an ordinary artisan would have been motivated to combine Julia with Banker. *Id.* at 66–67 (citing

¹⁷ We evaluate only the contentions advanced in the Petition, so we do not consider whether it would have been obvious to use Julia’s voice recognition with the pay-per-view features allegedly provided by the Diva System. *See* Pet. 62–63 (contending that Julia “discloses” the limitations, but not that the limitations are suggested by or would have been obvious in light of Julia).

Ex. 1012, 1:30–38, 3:36–60, 6:47–59, Fig. 1a; Ex. 1015, Abst., 16:43–55, 16:62–17:3, Fig. 6F; Ex. 1019 ¶¶ 446–447).

Patent Owner submits that “Petitioner appears to premise any combination of Banker or Gordon with Julia on Julia already disclosing” the claimed creation of a financial consequence (in the assessing limitation). PO Resp. 24 (citing Pet. 63, 67). Patent Owner does not otherwise address Petitioner’s contention that the Julia-Banker combination discloses the limitations of claim 5. *See generally* PO Resp. 24–26; *see also* Sur-Reply 9 (arguing that the discussion of Banker’s disclosure of the assessing limitation in the Reply is “unambiguously not responsive” to the Response).

Having considered the parties’ arguments and the evidence presented, we are persuaded that the combination of Julia and Banker discloses the assessing and billing limitations of claim 5. *See* Pet. 36–37, 63. Julia discloses the use of voice commands to navigate video-on-demand systems, and Julia returns the requested content to the user. Ex. 1012, 1:30–42, 6:47–59; *see, e.g., id.* at 14:9–28 (describing request and corresponding response for John Wayne movies). Banker discloses a user interface that allows pay-per-view purchases from a remote, and Banker bills the user based on its pay-per-view purchases. Ex. 1015, 1:14–17, 7:60–63, 16:43–50, 16:62–17:3. We are also persuaded that a person of ordinary skill in the art would have been motivated to combine Julia’s voice navigation with Banker’s pay-per-view purchase and accounting to yield the limitations recited in dependent claim 5. *See* Pet. 66–67. Mr. Schmandt testifies that “[i]t would also have been within the capability of a person of ordinary skill in the art to combine Julia and . . . Banker . . . to permit a user to order pay-per-view

movies using the sequence described by Banker . . . but using voice commands as in Julia.” Ex. 1019 ¶ 447. We credit this testimony because it is logical and consistent with the cited references, and because there is no evidence to the contrary. We also agree with Petitioner’s contention that the proposed Julia-Banker combination would have been no more than a predictable combination of prior art elements (Julia’s voice interface with Banker’s pay-per-view system) from analogous references according to known methods. *See* Pet. 66–67; Ex. 1019 ¶¶ 446–447.

On this record, we do not agree with Patent Owner’s assessment that Petitioner relied exclusively on Julia to disclose “creat[ing] a financial consequence.” *See* PO Resp. 24. Although that was our understanding in the Institution Decision (*see* Inst. Dec. 44–45), we are now persuaded the Petition also relies on Banker to disclose this limitation (*see* Pet. 63). Indeed, Petitioner elucidates its prior contention with a targeted quote from the Petition and a clear explanation. *See* Pet. Reply 14 (citing Pet. 63). The portion of the Petition cited by Petitioner does map Banker’s purchase of a pay-per-view movie to the assessing limitation (which requires “creat[ing] a financial consequence”). Pet. 36–37 (cited by *id.* at 63). Moreover, we observe that, for dependent claim 6, the Petition clearly contends that Banker discloses a substantially similar limitation. *See* Pet. 64. Accordingly, we are persuaded that the Petition contends that Banker discloses the assessing and billing limitations of claim 5, so we disagree that Petitioner relied exclusively on Julia to disclose creating a financial consequence.

Further, for substantially the same reasons as those explained for dependent claim 5, Petitioner has persuasively shown that the Julia-Banker

combination discloses the limitations of dependent claim 6, and a person of ordinary skill in the art would have been motivated to combine these references to yield the limitations of the claim. *See* Pet. 64–65 (citing *id.* at 38–41 (citing Ex. 1015, 16:62–17:3, Fig. 6F)). In particular, Banker displays the financial consequence by providing a notification to the user, and Banker confirms the financial consequence by receiving the user’s confirmation. Ex. 1015, 16:62–17:3. As noted above, Patent Owner contends that Petitioner’s contentions for claim 6 suffer the same deficiencies as those for claim 5, but Patent Owner does not otherwise dispute Petitioner’s showing for claim 6. *See* PO Resp. 26.

c. Conclusion

As discussed above, Julia does not disclose the assessing and billing limitations of claim 5. For the same reasons, we conclude that Julia does not disclose the commensurate limitations of claim 6. Accordingly, we determine that Petitioner has not established by a preponderance of the evidence that claims 5 or 6 are unpatentable as obvious over the Julia-Nazarathy combination or the Julia-Quigley combination.

As noted above in the context of independent claim 1, we have determined that the objective evidence of nonobviousness is entitled to no weight because Patent Owner fails to show a nexus with the merits of the claimed invention. The same is true for dependent claims 5 and 6. Furthermore, Patent Owner has not submitted objective evidence of nonobviousness specifically directed to the features of these dependent claims. On the other hand, we find the evidence of obviousness for these

claims to be strong with respect to the Julia-Nazarathy-Banker combination and with respect to the Julia-Quigley-Banker combination.

Considering the entirety of the evidence before us, we determine that Petitioner has established by a preponderance of the evidence that claims 5 and 6 are unpatentable as obvious over the Julia-Nazarathy-Banker combination and the Julia-Quigley-Banker combination.

Given this determination, we elect not to reach Petitioner's contentions based on the Julia-Nazarathy-Gordon combination and the Julia-Quigley-Gordon combination (where Gordon replaces Banker). *See* Pet. 63 (citing *id.* at 35–38; Ex. 1019 ¶¶ 348–349); *see id.* at 37–38 (citing Ex. 1016, 2:60–63, 9:64–10:9, 10:16–27, 10:43–46, Figs. 3B, 8; Ex. 1019 ¶ 185).

4. Dependent Claim 13

Petitioner contends that the subject matter of dependent claim 13 would have been obvious over Julia in view of either Nazarathy or Quigley. Pet. 52–53. Patent Owner disagrees. PO Resp. 26–27.

Claim 13 depends from dependent claim 2 and specifies that the claimed step of processing the multiplicity of received speech channels for at least one user site is further comprised of:

processing said received speech channels from said user site based upon natural language for said user site to create said speech content identified as to said user site.

Ex. 1001, 52:56–64. Petitioner contends that Julia discloses these additionally recited limitations. Pet. 52–53. In support, Petitioner relies on its discussion of claims 1 and 2, and Petitioner submits that Julia expressly states that its system is “driven by spoken natural language input.” *Id.* at 53

(quoting Ex. 1012, 3:37–39; citing Ex. 1012, 1:16–20, 7:1–8:32; Pet. 47–51; Ex. 1019 ¶¶ 368–369).

Patent Owner contends that Petitioner fails to show that Julia discloses processing received speech channels “based upon natural language *for said user site* to create said speech content identified as to said user site.” PO Resp. 26–27 (emphasis omitted and added). Patent Owner further contends that this claim language requires the recited natural language to be “specific to a user site.” *Id.* at 27; *see* PO Sur-Reply 4 (clarifying that the claims further require the processing to occur “based upon” this natural language). Also, according to Patent Owner, for this claim, the Petition merely copies the analysis for claim 12, even though that claim does not include this requirement. PO Resp. 27 (citing Pet. 52–53).

Having reviewed the parties’ arguments and cited evidence, we are persuaded that Julia discloses the limitations additionally recited by dependent claim 13. Julia is directed to navigating content using spoken natural language requests. Ex. 1012, 3:37–39. The user’s voice data is transmitted to a remote server that processes this data “in order to understand the user’s request.” *Id.* at 3:45–66; *see id.* at 7:1–8:32 (describing method for processing data). Julia expressly teaches that “speech recognition [is used] to extract words from the voice data” and “natural language parsing of those words [is used] in order to generate a structured linguistic representation of the user’s request.” *Id.* at 7:7–11; *see also id.* at 7:12–15 (stating that “practitioners will know” of commercially available speech recognition engines); *id.* at 7:25–28 (indicating that existing speech recognition engines have “a vocabulary lexicon of likely words or

phrases” for “a given application”); 7:28–43 (adapting recognition engine based on user’s interaction with system), 7:47–8:9 (natural language parsers uses grammar to correctly interpret requests), 8:25–32 (explaining that recognition engine can learn “from the past usage patterns of a particular user or of groups of users”).

We disagree with Patent Owner’s argument that the Petition is deficient. *See* PO Resp. 26–27. The Petition’s contentions for claims 12 and 13 are understandably similar because the subject matter recited by those claims is similar. Moreover, as shown by the Petition, Julia discloses processing “based upon natural language for said user site,” as required by the claim. Pet. 52–53 (citing, *inter alia*, Ex. 1012, 7:1–8:32). Julia teaches that a user’s spoken request is processed using a speech recognition engine and a natural language parser, which identify the user’s spoken words by comparing the voice data with possible words. Ex. 1012, 7:1–8:32.

We also disagree with Patent Owner’s implication that the claimed “natural language” must be *unique* to a particular user site. *See* PO Resp. 27. Patent Owner provides no argument or evidence to support such a narrow interpretation of the claim language, and we perceive no support in the Specification. *See* Ex. 1001, 25:54–64 (describing processing “based upon a natural language for the user site” generally). And, to the extent Patent Owner contends Julia is otherwise defective, Patent Owner fails to adequately explain what Julia is allegedly missing.

Moreover, as noted above in the context of independent claim 1, we have determined that the objective evidence of nonobviousness is entitled to no weight because Patent Owner fails to show a nexus with the merits of the

claimed invention, and the same is true for dependent claim 13.

Furthermore, Patent Owner has not submitted objective evidence of nonobviousness evidence specifically directed to the features of this claim. On the other hand, we find the evidence of obviousness to be strong.

Considering the entirety of the evidence before us, we determine that Petitioner has established by a preponderance of the evidence that claim 13 is unpatentable as obvious over the Julia-Nazarathy combination and over the Julia-Quigley combination.

*5. Independent Claim 27 and
Dependent Claims 28, 30–32, and 38–42*

Independent claim 27 recites a system comprising “a speech recognition system coupled to a wireline node in [a] network.” Ex. 1001, 55:9–12. As explained above, this claim language requires the recited speech recognition system and the wireline node to be different components. *See supra* § II.C.2 (construing claim limitation).

In the Petition, Petitioner contends that this limitation is disclosed by Julia. Pet. 53. It provides the following explanation:

In Julia, speech recognition processing is performed by remote server 108, which constitutes “a wireline node” in the network.

Id. (citing Ex. 1019 ¶¶ 373–375).

Patent Owner responds that the Petition fails to identify the claimed “speech recognition system” that is “coupled to” the claimed wireline node. PO Resp. 20–21. Patent Owner argues that Julia’s remote server 108 cannot be both the claimed “speech recognition system” as well as the claimed “wireline node” given the proper construction of the claim phrase. *Id.* at 21.

We agree with Patent Owner that the Petition fails to establish that Julia teaches a “speech recognition system coupled to a wireline node in [a] network,” as required by independent claim 27. The Petition points to Julia’s remote server 108 as teaching both the claimed “speech recognition system” and the “wireline node” (Pet. 53), but the claim requires two different components.

In its Reply, Petitioner asserts that “Julia’s remote server 108 constitutes a wireline node and within it (i.e., coupled to it) is processing logic 300 (a speech recognition system).” Pet. Reply 12 (citing Pet. 53; Ex. 1019 ¶¶ 371, 373). Patent Owner responds that this is an untimely “new argument that the speech recognition system in claim 27 is the ‘processing logic 300.’” PO Sur-Reply 3. Patent Owner also argues that this new mapping is inconsistent with the Petition, which contends that remote server 108 teaches components of the claimed speech recognition system, including the recited “back channel receiver,” “speech channel partitioner,” and “processor network.” *Id.* at 3–4.

We agree with Patent Owner that the Reply’s mapping of Julia’s processing logic 300 to the claimed speech recognition system is an untimely new argument. As prior support for this mapping, Petitioner points to page 53 of its Petition and paragraphs 371 and 373 of Mr. Schmandt’s declaration. *See* Pet. Reply 12. However, the cited portion of the Petition maps both claim elements to Julia’s remote server 108, and it does not even refer to Julia’s processing logic 300. *See* Pet. 53. Petitioner’s reliance on Mr. Schmandt’s declaration fares no better, as he unequivocally states:

As discussed above, *the “speech recognition system” is the remote server 108*, which includes processing logic 300. The remote server 108 is also a “wireline node” as that term is used in the ‘196 Patent”

Ex. 1019 ¶ 373 (emphasis added); *accord id.* ¶ 371 (explaining that remote server 108 teaches the claimed “speech recognition system” because it processes a user’s spoken input request using request processing logic 300).

Other portions of the Petition also demonstrate that Petitioner previously mapped Julia’s remote server 108 to the claimed speech recognition system. Specifically, claim 27 requires the speech recognition system to further comprise “a back channel receiver,” “a speech channel partitioner,” and “a processor network” (Ex. 1001, 55:11–21), and Petitioner maps each of these components to Julia’s remote server 108, not processing logic 300 (*see* Pet. 54–55). Indeed, as Patent Owner observes (*see* PO Sur-Reply 3–4), Petitioner fails to explain how these elements would be taught under the Reply’s new mapping of Julia’s processing logic 300 to the claimed speech recognition system.

Accordingly, we determine that Petitioner’s mapping to Julia’s processing logic 300 in the Reply is an improper new argument, and we do not address this argument further. *See* 37 C.F.R. 42.23(b); *Intelligent Bio-Systems*, 821 F.3d at 1369 (“Unlike district court litigation—where parties have greater freedom to revise and develop their arguments over time and in response to newly discovered material—the expedited nature of IPRs bring with it an obligation for petitioners to make their case in their petition to

institute.”); *see also* PTAB Consolidated Trial Practice Guide (CTPG) 73–74 (Nov. 2019).¹⁸

Accordingly, Petitioner has not established, by a preponderance of the evidence, that Julia teaches “a speech recognition system coupled to a wireline node in said network,” as required by claim 27.¹⁹ For all of the Julia grounds, Petitioner relies on Julia alone to teach this limitation. Thus, Petitioner has not shown, by a preponderance of the evidence, that independent claim 27 as well as its dependent claims (i.e., claims 28, 30–32, and 38–42) are unpatentable based on any of the obviousness grounds relying on Julia.

F. Obviousness Grounds Based on Murdock

Petitioner contends that claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, 38–42 are unpatentable under 35 U.S.C. § 103(a) over Murdock alone and over Murdock in view of Nazarathy, Quigley, Banker, and/or Gordon. Pet. 9–12, 14–42; *see supra* § I.C (table delineating grounds). Patent Owner argues that the Petition fails to establish that Murdock is prior art. PO Resp. 6–8.

We have considered the parties’ arguments and evidence. Below, we address all grounds that rely on Murdock (“the Murdock grounds”).

¹⁸ Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

¹⁹ In light of this determination, we need not (and do not) reach the parties’ arguments regarding issue preclusion. *See* PO Remand Open. 8–10; Pet. Remand Resp. 1–5, 8–9.

1. Parties' Contentions

In the Petition, Petitioner asserts that Murdock is prior art to the '196 patent under 35 U.S.C. § 102(e) because Murdock is entitled to the benefit of the provisional application to which Murdock claims priority.²⁰

Pet. 1, 9–10. In relevant part, the Petition states:

Murdock . . . was filed on November 16, 2000, and claims priority to a provisional application filed on November 17, 1999. The Board has held that under the Federal Circuit decision in *Dynamic Drinkware, LLC v. National Graphics, Inc.*, 800 F.3d 1375 (Fed. Cir. 2015), a patent is entitled to the benefit of a “provisional application’s filing date if the provisional application provides sufficient support for *at least one claim* in the child [patent].” Petitioner’s expert Christopher Schmandt shows in his supporting declaration that at least claim 1 of Murdock is supported by the disclosure in the provisional application. In addition, the Board has required that “the provisional application must *also* provide support for the subject matter relied upon” to establish that the challenged patent is unpatentable. Petitioner’s expert witness confirms that the Murdock provisional application meets this requirement, too. *Thus, Murdock is entitled to the benefit of the provisional application’s filing date (i.e., November 17, 1999) and is therefore prior art to the '196 patent under at least 35 U.S.C. § 102(e).*

²⁰ The application that led to Murdock was filed on November 16, 2000 (“the Murdock application”), claiming the benefit of a provisional filed on November 17, 1999 (“the Murdock provisional”). Ex. 1010, codes (22), (60). The application that led to the '196 patent was filed on February 16, 2001 (“the '196 application”), claiming the benefit of a provisional filed on June 8, 2000 (“the '196 provisional”). Ex. 1001, codes (22), (60). Thus, the sequence of filing was as follows: the Murdock provisional, the '196 provisional, the Murdock application, and then the '196 application.

Id. at 9–10 (last emphasis added) (citing, *inter alia*, Ex. 1019 ¶¶ 99–113, 135–293); *see also id.* at 1 (contending that “the claimed invention of the ’196 Patent was not new or inventive as of its earliest effective filing date in June 2000” and identifying Murdock “which is based on a provisional application filed in 1999”), 4 (identifying effective filing date of the ’196 patent).

Patent Owner contends that Petitioner’s “barebones analysis” fails to sufficiently support its contention. PO Resp. 6–8. Patent Owner argues that Petitioner improperly incorporates by reference “more than 150 paragraphs of essential analysis from the declaration into the [P]etition.” *Id.* at 7. Patent Owner contends that the statements in the Petition fail to satisfy the particularity and specificity required by law and regulation. *Id.* (citing 35 U.S.C. § 312(a)(3); 37 C.F.R. §§ 42.22(a)(2), 42.104(b)(4)–(5)). Patent Owner further contends that “the incorporation violates the Board’s rules prohibiting arguments made in a supporting document from being incorporated by reference into a petition” and, consequently, that the material improperly incorporated should be disregarded. *Id.* at 7–8 (citing 37 C.F.R. § 42.6(a)(3); Inst. Dec. 26). Finally, Patent Owner contends that “it would be improper for the Board to consider any new arguments or evidence from Petitioner at this late date in the proceedings.” *Id.* at 8 (citing 5 U.S.C.A. § 554(b)(3)).

Petitioner replies that it satisfied its initial burden of production under *Dynamic Drinkware* “by explaining that Murdock, which has an earlier filing date than the ’196 Patent, is invalid[at]ing,” thereby shifting the burden of production to Patent Owner. Pet. Reply 2 (citing *Dynamic*

Drinkware, LLC v. Nat'l Graphics, Inc., 800 F.3d 1375, 1379–80 (Fed. Cir. 2015)). Petitioner also argues that, in another proceeding, the Board addressed the “same situation” and concluded that the burden had shifted to Patent Owner. *Id.* (citing *Sonos, Inc. v. D&M Holdings Inc.*, IPR2017-01045, Paper 17 (PTAB Jan. 31, 2018) (denying request for rehearing of institution decision)). According to Petitioner, because Patent Owner did not meet its burden, “the ’196 Patent should be held to its filing date.” *Id.* at 2–3. In addition, in the Reply, Petitioner provides argument and cites evidence to support its contention that Murdock is entitled to the filing date of its provisional. *Id.* at 3–8.

Patent Owner argues that Petitioner’s Reply includes improper new arguments. PO Sur-Reply 4–8. In particular, Patent Owner contends that Petitioner’s Reply attempts to include “the necessary and improperly incorporated argument” regarding Murdock’s alleged entitlement to its provisional filing date. *Id.* at 6 (citing Pet. Reply 3–8). Patent Owner further contends that “the Reply asserts for the first time that Murdock is prior art even if not entitled to its provisional date.” *Id.* at 7 (citing Pet. Reply 2–3). According to Patent Owner, it “was not on notice that the priority claim of the ’196 patent was being challenged or even pertinent,” and Patent Owner observes that “Petitioner still does not even assert that the ’196 patent is not entitled to priority of the provisional application.” *Id.*

2. Analysis

This case involves dueling priority dates evaluated under pre-AIA 35 U.S.C. § 102(e). The parties’ arguments implicate two ways in which

Petitioner could have shown that Murdock qualifies as prior art: (a) the Murdock application was filed before the '196 application, and (b) the Murdock provisional was filed before the '196 provisional. For the latter, Petitioner would also need to have shown that Murdock is entitled to the filing date of its provisional.

For the reasons explained below, we determine that, in the Petition, Petitioner did not argue the former and did not prove the latter. While the Reply seeks to cure those deficiencies, Petitioner's belated arguments and evidence are untimely. Thus, we determine that Petitioner fails to prove that Murdock is prior art.

We address each path to prior art status in turn.

a. Petitioner fails to show that Murdock qualifies as prior art based on the applications' filing dates.

Petitioner contends that, under *Dynamic Drinkware*, "Petitioner had the initial burden of production and met it by explaining that Murdock, which has an earlier filing date than the '196 Patent, is invalid[at]ing." Pet. Reply 2 (citing Pet. 9–10). Petitioner contends that this shifted the burden of production to Patent Owner "to argue or produce evidence . . . that Murdock is not prior art because the asserted claims are entitled to the benefit of a filing date before Murdock's filing date." *Id.* (citations omitted). According to Petitioner, because "Patent Owner failed to antedate Murdock," the '196 patent "should be held to its filing date." *Id.* at 3.

We do not agree. Petitioner's position is untenable because it is inconsistent with the contentions actually advanced in the Petition.

Despite Petitioner's implication, the Petition does not contend that Murdock qualifies as prior art *because the Murdock application was filed before the '196 application*. Rather, the Petition expressly (and only) contends that Murdock qualifies as prior art because it is entitled to the filing date of *the Murdock provisional*, which is earlier than the filing date of *the '196 provisional*.²¹ The Petition specifies the filing dates of Murdock and its provisional, identifies requirements for showing that a patent is entitled to its provisional filing date, states that Murdock and its provisional meet these requirements, and concludes:

Thus, Murdock is entitled to the benefit of the provisional application's filing date (i.e., November 17, 1999) *and is therefore prior art* to the '196 Patent under at least 35 U.S.C. § 102(e).

Pet. 9–10 (emphasis added); *see also id.* at 1 (comparing Murdock provisional filing date to the challenged patent's effective filing date). The Petition's only mention of the filing date of the Murdock application, on the other hand, is a passing biographical reference. *See id.* at 9. And the Petition does not indicate, in any way, that this date is relevant to its challenges. *See* Sur-Reply 7.

Moreover, this contention would have been in tension with the Petition's statements regarding the effective filing date of the '196 patent. Specifically, the Petition contends that the effective filing date of the '196 patent is June 2000 (i.e., the filing date of the '196 provisional):

[T]he claimed invention of the '196 Patent was not new or inventive as of *its earliest effective filing date in June 2000*.

²¹ We address this contention in the next subsection. *See infra* § II.F.2.b.

Pet. 1 (emphasis added). The Petition includes one other passage regarding the effective filing date:

A. Effective Filing Date of the '196 Patent

The '196 Patent issued from U.S. Application No. 09/785,375, which was filed on February 16, 2001 and claims priority to a provisional application filed on June 8, 2000. The effective filing date of all claims in the '196 Patent is therefore no earlier than June 8, 2000. Patent Owner does not assert any earlier priority date.

Id. at 4 (citations and emphasis omitted). Importantly, the Petition does not question whether '196 patent is entitled this effective filing date. Given the Petition's assumed effective filing date (June 2000), Murdock could qualify as prior art based on the filing of the Murdock provisional (November 1999), but not the Murdock application (November 2000).

Accordingly, given these facts, we determine the Petition fails to contend that Murdock qualifies as prior art because the Murdock application was filed before the '196 application. It would be inappropriate to interpret this Petition otherwise because: the Petition fails to include the contention expressly or by implication; the contention would conflict with the Petition's assumption regarding the challenged patent's effective filing date; and it is Petitioner's obligation to clearly identify its contentions in the Petition. *See* 37 C.F.R. §§ 42.22(a)(2), 42.104(b). As the Federal Circuit explained, "the expedited nature of IPRs bring with it an obligation for petitioners to make their case in their petition to institute," and "[i]t is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify 'with particularity' the 'evidence that supports the grounds for the challenge to each claim.'" *Intelligent Bio-Sys., Inc. v.*

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Illumina Cambridge Ltd., 821 F.3d 1359, 1369 (Fed. Cir. 2016) (quoting 35 U.S.C. § 312(a)(3)).

As a result, contrary to Petitioner's argument (*see* Pet. Reply 2), the Petition did not shift the burden of production to Patent Owner to show that the asserted claims are entitled to a filing date before the filing date of Murdock's application. *See Dynamic Drinkware*, 800 F.3d at 1379 (explaining that a petitioner has the initial burden of going forward with evidence on a contention). In other words, because the Petition did not include this contention, the burden did not shift to Patent Owner to present contrary evidence.

The Petition's failure to include the relevant contention readily distinguishes the Board decision cited by Petitioner. *See* Pet. Reply 2 (citing *Sonos*, IPR2017-01045, Paper 17). In *Sonos*, the petition *expressly* stated that petitioner disagreed that the challenged patent was entitled to the effective filing date of its provisional. IPR2017-01045, Paper 1 at 13 (March 7, 2017) (Petition). Moreover, that petition expressly contended *both* that the reference was prior art because it was filed before the challenged patent *and* that the reference was entitled to the filing date of its provisional. *Id.* The omission of these contentions in the Petition is a crucial distinction.

Furthermore, because the Petition assumed that the asserted claims were, in fact, entitled to the benefit of the filing date of the '196 provisional, we cannot fault Patent Owner for failing to prove its entitlement to this date in its Response. *See In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1376 (Fed. Cir. 2016) (explaining that "shifting of the burden of production

is warranted [when a patentee seeks to establish an earlier priority date] because the patentee affirmatively seeks to establish a proposition not relied on by the patent challenger and not a necessary predicate for the unpatentability claim asserted”); *see also* Inst. Dec. 24 (assuming, based on the Petition’s contentions, that the ’196 patent is entitled to the filing date of the ’196 provisional).

On that point, we further analogize Petitioner’s assertion (that the ’196 patent’s priority date is June 8, 2000) to assertions made by litigants in their pleadings. Specifically, the doctrine of judicial admissions recognizes that allegations made by litigants in their pleadings are binding in the case and on appeal. *See, e.g., Purge v. Sharrock*, 33 F.3d 134, 144 (2d Cir. 1994) (“A court can appropriately treat statements in briefs as binding judicial admissions of fact.”) (citations omitted); *see also* Kenneth S. Broun et al., *McCormick on Evidence* § 254 (6th ed. 2009). Further, “[a] patent owner . . . is undoubtedly entitled to notice of and a fair opportunity to meet the grounds of rejection,’ based on due-process and APA guarantees.” *In re NuVasive, Inc.*, 841 F.3d 966, 971 (Fed. Cir. 2016) (quoting *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1080 (Fed. Cir. 2015)). Accordingly, and pursuant to both the doctrine of judicial admissions and the APA’s requirement for notice of and a fair opportunity to meet the grounds of rejection, Petitioner’s adoption of an effective filing date in its Petition acts as notice to Patent Owner of the scope of the proceeding and as a binding admission unless otherwise withdrawn. Petitioner’s Reply does not expressly contend that the ’196 patent is not entitled to the filing date of the

'196 provisional (*see* PO Sur-Reply 7; *see generally* Pet. Reply 2–8), so Petitioner has not withdrawn its earlier admission.

Finally, to the extent Petitioner seeks to add this contention to this proceeding via its Reply, that argument is untimely. *See* Pet. Reply 2. A petitioner's "reply may only respond to arguments raised in the . . . patent owner response[] or decision on institution." 37 C.F.R. § 42.23(b) (2020). "'Respond,' in the context of [this regulation], does not mean proceed in a new direction with a new approach as compared to the positions taken in a prior filing." CTPG 74; *see id.* 73 ("Petitioner may not submit new evidence or argument in reply that it could have presented earlier, e.g. to make out a *prima facie* case of unpatentability."); *accord* Office Trial Practice Guide, 77 Fed. Reg. 48,756, 48,767 (Aug. 14, 2012) (including substantially similar instructions in original TPG). To the degree the Reply argues that Murdock is prior art because the Murdock application was filed before the '196 application, this argument advances a new contention that could have been presented earlier and is not fairly responsive to the critiques in Patent Owner's Response. *Cf. Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1367–68 (Fed. Cir. 2015) (finding no reversible error in Board's refusal to consider an argument in a petitioner's Reply that relied on a new embodiment in the asserted prior art reference not addressed in the petition)

Accordingly, we determine that Petitioner fails to show that Murdock qualifies as prior art based on a comparison of the filing dates of the Murdock application and the '196 application.

b. Petitioner fails to show that Murdock qualifies as prior art based on the provisionals' filing dates.

As noted above, the Petition contends that Murdock qualifies as prior art because Murdock is entitled to its provisional filing date, which is before the '196 provisional. *See* Pet. 9–10.

Murdock is not presumed to be entitled to the filing date of the Murdock provisional; rather, Petitioner must prove entitlement to that date by a preponderance of the evidence. *See Dynamic Drinkware*, 800 F.3d. at 1380. To that end, the Petition observes that the Board has held that a patent is entitled to its provisional filing date if the provisional provides support for: at least one claim of the patent, and the subject matter relied upon. Pet. 9–10 (citing *Ex Parte Mann*, 2016 WL 7487271, at *5–6 (PTAB Dec. 21, 2016)). Then, addressing Murdock, the Petition states:

Petitioner's expert Christopher Schmandt shows in his supporting declaration that at least claim 1 of Murdock is supported by the disclosure in the provisional application. . . . Petitioner's expert witness confirms that the Murdock provisional application [also] meets [the] requirement [of providing support for the subject matter relied upon.]

Pet. 10 (citing Ex. 1019 ¶¶ 99–113, 135–293). The Petition includes no other argument or evidence to show that Murdock is entitled to the filing date of its provisional.

We begin by rejecting Petitioner's attempt to incorporate by reference extensive analysis from Mr. Schmandt's declaration into the Petition. *See* Pet. 9–10. This is improper, and Mr. Schmandt's analysis will not be considered as part of the Petition. As the Institution Decision explained, "there is no requirement to rewrite every word or example from an expert

declaration into a petition,” but the Petition includes two conclusory sentences that are supported by a cite to over 170 paragraphs, spanning more than 80 pages in the Schmandt Declaration. Inst. Dec. 26. We stated that “[n]o reasonable application of 37 C.F.R. § 42.6(a)(3) to the circumstance of this case results in a conclusion that Petitioner complied with the rule.” *Id.*; *see* 37 C.F.R. § 42.6(a)(3) (“Arguments must not be incorporated by reference from one document into another document.”). At trial, Patent Owner maintains its argument that the attempted incorporation by reference is improper, and Petitioner fails to respond on this issue. *See* PO Resp. 7–8; *see generally* Pet. Reply 2–8. Accordingly, we maintain our initial determination and disregard all the material improperly incorporated by reference, which is paragraphs 99 to 113 and 135 to 293 of the Schmandt Declaration.

Consequently, the Petition is left with only two conclusory sentences, and these sentences fail to show that Murdock is entitled to the filing date of the Murdock provisional. *See Dynamic Drinkware*, 800 F.3d. at 1381–82 (finding that petitioner failed to prove entitlement to reference’s provisional filing date “because [petitioner] failed to compare *the claims* of the [asserted reference] to the disclosure in the [reference’s] provisional application”).

Petitioner attempts to include the required analysis in the Reply, but these arguments are untimely. *See* Pet. Reply 3–8; PO Resp. 6 (arguing the argument is improper). A petitioner’s “reply may only respond to arguments raised in the . . . patent owner response[] or decision on institution.” 37 C.F.R. § 42.23(b) (2020). Patent Owner argued that the Petition lacks the requisite particularity and improperly incorporates by reference

Mr. Schmandt's testimony. PO Resp. 6–8. The Reply does not fairly respond to these critiques; rather, it attempts to provide the analysis and evidence that was missing. *See* CTPG 73 (“Petitioner may not submit new evidence or argument in reply that it could have presented earlier, e.g. to make out a prima facie case of unpatentability.”). This is improper, and we decline to consider Petitioner's untimely arguments.

As a result, Petitioner fails to meet its burden to show that Murdock is entitled to the filing date of its provisional. Accordingly, Petitioner fails to show that Murdock qualifies as prior art because Murdock is entitled to its provisional filing date, which is before the '196 provisional.

3. Sufficiency of Petition for Claims 27, 28, 30–32, and 38–42

Even if Petitioner had shown Murdock to be prior art to the '196 patent, we would still determine that Petitioner fails to show that the subject matter of claims 27, 28, 30–32, and 38–42 would have been obvious over Murdock or Murdock in combination with the other asserted references.

As noted above, independent claim 27 requires a “speech recognition system coupled to a wireline node,” and this claim language requires the recited speech recognition system and the wireline node to be different components. *See supra* §§ II.C.2 (construing this claim limitation), II.E.5 (explaining that Petitioner fails to show that any of the Julia grounds disclose this limitation). As with the Julia grounds, Petitioner's contentions on the Murdock grounds point to the same component as teaching both the claimed speech recognition system and the wireline node. *See* Pet. 26.

Consequently, Petitioner fails to show that the asserted references teach or suggest this claim limitation.

In particular, Petitioner contends that, “[i]n Murdock, speech recognition processing is performed by remote server computer 130, which constitutes ‘a wireline node’ in the network.” Pet. 26 (citing Ex. 1019 ¶ 216); *see also id.* at 26–28 (mapping Murdock’s remote server computer 130 to the speech recognition system’s components). Mr. Schmandt similarly testifies:

Murdock discloses this element. As discussed above, the “speech recognition system” is the remote server computer 130, which includes speech recognition module 410. The remote server computer 130 is also a “wireline node” as that term is used in the ’196 Patent

Ex. 1019 ¶ 216. Thus, Petitioner points to the same component for the claimed “speech recognition system” and the claimed “wireline node”; however, the claim requires two different components.

Accordingly, Petitioner has not established, by a preponderance of the evidence, that Murdock teaches “a speech recognition system coupled to a wireline node in said network,” as claim 27 requires. For each of the Murdock grounds, Petitioner relies on Murdock to teach this limitation. Thus, Petitioner has not shown, by a preponderance of the evidence, that independent claim 27 as well as its dependent claims (i.e., claims 28, 30–32, and 38–42) are unpatentable based on the obviousness grounds relying on Murdock.

4. *Conclusion*

Petitioner has not shown by a preponderance of the evidence that Murdock is prior art to the '196 patent. Each of the Murdock grounds relies on Murdock in whole or in part. Consequently, we determine that Petitioner has not proven by a preponderance of the evidence that claims 1, 2, 4–6, 12, 13, 27, 28, 30–32, 38–42 are unpatentable based on any of the Murdock grounds.

Moreover, even if Petitioner had shown Murdock to be prior art to the '196 patent, we would still determine that Petitioner has not proven by a preponderance of the evidence that claims 27, 28, 30–32, and 38–42 are unpatentable based on any of the Murdock grounds.

III. MOTIONS TO EXCLUDE

A. *Petitioner's Motion to Exclude*

Petitioner moves to exclude some of the evidence related to alleged objective indicia of nonobviousness, namely Exhibits 2001, 2002, 2003, 2009, 2010, 2011, 2015, 2021, and 2024 as well as paragraph 34 of Exhibit 2032. Paper 37. According to Petitioner, these exhibits are or contain inadmissible hearsay. *Id.* Patent Owner opposes the motion (Paper 45), and Petitioner replies in support (Paper 51).

For the reasons below, Petitioner's Motion to Exclude is *granted* with respect to Exhibit 2011 and paragraph 34 of Exhibit 2032, *denied* with respect to Exhibits 2001, 2002, 2003, 2009, 2010, and 2015, and *dismissed as moot* with respect to Exhibits 2021 and 2024.

1. Exhibits 2001, 2002, and 2003 — Business Plans and Presentations

Exhibits 2001, 2002, and 2003 relate to a business plan (Ex. 2001), corporate summary (Ex. 2002), and a presentation (Ex. 2003). Petitioner argues these exhibits should be excluded as hearsay. Paper 37 at 2–3.

We deny Petitioner’s request to exclude these exhibits. Patent Owner contends, and we agree, that each of these exhibits meets the hearsay exception for business records. Paper 45 at 4 (citing FRE 803(6)).

2. Exhibits 2009 and 2021 — Press Releases

Exhibits 2009 and 2021 are purported press releases. Petitioner argues these exhibits should be excluded as hearsay. Paper 37 at 3–4.

We deny Petitioner’s motion to exclude Exhibit 2009. Patent Owner relies upon this document to show that it received industry praise (specifically, an award from Speech Technology Magazine). PO Resp. 35. Patent Owner contends, and we agree, that this exhibit meets the hearsay exception for business records. Paper 45 at 5 (citing FRE 803(6)). However, this exhibit is only marginally probative of industry praise because it contains Patent Owner’s characterization of the award, rather than the actual award itself, and because Patent Owner fails to provide additional, contextual information regarding the award (such as the criteria for the award).

Exhibit 2021 is a news article containing a press release related to AgileTV obtaining investor funding. *See* PO Resp. 37–38 (citing exhibit to show “AgileTV’s ability to raise millions of dollars of investment”). The fact that AgileTV obtained investor funding is not disputed, and we do not

rely on Exhibit 2021 in our final decision. As a result, we dismiss Petitioner's motion to exclude Exhibit 2021 as moot.

3. Exhibit 2010 — Market Research Reports

Exhibit 2010 is an internal AgileTV email attaching documents “summarizing various aspects of usability and market research” regarding its television product. Petitioner contends that the email and attachments are hearsay. Paper 37 at 4.

We deny Petitioner's request to exclude Exhibit 2010. We are persuaded this exhibit meets the hearsay exception for business records. *See* Paper 45 at 6–8.

4. Exhibits 2011 and 2015 — Internal AgileTV Emails Regarding Comcast

Exhibit 2011 is an email from AgileTV's then-CEO Paul Cook to “All Employees.” Mr. Cook's email forwards an email from Mr. Chaiken purporting to recount statements made by certain Comcast employees. Ex. 2011, 1. Exhibit 2011 is proffered by Patent Owner to show Comcast's interest in the AgileTV product. *See* PO Resp. 36. The only relevant purpose of this exhibit is for the content of the third party statements. Moreover, we do not believe an email summarizing alleged statements by numerous Comcast employees falls within the business records exception to the hearsay rule. Accordingly, we agree with Petitioner that Exhibit 2011 should be excluded for the hearsay contained therein.

Exhibit 2015 is an email from Mr. Cook to “All Employees” with a “Weekly Update” that purports to recount conversations with certain

Comcast employees. Patent Owner cites this exhibit to support its contention that “Comcast expressed an intent to invest in AgileTV and deploy the AgileTV solution for Comcast’s 21 million subscribers.” PO Resp. 37. This email appears to be a regular weekly email update made in the normal course of business as conveyed by Mr. Cook. Accordingly, we determine Exhibit 2015 falls within the exception to the hearsay rule for normally recorded business documents.

5. Exhibit 2024 — Article Regarding Comcast

Exhibit 2024 is an online article entitled “A Voice in the Navigation Wilderness.” Patent Owner cites the article to support its assertion that “the AgileTV solution was successfully deployed and tested in the Comcast system.” PO Resp. 39. Patent Owner argues that this shows that the claimed invention was commercially valuable. *Id.* at 38–39.

Consideration of Exhibit 2024 does not lead to a different result. The parties do not dispute that Petitioner conducted a trial of the AgileTV system (*see* Pet. Reply 23–24), but Patent Owner fails to show a nexus between that trial and the claimed invention. Accordingly, we dismiss Petitioner’s motion to exclude as to this exhibit as moot.

6. Exhibit 2032 — Portions of the Chaiken Declaration

Exhibit 2032 is the declaration of Patent Owner’s former CTO David Chaiken. Ex. 2032 ¶ 3. Mr. Chaiken testifies that “acquaintances . . . told me they confused Comcast’s functionality with the AgileTV solution.” *Id.* ¶ 34. The acquaintances’ alleged statements are being used to prove copying by Petitioner. PO Resp. 39–40. We perceive no relevance to the

mere fact that these statements were allegedly made, and this is not the type of information an expert witness would normally rely upon (uncited sources conveying speculative information) in forming an opinion. We agree this is impermissible hearsay, offered to prove the truth of the matter asserted, and we grant Petitioner's motion to exclude it.

B. Patent Owner's Motion to Exclude

Patent Owner moves to exclude certain portions of Exhibit 1024. Paper 40. Petitioner opposes the motion (Paper 46), and Patent Owner replies in support of the motion (Paper 49).

Exhibit 1024 includes excerpts from the deposition transcript of Mr. Paul M. Cook, which are cited by Petitioner in its Reply. Paper 40 at 1–3 (citing Pet. Reply 1, 15, 21, 23 n.5, 23–24). Patent Owner contends that “Mr. Cook’s PTAB testimony is limited to only the final 10 pages of the transcript” and the cited portions of the transcript are instead “Mr. Cook’s district court testimony.” Paper 40, 1–2 (citing Ex. 2045). According to Patent Owner, this “district court testimony” should be excluded as hearsay. *Id.* Patent Owner further contends that the cited testimony exceeds the scope of cross-examination because it “go[es] far afield of Mr. Cook’s direct testimony” in this proceeding. *Id.* at 3 (citing 37 C.F.R. §§ 42.53(d)(5)(ii), 42.62(a); Fed. R. Evid. 611(b); Ex. 2042 (Cook declaration)).

Initially, we do not agree that Mr. Cook’s testimony is hearsay—it was made while testifying in this proceeding. *See* Paper 40, 1 (characterizing deposition as “Mr. Cook’s combined deposition for the related district court litigation and several PTAB proceedings”); Ex. 1024,

1–2 (caption lists this proceeding); *see also* Ex. 2042 (Cook provided direct testimony in this proceeding); Ex. 2045 (deposition excerpt does not indicate otherwise).

As for Patent Owner’s complaint that Petitioner submitted and relied upon cross-examination testimony that exceeded its proper scope, such an argument is not properly raised in a Motion to Exclude. As our Scheduling Order makes clear:

A Motion to Exclude shall only raise admissibility issues under the Federal Rules of Evidence, and not be used as additional briefing on any other topic, subject, or issue, for example, any assertion that a certain brief or evidentiary submission exceeds the proper scope for such brief or submission. *In case of an issue based on exceeding the proper scope of a submission, the parties must raise the matter by initiating a conference call with the Board.*

Paper 11 (Scheduling Order), 8 (emphasis added). Thus, Patent Owner should have raised this matter by initiating a conference call with the Board, rather than raising this issue in a Motion to Exclude.²²

Accordingly, Patent Owner’s Motion to Exclude is denied.

²² Further, we note that our Decision would not change even if we granted Patent Owner’s motion and excluded the identified portions of Exhibit 1024. We cite this exhibit only once, in further support of a subsidiary finding of fact, and we would have made the same finding even in the absence of this exhibit. *See supra* § II.E.1.e.ii

IV. CONCLUSION²³

Based on the evidence presented with the Petition, the evidence introduced during the trial, and the parties' respective arguments, Petitioner has shown by a preponderance of the evidence that some of the challenged claims are unpatentable, as specified in the following table:

Claims	35 U.S.C. §	References/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 2, 4–6, 12, 13, 27, 28, 30–32, 38–42	103(a)	Murdock		1, 2, 4–6, 12, 13, 27, 28, 30–32, 38–42
1, 2, 4–6, 12, 13, 27, 28, 30–32, 38–42	103(a)	Murdock, Nazarathy		1, 2, 4–6, 12, 13, 27, 28, 30–32, 38–42
1, 2, 4–6, 12, 13, 27, 28, 30–32, 38–42	103(a)	Murdock, Quigley		1, 2, 4–6, 12, 13, 27, 28, 30–32, 38–42
5, 6, 31, 32	103(a)	Murdock, Nazarathy, Banker		5, 6, 31, 32

²³ 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*, 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).

Claims	35 U.S.C. §	References/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
5, 6, 31, 32	103(a)	Murdock, Nazarathy, Gordon		5, 6, 31, 32
5, 6, 31, 32	103(a)	Murdock, Quigley, Banker		5, 6, 31, 32
5, 6, 31, 32	103(a)	Murdock, Quigley, Gordon		5, 6, 31, 32
1, 2, 4–6, 12, 13, 27, 28, 30–32, 38–42	103(a)	Julia, Nazarathy	1, 2, 4, 12, 13	5, 6, 27, 28, 30–32, 38–42
1, 2, 4–6, 12, 13, 27, 28, 30–32, 38–42	103(a)	Julia, Quigley	1, 2, 4, 12, 13	5, 6, 27, 28, 30–32, 38–42
5, 6, 31, 32	103(a)	Julia, Nazarathy, Banker	5, 6	31, 32
5, 6, 31, 32	103(a)	Julia, Nazarathy, Gordon ²⁴		31, 32

²⁴ As explained above, because we determine that challenged claims 5 and 6 are unpatentable based on the Julia-Nazarathy-Banker combination, we decline to address claims 5 and 6 on the ground of Julia, Nazarathy, and Gordon.

Claims	35 U.S.C. §	References/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
5, 6, 31, 32	103(a)	Julia, Quigley, Banker	5, 6	31, 32
5, 6, 31, 32	103(a)	Julia, Quigley, Gordon ²⁵		31, 32
Overall Outcome			1, 2, 4–6, 12, 13	27, 28, 30–32, 38–42

²⁵ As explained above, because we determine that challenged claims 5 and 6 are unpatentable based on the Julia-Quigley-Banker combination, we decline to address claims 5 and 6 on the ground of Julia, Quigley, and Gordon.

V. ORDER

It is hereby:

ORDERED that claims 1, 2, 4–6, 12, and 13 of the '196 patent are determined to be unpatentable;

FURTHER ORDERED that claims 27, 28, 30–32, and 38–42 of the '196 patent are not determined to be unpatentable;

FURTHER ORDERED that Petitioner's Motion to Exclude (Paper 37) is *granted-in-part, denied-in-part, and dismissed-in-part*;

FURTHER ORDERED that Patent Owner's Motion to Exclude (Paper 40) is *denied*;

FURTHER ORDERED that the parties shall, no later than 14 days from the entry of this Decision, jointly email a proposed redacted version of this Decision, which identifies proposed redactions with red highlighting, to Trials@uspto.gov; 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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Patent 7,047,196 B2

For PETITIONER:

James Day
Daniel Callaway
FARELLA BRAUN + MARTEL LLP
jday@fbm.com
dcallaway@fbm.com

Leo Lam
KEKER, VAN NEST & PETERS LLP
llam@keker.com

For PATENT OWNER:

Joshua Goldberg
Jacob Schroeder
Cory Bell
Daniel Klodowski
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP
joshua.goldberg@finnegan.com
jacob.schroeder@finnegan.com
cory.bell@finnegan.com
daniel.klodowski@finnegan.com