

APPENDIX

APPENDIX A

NOTE: This order is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

PROMPTU SYSTEMS CORPORATION,
Appellant

v.

COMCAST CABLE COMMUNICATIONS, LLC,
Appellee

**ANDREI IANCU, Director, U.S. Patent and
Trademark Office,**
Intervenor

2019-2368, -2369

Appeals from the United States Patent and
Trademark Office, Patent Trial and Appeal Board in
Nos. IPR2018-00342 and IPR2018-00343.

ON MOTION

Before LOURIE, MOORE, and CHEN, *Circuit Judges*.
PER CURIAM.

O R D E R

Promptu Systems Corporation moves to vacate the decisions of the Patent Trial and Appeal Board and remand for further proceedings in light of *Arthrex, Inc. v. Smith & Nephew, Inc.*, 941 F.3d 1320 (Fed. Cir. 2019). Comcast Cable Communications, LLC and the Director of the United States Patent and Trademark Office oppose the motion.

Upon consideration thereof,

IT IS ORDERED THAT:

(1) The motion to vacate and remand is granted. The Patent Trial and Appeal Board's decisions are vacated, and the cases are remanded to the Board for proceedings consistent with this court's decision in *Arthrex*.

(2) Each side shall bear its own costs.

February 27, 2020
Date

FOR THE COURT
/s/ Peter R. Marksteiner
Peter R. Marksteiner
Clerk of Court

APPENDIX B

NOTE: This order is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

PROMPTU SYSTEMS CORPORATION,
Appellant

v.

COMCAST CABLE COMMUNICATIONS, LLC,
Appellee

**ANDREI IANCU, Director, U.S. Patent and
Trademark Office,**
Intervenor

2020-1253

Appeal from the United States Patent and
Trademark Office, Patent Trial and Appeal Board in
No. CBM2018-00034.

ON MOTION

Before LOURIE, MOORE, and CHEN, *Circuit Judges*.
PER CURIAM.

ORDER

Promptu Systems Corporation moves to vacate the Patent Trial and Appeal Board's decision and remand in light of *Arthrex, Inc. v. Smith & Nephew, Inc.*, 941 F.3d 1320 (Fed. Cir. 2019). Comcast Cable Communications, LLC and the Director of the United States Patent and Trademark Office oppose.

Upon consideration thereof,

IT IS ORDERED THAT:

(1) The motion to vacate and remand is granted. The Patent Trial and Appeal Board's decision is vacated, and the case is remanded to the Board for proceedings consistent with this court's decision in *Arthrex*.

(2) Each side shall bear its own costs.

FOR THE COURT

February 27, 2020
Date

/s/ Peter R. Marksteiner
Peter R. Marksteiner
Clerk of Court

APPENDIX C

UNITED STATES PATENT AND
TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND
APPEAL BOARD

COMCAST CABLE COMMUNICATIONS, LLC,
Petitioner,

v.

PROMPTU SYSTEMS CORPORATION,
Patent Owner.

Case IPR2018-00342
Patent RE44,326 E

Before JAMESON LEE, ROBERT L. KINDER, and
ALEX S. YAP, *Administrative Patent Judges*

KINDER, *Administrative Patent Judge.*

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

I. INTRODUCTION

Petitioner, Comcast Cable Communications, LLC. (“Comcast”), filed a Petition (Paper 10,¹ “Pet.”) requesting an *inter partes* review of claims 1– 9, 11–19, and 21 of U.S. Patent RE44,326 E (Ex. 1001, “the ’326 patent”). Patent Owner, Promptu Systems Corporation (“Promptu”), filed a Preliminary Response (Paper 12, “Prelim. Resp.”).

Pursuant to 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a), we issued an Initial Decision (Paper 13, “Dec.”) on July 19, 2018, instituting an *inter partes* review of *all* challenged claims (1–9, 11–19, and 21) of the ’326 patent, based on all grounds raised in the Petition. Dec. 28. *See also* U.S. Patent and Trademark Office, *Guidance on the Impact of SAS on AIA Trial Proceedings* (Apr. 26, 2018) (“SAS Guidance”).²

After institution of trial, Patent Owner filed a Patent Owner Response (Paper 22, “PO Resp.”), to which Petitioner replied (Paper 31, “Pet. Reply”). Patent Owner also filed a Sur-Reply (Paper 39, “PO Sur-Reply”).

Petitioner filed a Motion to Exclude evidence (Paper 38), which Patent Owner opposed (Paper 44), which Petitioner replied (Paper 47). Petitioner’s Motion to Exclude is decided below.

¹ On April 12, 2018, we granted Petitioner’s Unopposed Motion to Correct Petition (Paper 8). Paper 9. Our citations and quotations are to the Corrected Petition – Paper 10.

² Available at <https://www.uspto.gov/patents-application-process/patent-trial-and-appeal-board/trials/guidance-impact-sas-aia-trial>.

Oral argument was conducted on January 28, 2019, and the transcript of the hearing has been entered as Paper 52 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 318(a). After considering the evidence and arguments of both parties, and for the reasons set forth below, we determine that Petitioner has shown, by a preponderance of the evidence, that claims 1–9, 11–19, and 21 of the ’326 patent are unpatentable.

A. Related Matter

The ’326 patent is the subject of a pending civil action, *Promptu Systems Corp. v. Comcast Corp. and Comcast Cable Communications, LLC*, Case No. 2:16-cv-06516 (E.D. Pa.). Patent Owner’s Mandatory Notices (Paper 4), 2. Petitioner filed a related petition for *inter partes* review of the ’326 patent. Pet. viii; see also IPR2018-00343. The final decision in IPR2018-00343 is being issued concurrently with this decision. The Board also instituted trial of the ’326 patent in a covered business method patent review on October 9, 2018. CBM2018-00034, Paper 9. Patent Owner also identifies IPR2017-00344 and IPR2017-00345, as challenging related U.S. Patent No. 7,047,196. Paper 4, 2.

B. The ’326 Patent

The ’326 patent, titled “System and Method of Voice Recognition Near a Wireline Node of a Network Supporting Cable Television and/or Video Delivery,” was issued on June 25, 2013. Ex. 1001, [45]. It issued as a reissued patent from U.S. Patent No. 7,685,523, which issued on March 23, 2010. The ’326 patent was filed on November 3, 2011, and claims benefit back to U.S. Provisional Application No. 60/210,440 filed on June 8, 2000. *Id.* at [21], [22], [60]. The ’326 patent

relates to using a first network path to transfer speech information to a speech recognition engine, which recognizes the speech information and effects information delivery to a second device via a second network path. See Ex. 1001, 50:23–44.

The '326 patent describes a “method and system of speech recognition presented by a back channel from multiple user sites within a network supporting cable television and/or video delivery.” *Id.* at Abstract. As noted below however, the claims of the '326 patent do not require a back channel or address multiple user sites. 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 2:8–11. The Specification states that “the problems of voice 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 2:5–8. The Specification describes how one embodiment of the invention provides speech recognition services to a collection of users over a network that supports cable television and/or video delivery. *Id.* at 4:66–5:1. In addition, “user identification based upon speech recognition is provided over a cable television and/or video delivery network.” *Id.* at 4:66–5:3.

Even though the specification relates to a centralized voice recognition system in some places, voice recognition may occur at or near any node in the system: “*This invention* relates to voice recognition performed *near a wireline node of a network* supporting cable television and/or video delivery.” *Id.* at 1:38–40 (emphases added). “A speech processor system *may be centrally located in or near a wireline node, which*

may include a Cable Television (CATV) central location.” *Id.* at 18:16–18 (emphasis added).

“User identification based upon speech recognition is provided over a cable television and/or video delivery network.” *Id.* at 5:1–3. Figure 3 of the ’326 patent is reproduced below.

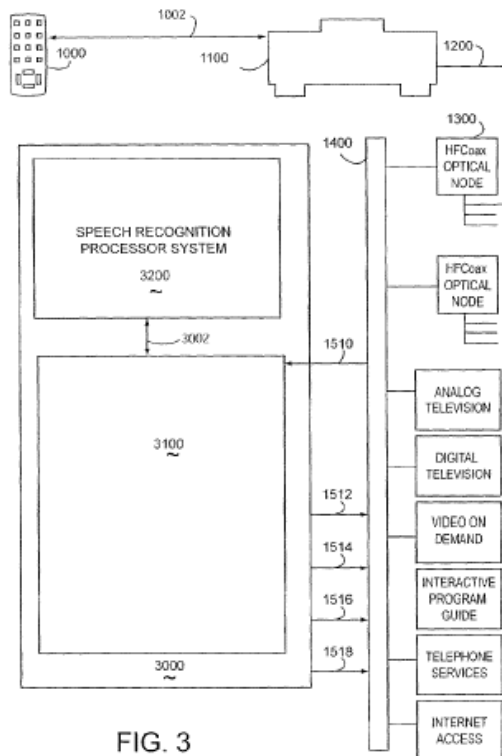


Figure 3 illustrates:

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, 7:13–20.

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. In one example embodiment, a set-top appliance 1100 may receive a wireless signal 1002 from remote 1000 and then re-modulate it for upstream transmission 1200 on a cable return path. *Id.* at 11:10–13.

The disclosed invention may involve multiple user sites and multiple channels: “The 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 22:2–4. At each user site, “[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 12:14–17.

To begin the process of obtaining content through a system such as that depicted in Figure 3 above, “[i]n the subscriber’s premises, a speech-enabled remote control [1000] may be employed, e.g. containing a microphone, as well as traditional universal remote control functionality.” *Id.* at 13:46–48. “The speech output may be wirelessly transmitted to a set[-]top pod, module, or appliance located at the set-top box.” *Id.* at 13:51–53. “The function of the set-top appliance 1100 may be to receive the RF signal from the remote

control and then digitize and compress the speech signal and prepare it for upstream transmission.” *Id.* at 11:34–36. “The invention supports unidirectional communication via coupling 1002, supporting communicative transfer from the remote 1000 via coupling 1002 to set-top apparatus 1100.” *Id.* at 26:13–15.

Regarding example content derived by using the microphone, “[i]n . . . embodiments of the invention, spoken commands from a cable subscriber are recognized and then acted upon to control the delivery of entertainment and information services, such as Video On Demand, Pay Per View, Channel control, on-line shopping, and the Internet.” *Id.* at 5:14–22.

C. Challenged Claims

Claims 1 and 12 are independent. Claim 1 is a method claim “*for speech directed information delivery, comprising*” (*id.* at 50:23–27), and claim 12 is similarly directed to a “[a] *method for speech directed information delivery*” (*id.* at 52:29–30). Claims 2–9 and 11 depend directly or indirectly from claim 1, while claims 13–19 and 21 depend directly or indirectly from claim 12. Independent claim 1, reproduced below, is illustrative of the challenged claims.

1. A method *for speech directed information delivery*, comprising:

receiving speech information at a first device, wherein said first device is a wireless device;

transferring said speech information from said first wireless device via a first network path to a speech recognition engine; and

at said speech recognition engine, recognizing said speech information and effecting information delivery to a second device via a second network path.

Ex. 1001, 50:23–44 (excluding text deleted in the reissue patent).

D. Evidence Relied Upon

Petitioner relies on the following references:

Exhibit	Reference
1012	United States Patent No. 5,774,859, issued June 30, 1998 (“Houser”).
1016	United States Patent No. 5,477,262, issued December 19, 1995 (“Banker”).
1017	United States Patent No. 6,314,573 B1, issued November 6, 2001 (“Gordon”).
1018	United States Patent No. 5,500,691, issued March 19, 1996 (“Martin”).
1019	United States Patent No. 5,663,756, issued September 2, 1997 (“Blahut”).

Pet. 3. Petitioner also relies on the Declarations of Christopher Schmandt (Ex. 1023, “Schmandt Declaration”; Ex. 1033, “Schmandt Reply Declaration”), and on the Declaration of Winston Liaw (Ex. 1022, “Liaw Declaration”). Patent Owner relies on the Declaration of David Chaiken (Ex. 2032, “Chaiken Declaration”) and the Declaration of Paul Cook (Ex. 2042, “Cook Declaration”). Below, we provide an overview of each reference relied upon by Petitioner.

1. Houser (Ex. 1012)

Houser describes a “system for controlling a device such as a television and for controlling access to broadcast information such as video, audio, and/or text information.” Ex. 1012, Abstract. Figure 1 of Houser is reproduced below.

FIG. 1

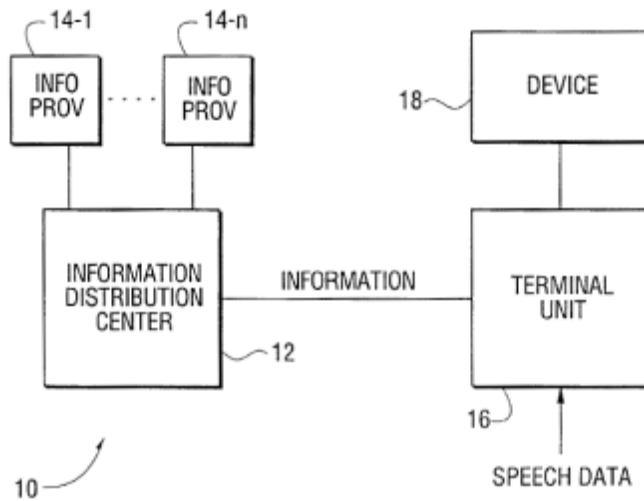
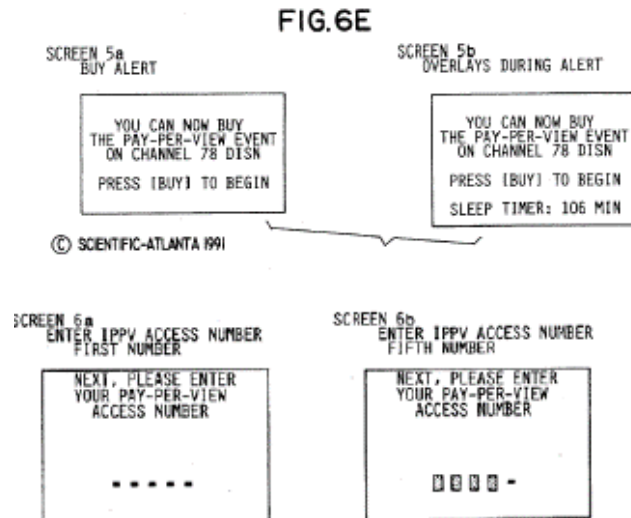


Figure 1 of Houser “is a generalized block diagram of an information system in accordance with” the claimed invention. Ex. 1012, 4:60–61. A remote control, which includes a microphone, captures “sounds and words spoken by a user” and transmits the sound data signals to terminal unit 16. *Id.* at 6:33–7:24. “Terminal unit 16 includes a processor for executing a speech recognition algorithm . . . to recognize, for example, commands for controlling device 18 or commands for accessing information transmitted by information distribution center 12.” *Id.* at 5:62–67. The

information is then retrieved from “information distribution center 12[,] which receives information from one or more remotely located information providers 14-1, . . . 14-n[,] and supplies or broadcasts this information to a terminal unit 16.” *Id.* at 5:39–44. “Terminal unit 16 then [] generates a command for controlling device 18.” *Id.* at 5:67–6:2. “Device 18 may be any device [that] is capable of being operated in response to user supplied commands.” *Id.* at 7:27–29.

2. Banker (Ex. 1016)

Banker describes an apparatus “for providing a user friendly interface to a subscription television terminal.” Ex. 1016, 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. Figures 6E and 6F of Banker are reproduced below.



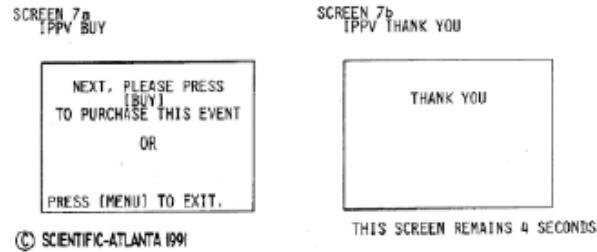


FIG. 6F

Figures 6E and 6F illustrate 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.

3. Gordon (*Ex. 1017*)

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. 1017, Abstract.* Figure 8 of Gordon is reproduced below.



FIG. 8

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

[can] select[] a programming package [and] become[] a subscriber to that package and [will be] billed accordingly.” *Id.* at 2:61–63.

4. *Martin (Ex. 1018)*

Martin is titled “Remote Control Identifier Setup in a Video System Having Both IR and RF Transmitters,” and it describes “[a] video system . . . including a receiver that generates a remote identifier setup display on a television monitor and further including a remote control unit having a radio frequency transmitter and an infrared transmitter.” Ex. 1018, [57], Abstract. Petitioner relies on Martin for its teaching of remote control devices that transmit identifiers. *See* Pet. 45 (analysis of claims 11 and 21). As explained by Martin, “[t]he video system enables a user to enter a remote control identifier for the radio frequency transmitter through the remote identifier setup display using the infrared transmitter.” Ex. 1018, Abstract.

5. *Blahut (Ex. 1019)*

Blahut is titled “Restricted Access Remote Control Unit,” and it describes a “device for restricting access to certain programs.” Exhibit 1019, [54], Abstract. Blahut describes the use of remote control units (“RCUs”), as well as RCUs that may be used in an interactive television environment. *Id.* at 1:8–11. Petitioner relies on Blahut for its teaching of remote control devices that transmit identifiers. *See* Pet. 45 (analysis of claims 11 and 21).

E. Instituted Grounds of Unpatentability

Petitioner challenges claims 1–9, 11–19, and 21 of the ’326 patent based on the asserted grounds of unpatentability set forth in the following table. Pet. 3–4, 14–67.

Asserted Grounds		
Reference(s)	Basis³	Claims Challenged
Houser	§ 103(a)	1–7 and 12–17 ⁴
Houser and Banker or Gordon	§ 103(a)	8, 9, 18, and 19
Houser and Martin or Blahut	§ 103(a)	11 and 21

We instituted *inter partes* review of claims 1–9, 11–19, and 21 on all grounds set forth in the above table for these claims. Dec. 28.

II. ANALYSIS

A. *Level of Ordinary Skill in the Art*

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re*

³ The relevant section of the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, took effect on March 16, 2013. Because the application from which the ’326 patent issued was filed before that date, the pre-AIA statutory framework applies.

⁴ The Petition states at page 3 that “[a]ll challenged claims (i.e., claims 1-9, 11-19, and 21) are unpatentable as obvious over Houser (Ex. 1012) alone,” but at page 18, and thereafter, the Petition only challenges claims 1–7 and 12–17 as obvious based on Houser alone. We read the Petition as challenging only claims 1–7 and 12–17 based on Houser alone. This is the same position taken in the Decision instituting trial. Dec. 12.

GPAC, Inc., 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted). In that regard, Petitioner and Mr. Schmandt contend that a person of ordinary skill in the relevant 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. 8–9 (emphases added) (citing Ex. 1023 ¶¶ 81–83). Patent Owner does not propose an alternative definition nor does Patent Owner respond to Petitioner’s proposal. *See generally* PO Resp.

Based on the final record, we adopt, with modification (e.g., removal of the qualifier “at least,” which broadens ordinary skill to include expert level knowledge and skill), Petitioner’s definition of a person of ordinary skill in the art:

- (i) an undergraduate degree (or equivalent) in electrical engineering, computer science, or a comparable subject and three years of professional work experience in the field of multi-media systems including in particular speech recognition and control technologies; or

(ii) [a Master’s of Science] degree (or equivalent) in electrical engineering, computer science, or a comparable subject and []one year of post-graduate research or work experience in the field of multi-media systems including in particular speech recognition and control technologies.

We further note that the prior art in the instant proceeding reflects the level of ordinary skill in the art at the time of the invention. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). For example, as reflected in Houser, a person of ordinary skill in the art would have familiarity with decreasing the complexity of user interfaces by “add[ing] a speech recognition interface to a subscriber terminal unit in an information system for implementing spoken control of electronic devices at the subscriber location.” *See Ex. 1012*, 1:59–2:16, 2:19–23.

B. Claim Construction

In an *inter partes* review based on a petition filed prior to November 13, 2018, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b) (2017); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard as the claim construction standard to be applied in an *inter partes* review proceeding). Under the broadest reasonable interpretation standard,⁵ claim terms generally are

⁵ The claim construction standard to be employed in an *inter partes* review recently has changed. *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg.

given their ordinary and customary meaning as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Petitioner proposes constructions for two terms: “speech recognition engine” and “STB.” Pet. 9–11. Patent Owner argues that “[t]he Board need not construe either of these terms because construction is unnecessary to resolve to dispute between the parties.” PO Resp. 8. We agree that the claim construction of these two terms is not necessary to resolve the current dispute.

Patent Owner instead proposes that one other term—“network path”—“must be construed to resolve the dispute between the parties.” *Id.* We agree. Patent Owner argues that “network path” should be construed as a physical route through which data is transmitted from a source to a destination. *Id.* at 11. Patent Owner notes that this was a “compromise” definition agreed to by the parties in district court litigation. *Id.* (citing Ex. 2039, 23). As discussed below, we agree with this “compromise” definition. Petitioner notes that adopting Patent Owner’s construction does not change the result. *See* Pet. Reply 3 (“Nevertheless, even under Patent Owner’s proposed construction, the prior art discloses the same ‘first network path’ and ‘second network path.’ Schmandt Reply Decl. ¶ 5.”).

The main claim construction issue arises in Patent Owner’s attempt to differentiate the asserted

51,340 (Nov. 13, 2018) (codified at 37 C.F.R. pt. 42). That new standard, however, applies only to proceedings in which the petition is filed on or after November 13, 2018. This Petition was filed on December 19, 2017.

prior art from the claimed invention. Thus, examining the term “network path” requires not just consideration of the arguments made by Patent Owner in its claim construction section, but also a consideration of the arguments made to differentiate the prior art. A point of contention between the parties is that Patent Owner additionally argues that the “network path” must have two nodes. For instance, Patent Owner argues a “network path” also requires a path or physical route between two nodes within a network. PO Resp. 8, 14–15. Patent Owner then adds an additional requirement, arguing that a “node” must be a device that can both send and receive messages. *Id.* at 15. Based on the final record before us, we do not agree with Patent Owner that a network path must have nodes that can both send and receive messages.

Petitioner argues that the “broadest reasonable interpretation of the claim term ‘network path’ in light of the specification is simply a path that a signal takes through a network of devices.” Pet. Reply 2 (citing Ex. 1033 ¶ 4). Petitioner contends that the “compromise” definition adopted in the related district court proceeding should not be adopted. *Id.* Petitioner then argues, that

[n]evertheless, even under Patent Owner’s proposed construction, the prior art discloses the same “first network path” and “second network path.” Schmandt Reply Decl. ¶ 5. Patent Owner’s proposed construction of “network path” is a “physical route through which data is transmitted from [a] source to [a] destination,” which a person of ordinary skill in the art would understand to include the network paths Petitioner identified in

Houser. *Id.*; Schmandt Decl. ¶¶ 136, 140–145 (Ex. 1023).

Id. at 3. As addressed more below, we agree with Petitioner that Patent Owner’s proposed construction does not change the result here—the challenged claims are invalid in view of the prior art under either proposed definition of “network path.”

The main dispute, as noted above, is not with Patent Owner’s basic proposed claim construction for “network path”—*a physical route through which data is transmitted from a source to a destination*—but instead with Patent Owner’s additional proposals that further restrict this limitation. *See* PO Resp. 11 (citing Ex. 2039, 20). In its analysis of the prior art, Patent Owner further requires that a “network path” must consist of “(1) a ‘path’ or physical route of travel between two nodes (2) within a ‘network.’” *Id.* at 14–15. Patent Owner then argues that Houser’s wireless remote cannot be a node on the network because it “cannot ‘receive[] messages from the network and . . . put messages on the network,’ . . . and thus cannot be a node.” *Id.* at 15 (citing Ex. 2034); PO Sur-Reply 1. We disagree with this last point of contention.

We have considered the intrinsic evidence and find no support in the Specification for requiring every node to be capable of both receiving and sending messages on the network. First, we agree with Mr. Schmandt that a skilled artisan would have known that a “physical” route in a network includes both wireline connections (e.g., signals traveling through wire) and wireless connections (e.g., signals traveling through air). Ex. 1033 ¶ 7; *see also* Ex. 1001, Fig. 3 (illustrating the signal path from the user through the network and ultimately to the voice recognition processors), 9:42–51, 10:16–22. Second, the word “node”

does not appear in the challenged claims of the '362 patent. Third, even if nodes were required, the Specification reveals that the wireless connection between the remote and set-top box can be bi-directional or “strictly from remote control 1000 to set-top box or appliance 1100.” Ex. 1001, 10:63–67; *see also id.* at 26:13–15 (“The invention supports *unidirectional* communication via coupling 1002, supporting communicative transfer from the remote 1000 via coupling 1002 to set-top apparatus 1100.” (emphasis added)), 28:36–41 (a node “may also support bi-directional communication” but does not otherwise suggest that such a requirement would be necessary in all situations).

Mr. Schmandt’s clarifying testimony is also persuasive.

Patent Owner’s argument appears to interpret my testimony to define a “node” as something that both puts messages on the network and also receives messages from the network. In my opinion, that is not a reasonable reading of my testimony particularly in light of my explanation that a network includes nodes that are endpoints. In the context of the '326 Patent and the cited prior art, such end points include the television remote control and the television (i.e., nodes with only one path into it).

Ex. 1033 ¶ 14. We agree with Mr. Schmandt that nothing in the record limits a node to a device that both sends and receives messages because “[a] person of ordinary skill in the art would understand that a ‘network’ includes unidirectional nodes (i.e., nodes that send or receive messages but not both).” *Id.* ¶ 16.

Accordingly, we agree with Patent Owner that a “network path” means *a physical route through which data is transmitted from a source to a destination*. We do not agree with Patent Owner that a “network path” also requires nodes that both send and receive messages. Based on our review of the final record before us, we determine that no additional claim terms require express construction to resolve the controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017); *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (holding that only claim terms that “are in controversy” need to be construed and “only to the extent necessary to resolve the controversy”).

C. Obviousness

1. General Principles

A claim is unpatentable under § 103(a) if the differences between the claimed subject matter “and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, objective indicia of non-obviousness (i.e., secondary considerations). *Graham v. John Deere Co.*, 383 U.S. 1, 17– 18 (1966).

An invention “composed of several elements is not proved obvious merely by demonstrating that each of

its elements was, independently, known in the prior art.” *KSR*, 550 U.S. at 418. Rather, to establish obviousness, it is petitioner’s “burden to demonstrate both that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016) (quotations omitted); see *KSR*, 550 U.S. at 418. Moreover, a petitioner cannot satisfy this burden by “employ[ing] mere conclusory statements” and “must instead articulate specific reasoning, based on evidence of record” to support an obviousness determination. *Magnum Oil*, 829 F.3d at 1380. Stated differently, there must be “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). The “factual inquiry” into the reasons for “combin[ing] references must be thorough and searching, and [t]he need for specificity pervades” *In re NuVasive, Inc.*, 842 F.3d 1376, 1381–82 (Fed. Cir. 2016) (quotations omitted). We analyze the asserted grounds with these principles in mind.

2. *Obviousness Ground Based on Houser Alone*

Petitioner contends that claims 1–7 and 12–17 are unpatentable over Houser under 35 U.S.C. § 103(a), relying on the supporting testimony of Mr. Schmandt. Pet. 18–23 (citing Ex. 1023). For the reasons set forth above and below, Petitioner’s explanations and evidence establish by a preponderance of the evidence that claims 1–7 and 12–17 would have been unpatentable pursuant to this ground. We begin our analysis with an overview of the parties’ contentions related to independent claims 1 and 12, followed by our analysis

for claims 1 and 12. We then address the parties' contentions related to the remaining claims, followed by our analysis.

i. Petitioner's Challenge (Claims 1 and 12)

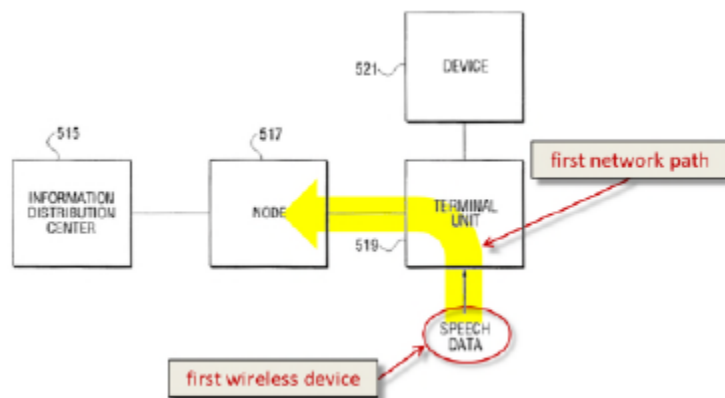
In challenging the claims, Petitioner submits that "Houser discloses a method for speech directed information delivery." Pet. 18 (quoting Ex. 1012, Abstract, 1:6–11, 2:19–23). Petitioner quotes Houser's disclosure of "[t]he present invention adds a **speech recognition interface** to a subscriber terminal unit in an information system for implementing spoken control of electronic devices at the subscriber location and of **access to information transmitted to the subscriber terminal unit.**" *Id.* (quoting with emphasis added, Ex. 1012, 2:19–23).

Petitioner identifies claim 1's "receiving speech information at a first device, wherein said first device is a wireless device," as being taught by Houser's "disclos[ure of] a wireless remote control with a microphone for receiving spoken commands." *Id.* (quoting Ex. 1012, 4:16–25). According to Petitioner, "Houser's remote control constitutes the 'first device' recited in claim 1," and the remote control includes a transmitter for transmitting the spoken sounds or words to subscriber terminal unit using radio frequency transmission. *Id.* at 19.

Claim 1 next requires "transferring said speech information from said first wireless device via a first network path to a speech recognition engine." Petitioner contends that "Houser discloses an embodiment in which voice recognition processing is performed at a remote network node (e.g., a remote server)," and within "this embodiment, the user's speech commands

are transmitted from the remote control (‘first wireless device’) to the terminal unit and then to ‘node 517’ for processing by speech recognition circuitry.” Pet. 20 (citing Ex. 1012, 33:49–67, Fig. 15; Ex. 1023 ¶¶ 136–137). Relying on the testimony of Mr. Schmandt, Petitioner reasons that “[a] person of ordinary skill in the art would understand that the extensive discussion of speech recognition in Houser would apply equally to speech recognition carried out at the remote node (i.e., node 517),” and, as such, “the speech recognition circuitry at node 517 constitutes a ‘speech recognition engine’ as recited in the claim.” *Id.* (citing Ex. 1023 ¶ 137).

To illustrate this position, Petitioner submits an annotated version of Houser’s Figure 15 (*id.* at 21), which we reproduce below:



House Fig. 15 (annotated)

Petitioner’s annotated Figure 15 (Pet. 21) depicts a first wireless device and first network path. Petitioner identifies the network path disclosed by Houser from the remote control through the terminal unit and then to node 517 (with the “speech recognition engine”) as teaching the claimed “first network path.”

Pet. 21 (citing Ex. 1023 ¶ 136). Mr. Schmandt identifies the first network path as depicted above and the claimed speech recognition engine as the speech recognition circuitry described in Houser. Ex. 1023 ¶ 136 (citing Ex. 1012, 33:49–67).

In its Reply, Petitioner argues again that Houser discloses a first network path because “the user’s speech commands are transmitted from the remote control (‘first wireless device’) to the terminal unit and then to ‘node 517’ for processing by speech recognition circuitry.” Pet. Reply 5 (citing Ex. 1012, 33:56–61). Petitioner disagrees with Patent Owner’s assessment that the transmission source is terminal 519, not the remote. *Id.* at 6. Instead, according to Petitioner, “Houser discloses a ‘remote control’ that includes a ‘conventional wireless microphone’ and a ‘transmitter’ for transmitting spoken words to the ‘subscriber terminal unit.’ Houser at 15:19-24, Fig. 4 (illustrating the voice remote control transmitting to the set-top box).” *Id.* Petitioner also points to a description in Houser “in which [s]ound or spoken words are received by a subscriber terminal unit’ and then ‘transmitted from subscriber terminal unit 519 to node 517 which includes speech recognition circuitry.’” *Id.* (citing Ex. 1012, 33:55–61, Fig. 15). “Thus,” according to Petitioner, “the remote control is the source of the voice data and node 517 is the destination,” and “[t]he path between them . . . is the ‘first network path’ even under Patent Owner’s proposed construction.” *Id.*

Petitioner next argues in Reply that Houser’s wireless remote need not be considered a node on the network, because “the word ‘node’ does not appear in any of the challenged claims or even in Patent Owner’s proposed construction of ‘network path.’” *Id.*

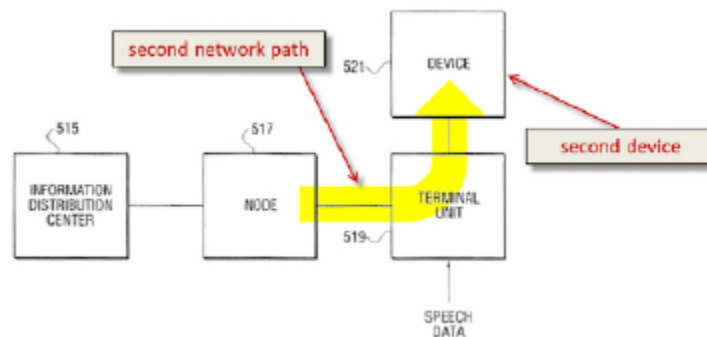
at 7. Petitioner points out that Patent Owner attempts “to make ‘node’ relevant to ‘first network path’ by citing a proposed construction from related litigation that includes the word ‘node’— a proposal that Patent Owner itself opposed and that was never agreed to or adopted.” *Id.* Petitioner further contends that “[t]here is simply no basis to apply Patent Owner’s unreasonable alternative construction of a ‘network path,’ which excludes any device that does not both transmit and receive messages.” *Id.* Petitioner relies on the testimony of Mr. Schmandt, who testifies “that a network includes nodes that are endpoints,” such as “the television remote control and the television.” Ex. 1033 ¶ 14. Mr. Schmandt similarly testifies that

I certainly do not understand, and one of ordinary skill in the art would not understand, that a node is limited to a device that both sends and receives messages, and I did not interpret the term “network path” in the challenged claims to exclude devices that cannot both send and receive messages. It would be unreasonable to impose such a limitation. A person of ordinary skill in the art would understand that a “network” includes unidirectional nodes (i.e., nodes that send or receive messages but not both). For example, a person of ordinary skill in the art would understand televisions in a broadcast television network to be network nodes (i.e., part of the network) though they only receive television signals. Similarly, a person of ordinary skill in the art would understand that video cameras are part of a security network though they only transmit data to the central location.

Id. ¶ 16; Pet. Reply 8. As explained more below, we find Mr. Schmandt’s testimony as to this issue persuasive.

Petitioner also relies on the Specification of the ’326 patent, “which states that the wireless connection between the remote and set-top box can be bi-directional or ‘strictly from remote control 1000 to set-top box or appliance 1100.’” Pet. Reply 8 (quoting Ex. 1001, 10:63–67). “Thus,” according to Petitioner, “the remote is in the ‘first network path’ even though it can be a unidirectional device.” *Id.*

As for claim 1’s additional requirement of “recognizing said speech information and effecting information delivery to a second device via a second network path,” Petitioner identifies Houser’s recognition of speech commands using speech recognition circuitry (“speech recognition engine”) at network node 517. Pet. 21 (quoting Ex. 1012, 33:56–61). Petitioner identifies “controlled device 521” as the claimed second device, and further provides annotated Figure 15 below to identify the second network path.



Houser Fig. 15 (annotated)

Petitioner’s annotated Figure 15 (Pet. 22) depicts a highlighted second network path leading to device 521, which Petitioner identifies as the claimed second

device. Relying on the testimony of Mr. Schmandt, Petitioner identifies the second network path as the path from node 517 through terminal unit 519 to controlled device 521. Pet. 22 (citing Ex. 1023 ¶ 140). Mr. Schmandt testifies that a person of ordinary skill in the art would have recognized that “Houser discloses transmitting commands (‘effecting information delivery’) from node 517 to controlled device 521 (‘second device’)” because Houser describes “that once the speech recognition circuitry generates ‘commands according to the sounds or spoken words,’ [n]ode 517 transmits the command(s) to controlled device 521 via subscriber terminal unit 519 to controlled device 521.” *Id.*; Ex. 1023 ¶ 140 (quoting Ex. 1012, 33:56–53).

In its Reply, Petitioner again stresses that nothing prevents Houser’s device 521 from being the claimed second device because unidirectional devices are not excluded from the proper definition of a network. Pet. Reply 10. Petitioner reiterates that “Patent Owner’s unreasonably narrow definition of ‘network’ is not consistent with the understanding of a person of ordinary skill in the art and is contradicted by the ’326 Patent and Patent Owner’s own evidence.” *Id.* (citing Ex. 1033 ¶¶ 12–16).

Petitioner, and Mr. Schmandt, alternatively contend that “the claimed second device could also be terminal unit 519,” wherein “the second network path would be the path from node 517 to terminal unit 519,” “because node 517 transmits the recognized commands to device 521 ‘via subscriber terminal unit 519,’” as disclosed by Houser. Ex. 1023 ¶ 141. Mr. Schmandt also testifies that “the second device could be the combination of the subscriber terminal unit and the device (e.g., set-top box and television), in

which case the second network path would be the path from node 517 to the combination of terminal unit 519 and controlled device 521.” *Id.*

Petitioner also contends that in addition to the “second network path” examples illustrated above, an alternative “second network path” exists in Houser from “information distribution center 515” (source) to “device 521” (destination). Pet. 22–23; Pet. Reply 10 (citing Ex. 1023 ¶¶ 142–143; Ex. 1033 ¶ 5). Petitioner focuses on the claim language, noting that the challenged claims require “effecting information delivery **to a second device** via a second network path.” Pet. Reply 10 (quoting Ex. 1001, 50:43–44 (claim 1), 52:48–49 (claim 12)). Thus, according to Petitioner, “[e]ven if all channels are broadcast from the information distribution center, it is the user’s voice command that causes the subscriber unit to tune to a particular channel thereby ‘effecting information delivery to a second device’ such as a television or video-recorder.” *Id.* (citing Ex. 1023 ¶¶ 143–144). Petitioner further explains that Houser “states that ‘pay-per-view programming’ can be requested by voice command—again, ‘effecting information delivery to a second device’ (e.g., television).” *Id.* at 10–11 (quoting Ex. 1012, 32:12–36).

Claim 12 is similar in scope to claim 1, in that claim 12 requires “[a] method for speech directed information delivery,” and an identical “receiving speech” step. *See* Pet. 29; Ex. 1001, 50:29–54. The “transferring” step of claim 12 is nearly identical to the “transferring” step of claim 1, with only one difference being that claim 12 states that the speech information is transferred from the first device “in an unrecognized state.” Pet. 29; Ex. 1001, 50:29–54. Petitioner relies on Houser’s remote node embodiment,

wherein “the voice command is transmitted to node 517 for speech recognition processing.” Pet. 29 (citing Ex. 1012, 33:56–61, 5:62–67, 15:7–18, 15:29–34, 15:42–46, 16:47–50, 16:58–17:7, 17:8–15). “Thus,” according to Petitioner, “Houser discloses ‘transferring said speech information in an unrecognized state.’” *Id.* (citing Ex. 1023 ¶ 123).

The “recognizing” limitations of claim 12 overlap substantially with the same limitations of claim 1. “The only difference is that claim 12 recites that the second device ‘is capable of displaying electronically coded and propagated moving or still images and playing electronically coded and propagated audio.’” *Id.* at 30. Petitioner relies on Houser’s disclosure of a television for the “second device,” or controlled device. *Id.* (citing Ex. 1012, 7:30–33). Relying on the testimony of Mr. Schmandt, Petitioner reasons that “[a] person of ordinary skill in the art would have known that a television, in the subscriber television network of Houser, was ‘capable of displaying electronically coded and propagated moving or still images and playing electronically coded and propagated audio.’” *Id.* (quoting Ex. 1023 ¶ 178). Patent Owner does not challenge these unique limitations found in claim 12, and we find persuasive Petitioner’s argument and evidence for these claim 12 limitations.

As explained below, we find Petitioner’s contentions persuasive, notwithstanding Patent Owner’s arguments set forth, and addressed, below.

ii. Patent Owner’s Argument (Claims 1 and 12)

Patent Owner presents arguments in contesting Petitioner’s challenge to claims 1 and 12. PO Resp. 12–19. In particular, Patent Owner first argues that

elements of Petitioner’s proposed first and second network paths “are outside of the network.” *Id.* at 12. More specifically, Patent Owner contends that Houser’s “remote” (first wireless device) is actually “outside the network” and Petitioner fails to identify any “disclosure of the remote being inside the network.” *Id.* at 12–13. Patent Owner further alleges that “Houser discloses that the transmission source is the terminal 519, not the remote.” *Id.* at 13 (citing Ex. 1012, 33:56–57). Thus, Patent Owner argues that Houser’s physical route for transmitting data from a source to a destination, “is the physical route connecting terminal unit 519 (the source) to node 517 (the destination).” *Id.*

In its Sur-Reply, Patent Owner further argues that the remote and controlled device 521 of Houser are not part of a network path because these devices are not nodes on a communication network. PO Sur-Reply 4–6. Patent Owner analogizes that although a keyboard can input text into an email and a monitor is capable of displaying this information, neither device would be considered part of the network. *Id.* at 4. According to Patent Owner, “the terminal unit itself performs the speech recognition,” and “[t]hus, the audio signal from the remote never goes beyond the terminal unit and onto the network.” *Id.* at 5 (citing Ex. 1012, 15:41–46). Patent Owner further contends, “in Houser, it is the subscriber terminal unit, not the remote, that is the endpoint on the network.” *Id.* at 6.

Second, Patent Owner argues that the device 521 is outside the network and thus not part of a second network path as required by claims 1 and 12. PO Resp. 13–14 (“Petitioner points to no disclosure of element 521 (e.g., the television) being included on the network. Indeed, Houser discloses that node 517 has

connections with terminal units like 519, not the device 521.”) (internal citations omitted). Patent Owner contends that Houser’s physical route for transmitting data from a source to a destination, “is the physical route connecting node 517 (the source) to terminal unit 519 (the destination).” *Id.* at 14. Patent Owner contends that a network path must be a path or physical route of travel between two nodes within a network as Petitioner purportedly advocated in claim construction briefing before the district court. *Id.* at 14–15. According to Patent Owner, “Houser only discloses that terminal unit 519, not the wireless remote or device 521, is connected to node 517 and can receive messages and put messages on the network.” *Id.* at 15 (citing Ex. 1012, 33:60–67. In its Sur-Reply, Patent Owner contends “that the terminal unit 519 is the endpoint of the network.” PO Sur-Reply 8.

Patent Owner additionally argues that “the petition fails to establish the wireless remote is a node on the network,” because in the description of the Figure 4 embodiment, “the remote only sends the analog signal, which the terminal unit must then convert to digital.” PO Resp. 15 (citing Ex. 1012, 15:19–29). “[Because] the remote only has transmission and not reception capabilities,” Patent Owner argues that “it clearly cannot ‘receive[] messages from the network and . . . put messages on the network,’ Ex. 2034 at 32:17-19, and thus cannot be a node under Schmandt’s definition.” PO Resp. 15. With respect to device 521, Patent Owner makes a similar argument that device 521 is not “a node on the network” because device 521 does not receive and put messages on the network. *Id.* at 16.

Patent Owner further argues that Houser does not disclose using recognized speech to deliver information from the information distribution center to the controlled device because “Houser” instead “discloses changing which *broadcast* content the controlled device is tuned to.” PO Resp. 18. Patent Owner similarly argues that “all broadcast content is available to all subscriber terminal units” and that “nothing done by the subscriber units in any way impacts what content the information distribution center delivers.” *Id.* at 19. Thus, Patent Owner concludes that “the petition fails to establish that ‘Houser also discloses using the recognized speech to deliver information from the information distribution center to the controlled device.’” *Id.*

iii. Secondary Considerations

Patent Owner’s Contentions

Patent Owner contends that “several objective indicia based on the success and acclaim of an AgileTV system embodying the invention of the ’326 patent provide compelling additional evidence that the challenged claims were nonobvious.” PO Resp. 23. Patent Owner relies on the purported success of AgileTV’s (the assignee of the ’326 patent) system using “a voice-enabled search and navigation solution for the cable industry.” *Id.*

Citing the Chaiken Declaration, Patent Owner first alleges that the AgileTV system embodies the invention disclosed and claimed in the ’326 patent. *Id.* at 25 (citing Ex. 2032 ¶¶ 8–16). Mr. Chaiken testifies that “[t]he embodiments described in the ’326 patent describe the foundations of the design of the AgileTV solution,” and “[t]he ’326 patent describes the initial

architecture of the AgileTV solution, which was subsequently extended and improved by AgileTV.” Ex. 2032 ¶ 14. Patent Owner also contends that “[t]he specification of the ’326 patent further describes the AgileTV solution at the time of the ’326 patent, including the AgileTV Speech Processor, the AgileTV Voice Processing Unit (AVPU), and a similar depiction of the system architecture.” PO Resp. 26.

Patent Owner alleges that “[u]nlike existing speech recognition methods and systems, the ’326 patent teaches using a first network path to transfer speech information to a speech recognition engine, which recognizes the speech information and effects information delivery via a second network path.” *Id.* (citing Ex. 1001, 22:8–12, 23:63–24:3). According to Patent Owner, “the evidence of objective indicia of nonobviousness similarly relates to these same features of the AgileTV system that were used to provide voice recognition processing for users in a cable television network.” *Id.* Patent Owner contends “[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.” *Id.* at 28. Thus, Patent Owner asserts a nexus exists between the AgileTV systems and the claimed invention.

Patent Owner next claims that “[t]here was a long-felt but unmet need for using voice recognition in cable systems, and the AgileTV system successfully satisfied this need in Comcast’s own network.” *Id.* (emphasis omitted). According to Patent Owner, there was an unmet need for using voice recognition in cable systems, and “[p]revious tools for navigating the large amounts of content in cable systems were

unwieldy and impractical.” *Id.* (citing Ex. 2032 ¶¶ 6–8). Patent Owner alleges that “prior to AgileTV’s solution, no one had provided voice recognition processing for multiple users in a cable television network using an architecture including the claimed invention of the ’326 patent.” PO Resp. 29. Patent Owner alleges that the AgileTV system satisfied the long-felt but unmet need and was successfully implemented, such as through demonstrations and field trials in Comcast’s cable network system and for other potential customers. Patent Owner’s evidence in support of this contention consists of citation to Mr. Chaiken’s Declaration and to a 2005 online article (Ex. 2040), which states that AgileTV was “the first company to bring voice-activated remotes and program guide[s] to market.” *Id.* (quoting Ex. 2040 (*Hey, Remote: Find ‘Seinfeld’*, Steve Donahue, (dated Jan. 23, 2005))).

Patent Owner next contends that “[t]he AgileTV system was widely praised within the industry because it provided advantages that previously were unavailable.” PO Resp. 30 (emphasis omitted) (citing Ex. 2032 ¶¶ 17–25). Patent Owner points to AgileTV’s alleged “Most Innovative Solution Award” from Speech Technology Magazine. *Id.* (citing Ex. 2009, 3). Exhibit 2009, discussed in more detail below in relation to Petitioner’s Motion to Exclude, is an internal email purporting to be a communication related to a potential AgileTV press release discussing the “Most Innovative Solution Award.” *See* Ex. 2009, 1 (“first draft of the AgileTV Speech Technology award press release”).

Patent Owner also cites the appearance of AgileTV’s former CEO (Paul Cook) and CTO (Harry Printz) to the Kudlow & Cramer television show on

CNBC in 2004 to talk about the AgileTV solution and to demonstrate the technology. PO Resp. 30 (citing Ex. 2032 ¶ 23; Ex. 2018; Ex. 2019). Patent Owner also relies on “[a] study of Comcast by the Buckingham Research Group in May 2005.” *Id.* at 31 (citing Ex. 2032 ¶ 24; Ex. 2020, 7).

Patent Owner also alleges that Comcast praised the AgileTV system. PO Resp. 31. Patent Owner points to a request by Comcast to deploy AgileTV’s “voice recognition solution into portions of Comcast’s cable network,” and Comcast further allegedly “requested AgileTV to demonstrate its solution for Comcast’s management and even Senators.” *Id.* (citing Ex. 2032 ¶¶ 19–21; Ex. 2011; Ex. 2012; Ex. 2013; Ex. 2014). Patent Owner further contends that “Comcast expressed an intent to invest in AgileTV and deploy the AgileTV solution for Comcast’s 21 million subscribers.” *Id.* at 32 (citing Ex. 2032 ¶ 21; Ex. 2015). Patent Owner also relies on a license agreement with Comcast, claiming “that Comcast itself previously licensed the AgileTV solution, including rights to what is now the ’326 Patent.” *Id.* at 33 (citing Ex. 2032 ¶ 27; Ex. 2022 (“License and Development Agreement”); Ex. 2023 (“Marketing Trial Agreement for Voice Activated Television Control Service”). The agreements provide Comcast with rights to use the AgileTV solution internally and to run trials of the system. *Id.* at 33–34. Patent Owner presents evidence that the AgileTV solution was tested by Comcast, with test market households receiving “a voice-activated remote, the Promptu receiver, an installation DVD, quick start guide, user’s guide, and voice reference card.” *Id.* at 34 (citing Ex. 2032 ¶¶ 31–32; Exs. 2026–2029).

Patent Owner claims that Comcast copied the claimed invention. Patent Owner alleges that after

the field trials of the AgileTV solution, Comcast did not take a longer-term license, and thereafter began marketing its own voice recognition product. PO Resp. 34 (citing Ex. 2032 ¶ 33). Patent Owner contends that “Comcast’s implementation of voice recognition in its X1 System is practically identical to the AgileTV solution installed in Comcast’s cable network in the mid-2000s.” *Id.* at 34–35. Patent Owner alleges that “Comcast’s X1 System practices the invention claimed in the ’326 patent.” *Id.* at 35 (citing Ex. 1021, 83–103). Patent Owner’s proof of copying are district court “Initial Claim Charts” (Ex. 1021, 83) and Exhibit 2026, which is an instructional video for “Promptu Voice Controlled Television” for Comcast Cable.

Patent Owner also contends that the AgileTV solution was commercially successful because it raised millions in investment funding. PO Resp. 32–33 (citing Ex. 2032 ¶ 26; Ex. 2002, 3; Ex. 2003, 34; Ex. 2021, 1–2).

Petitioner’s Contentions

Petitioner contends that Patent Owner has failed “to establish the necessary nexus between its secondary considerations evidence and any allegedly novel aspect of the challenged claims.” Pet. Reply 13.

Regardless, Petitioner contends the evidence is “weak” and therefore “cannot overcome Petitioner’s ‘strong *prima facie* showing’ of obviousness.” *Id.* (citation omitted).

Petitioner disagrees that a nexus should be presumed because Patent Owner has not established that the AgileTV system embodies the claimed invention. *Id.* at 14. Petitioner attacks Patent Owner’s support-

ing evidence. Petitioner notes that “Patent Owner relies on a conclusory declaration by its former CTO David Chaiken and a figure Patent Owner asserts is in the ’326 Patent’s provisional application, but which does not actually appear in the provisional application (or any of Patent Owner’s other exhibits).” *Id.* Petitioner contends that Mr. Chaiken’s testimony is insufficient because “[h]e makes no attempt to show that the elements of the challenged claims were embodied in the AgileTV system or that it was ‘coextensive’ with the challenged claims.” Pet. Reply 14, n.5 (citing Ex. 2032 ¶¶ 14–16). Petitioner also alleges that Mr. Chaiken never attempted to determine the scope of the challenged claims. *Id.* (citing Ex. 1028, 115:2–116:16).

Petitioner next argues that “Patent Owner does not attempt to identify any purportedly novel aspect of the claims tied to its evidence of secondary considerations.” Pet. Reply 16. Specifically, Petitioner argues:

Patent Owner asserts that the claimed invention of the ’326 Patent was “[u]nlike existing speech recognition methods and systems” because the patent “teaches using a first network path to transfer speech information to a speech recognition engine, which recognizes the speech information and effects information delivery via a second network path.” PO Resp. at 26. It makes no attempt to tie the secondary considerations evidence to these purportedly novel aspects of the challenged claims.

Id. Petitioner also contends that the purported invention was known in the prior art, and Patent Owner

fails to establish a nexus between its secondary considerations evidence and any novel aspect of the claimed invention. *Id.* at 16–17.

Petitioner next challenges the contention that the AgileTV system satisfied a long-felt but unresolved need. Pet. Reply 17. Petitioner makes the point that the only evidence of long-felt need is testimony that the problem arose as early as 2000, which was the same year that the provisional application cited by the '326 patent was filed. *Id.* at 18. Petitioner reasons that the need could not be long-felt if the need arose in 2000 and was met in the same year. *Id.* Petitioner further alleges that “Patent Owner offers no evidence to show that the alleged “long-felt need” was “persistent” and “not already satisfied by the prior art.” *Id.* Petitioner also argues that the “long-felt need” could not have been satisfied by the AgileTV system in Comcast’s own network because “Comcast rejected Patent Owner’s product.” *Id.* (citing Ex. 1027, 215:13–217:7; Ex. 1028, 70:19–71:8).

Petitioner next contends that any evidence of industry praise is not tied to any novel feature of the challenged claims, and should therefore be discounted. Pet. Reply 18–20. Petitioner points out that the recognition given by a report by Buckingham Research Group (Ex. 2020, 7) is directed to the ease of voice recognition searches, yet numerous prior art references of record in this proceeding already taught the same features. *Id.* at 19. Likewise, Petitioner contends that Comcast’s “praise [of] the AgileTV system suffers the same defect—the cited statements all relate to spoken search functionality in the prior art.” *Id.* at 19–20.

As for the purported award by “Speech Technology Magazine,” Petitioner contends there is no supporting

evidence of such an award except “a self-congratulatory press release without any evidence of an actual award.” *Id.* at 20 (citing Ex. 2009, 1–2). Further, the Petitioner argues that “the press release itself identifies purported advantages of the AgileTV system outside the scope of the challenged claims.” *Id.* Petitioner also questions the alleged industry praise from a trial conducted in just 10 homes over a month period (Ex. 2010, 5) because the summary of this trial “shows nothing more than an extremely limited test that did not fail—not ‘industry praise’ for its product.” *Id.* at 21.

Petitioner next argues that the challenged claims are not commercially valuable and that the invention has not been commercially successful. Pet. Reply 21. Petitioner first notes that “[t]he consideration paid by Comcast under the License and Development Agreement was a loan to Patent Owner that it later repaid in full.” *Id.* (citing Ex. 1027, 156:5–12, 160:20–161:2). Petitioner then notes that Comcast declined to license Patent Owner’s patents and “after failing to win Comcast’s business, Patent Owner dropped its television product and shifted to an automobile product instead (i.e., a product not covered by the ’326 Patent).” *Id.* at 21–22. Petitioner also notes that Comcast did not license the challenged claims, but instead conducted a limited evaluation of the AgileTV system. *Id.* at 22–23. Further, Petitioner notes that “[t]he license could not have signified any ‘recognition and acceptance’ of the challenged claims because they did not yet exist.” *Id.* at 23 (citation omitted).

Petitioner argues that the investment funding received was for two distinct products and nothing “mentions particular patents or claimed features of the television product that would tie any investment

to the challenged claims.” *Id.* at 22. Petitioner also notes that Patent Owner has cited no legal authority that investment funding “is a secondary consideration of nonobviousness regarding a patent issued to the company years later.” *Id.* n.9.

As for alleged copying, Petitioner argues that the only evidence presented are district court preliminary infringement contentions, and infringement contentions standing alone are not sufficient evidence of copying. Pet. Reply 24. As explained below, we agree with Petitioner that Mr. Chaiken’s testimony “that unidentified ‘acquaintances’ told him ‘they confused Comcast’s functionality with the AgileTV solution’ from ten years earlier,” is impermissible hearsay, to which we give no weight. *Id.* (citing Ex. 2032 ¶ 34).

iv. Analysis (claims 1 and 12)

Based on the final record before us, and notwithstanding Patent Owner’s arguments and evidence, we find Petitioner’s contentions with respect to claims 1 and 12 persuasive. Considering the evidence as a whole, including Patent Owner’s evidence of nonobviousness, we determine that Petitioner has established by a preponderance of the evidence that claims 1 and 12 would have been obvious over Houser.

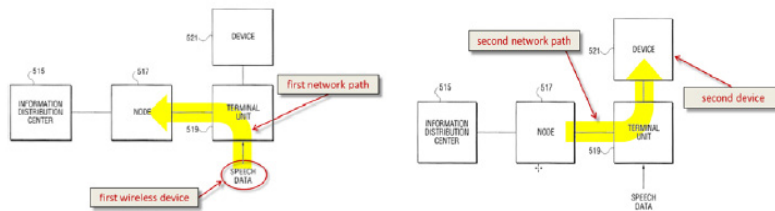
Petitioner persuasively shows on the final record that a person of ordinary skill in the art would have understood Houser’s disclosure of a wireless remote control with a microphone for receiving spoken commands teaches receiving speech information at a first device, wherein said first device is a wireless device. Pet. 18–20; Ex. 1012, 4:16–25.

Claims 1 and 12 next require “transferring said speech information from said first wireless device via a first network path to a speech recognition engine,”

and we are persuaded by Petitioner’s contention that “Houser discloses an embodiment in which voice recognition processing is performed at a remote network node (e.g., a remote server),” and within “this embodiment, the user’s speech commands are transmitted from the remote control (‘first wireless device’) to the terminal unit and then to ‘node 517’ for processing by speech recognition circuitry.” Pet. 20 (citing Ex. 1012, 33:49–67, Fig. 15; Ex. 1023 ¶¶ 136–137).

As explained above in the claim construction analysis, we disagree with Patent Owner’s contentions that a “network path” requires devices that both send and receive messages. *See, e.g.*, PO Resp. 15 (“the remote only has transmission and not reception capabilities”). We find Mr. Schmandt’s testimony more persuasive in opining that “one of ordinary skill in the art would not understand[] that a node [on a network path] is limited to a device that both sends and receives messages, and I did not interpret the term ‘network path’ in the challenged claims to exclude devices that cannot both send and receive messages.” Ex. 1033 ¶ 16. Further, we agree with Petitioner that the network contemplated within the ’326 patent includes unidirectional nodes (i.e., nodes that send or receive messages but not both). Petitioner also has persuasively shown that a physical route in a network includes both wireline connections and wireless connections. *See* Ex. 1033 ¶¶ 6–10; Ex. 1001, 50:39–41 (“said first device is a wireless device”).

Given Patent Owner’s proposed basic construction of “network path,” i.e., physical route through which data is transmitted from a source to a destination, which we have adopted, a person of ordinary skill in the art would understand such a route to include the network paths Petitioner identified in Houser. Petitioner’s annotated Figure 15 (Pet. 21–22) of Houser and corresponding analysis explain how Houser teaches both a first wireless device and first network path, as well as a second network path leading to device 521, which Petitioner identifies as the claimed second device.



Petitioner’s annotated Figures 15 (Pet. 21–22) of Houser depict a first network path and second network path. Houser discloses that the user’s speech commands are transmitted from the remote control (“first wireless device”) to the terminal unit and then to “node 517” for processing by speech recognition circuitry. Ex. 1012, 33:56–61. The transfer of Houser’s speech commands reads on the claimed “transferring of said speech information.” As illustrated above, we agree with Petitioner that the path from the remote control (“first wireless device”) through the terminal unit and then to node 517 (with the “speech recognition engine”) constitutes the claimed “first network path.” See Ex. 1023 ¶ 136.

With regard to Patent Owner’s arguments, we are not persuaded that the remote is outside the network

within the first network path identified by Petitioner. Patent Owner argues that the remote control is not in the network path because “the transmission source is the terminal 519, not the remote.” PO Resp. 13. We disagree because Houser discloses a “remote control” that includes a “conventional wireless microphone” and a “transmitter” for transmitting spoken words to the “subscriber terminal unit.” Ex. 1012, 15:19–24, Fig. 4 (illustrating the voice remote control transmitting to the set-top box). Houser also discloses embodiments in which “[s]ound or spoken words are received by a subscriber terminal unit” and then “transmitted from subscriber terminal [unit] 519 to node 517 which includes speech recognition circuitry.” *Id.* at 33:55–61, Fig. 15. Thus, we determine that the remote control is the source of the voice data, or information, and node 517 is the destination. We agree with Petitioner that the path between them (illustrated above) is the “first network path,” even under Patent Owner’s proposed construction. *See* Ex. 1033 ¶ 5.

Patent Owner’s arguments do not persuasively rebut Petitioner’s contentions or explain why the speech data originating at the first wireless device (remote control),⁶ which is “received by a subscriber terminal unit 519” for transmission “to node 517 which includes speech recognition circuitry,” fails to meet the claim requirement of “transferring said speech information from said first wireless device via a first network path to a speech recognition engine.” Ex. 1012, 33:55–59; Ex. 1001, 50:39–41. Petitioner has presented persua-

⁶ Patent Owner’s infringement contentions in related district court litigation for the ’326 patent included a wireless remote in the “first network path” as the claimed “first device.” Ex. 1021, 83.

sive evidence and testimony from Mr. Schmandt explaining why these claim elements are taught by Houser. *See also* Pet. Reply 5–10; Ex. 1023 ¶¶ 136–144.

Patent Owner additionally argues that the device 521 is outside the network and thus not part of a second network path as required by claims 1 and 12. PO Resp. 13–14 (“Petitioner points to no disclosure of element 521 (e.g., the television) being included on the network.”). We also find this argument unpersuasive to rebut Petitioner’s contentions on the final record. Claim 1 and 12’s final limitation requires “recognizing said speech information and effecting information delivery to a second device via a second network path.” Houser discloses that once the speech recognition circuitry generates “commands according to the sounds or spoken words,” “[n]ode 517 transmits the command(s) to controlled device 521 via subscriber terminal unit 519 to controlled device 521.” Ex. 1012, 33:56–63. The destination is controlled device 521 and the commands effect information delivery as claimed.

Patent Owner again suggests that because terminal unit 519 acts as a transfer, then device 521 cannot be considered the destination of the second network path. *See* PO Resp. 14 (“Houser discloses that node 517 has connections with terminal units like 519, not the device 521,” thus, Patent Owner contends Houser’s “physical route connect[s] node 517 (the source) to terminal unit 519 (the destination).”). But, considering the plain meaning of the claim language, and considering Houser’s disclosures cited above, we determine that Patent Owner’s arguments do not persuasively explain why device 521 would be outside the second network path identified by Petitioner (Pet. 21–

22), or why controlled device 521 is not a proper destination. Claim 1 requires “effecting information delivery to a second device via a second network path” and this operation is taught by Houser as Petitioner and Mr. Schmandt explain, as summarized above. *See* Ex. 1023 ¶¶ 139–145; Pet. Reply 8–10.

We also agree with Petitioner and Mr. Schmandt that “[e]ven if all channels are broadcast from the information distribution center, it is the user’s voice command that causes the subscriber unit to tune to a particular channel thereby ‘effecting information delivery to a second device’ such as a television or video-recorder.” Pet. Reply 10 (citing Ex. 1023 ¶¶ 143–144). Similarly, Houser’s requesting of pay-per-view programming by voice command effects information delivery to a second device. *Id.* at 10–11.

We have considered the evidence presented by both parties related to the objective indicia of nonobviousness. Considering the final record before us, we find the evidence of nonobviousness to be weak and the evidence of obviousness to be strong. On balance, the strong evidence of obviousness outweighs the weak evidence of nonobviousness.

Patent Owner contends that its AgileTV system has been commercially successful and received industry praise. We address each of these considerations below, but at the outset, we are not persuaded that Patent Owner has established that its AgileTV system embodies the claimed invention. Patent Owner proceeds as if there is a presumption that because both the AgileTV system and the ’326 patent relate to voice-enabled searching, a nexus must therefore exist between the product and the patent in that whatever is claimed is embodied in the product. *See* PO Resp. 25. That is inappropriate.

Although the AgileTV system had many attributes related to a voice-enabled search and navigation system, it simply cannot be presumed that what is claimed is what is in the commercial product. Also, the patent claims focus not just on voice-enabled search and navigation features, but also on a defined first and second network path. Specifically, Patent Owner does not persuasively show how the commercial AgileTV system performed “transferring said speech information from said first wireless device via a first network path to a speech recognition engine,” and then “recognizing said speech information and effecting information delivery to a second device via a second network path.” *See* Ex. 2032 ¶¶ 8–12.

To establish the relationship between the claims of the '326 patent and the AgileTV system, Patent Owner relies on two pieces of evidence and we address each below. The first is a declaration by its former CTO David Chaiken (Ex. 2032 ¶¶ 8–12, 13–16). The second is a figure (PO Resp. 24) Patent Owner asserts is in the '326 patent's provisional application. This figure purports to show how “voice data could be received by the Agile Engine [Agile TV platform] over a first path (in blue), which could affect the video on demand [VOD] content provided from the VOD server over a second path (in red).” PO Resp. 23. We first address this figure and then Mr. Chaiken's testimony.

We are not persuaded that the Patent Owner has persuasively established that the figure appearing at page 24 of Patent Owner's Response depicts a commercial embodiment of the AgileTV system. First, Patent Owner alleges this figure is found in Exhibit 2006 (provisional application file history), but Exhibit 2006 has no such figure. Thus, this figure does not actually appear in the provisional application (or any of Patent

Owner's other exhibits in this proceeding). *See* Ex. 2006. Patent Owner later clarifies that the figure appearing at page 24 of Patent Owner's Response "actually comes [from] the provisional application for the '538 Patent," and it "show[s] the architecture of the AgileTV system created by AgileTV in 2001." PO Sur-Reply 17. Regardless, Patent Owner has not persuasively shown the relevance of this figure. Apart from the attorney argument quoted above, Patent Owner also has not presented persuasive evidence showing that any commercial embodiment of the AgileTV system actually implemented the architecture depicted in the figure found at page 24 of the Response. *See* PO Sur-Reply 17; *see also* PO Resp. 23–24; Ex. 2032 ¶¶ 8–9 (Mr. Chaiken citing no evidence to support his testimony related to the function of AgileTV and not discussing Exhibit 2006 or the figure at page 24 of the Response). Patent Owner simply failed to tie the figure appearing at page 24 of Patent Owner's Response to any commercially produced version of the AgileTV system for which Patent Owner now alleges commercial success, industry praise, and copying.

Mr. Chaiken's testimony regarding the AgileTV system fares no better because he has not explained sufficiently or shown that the commercial AgileTV system relied upon for commercial success, praise, and copying, is covered by any challenged claim. *See* Ex. 2032 ¶¶ 8–16. He testifies that "[t]he embodiments described in the '326 patent describe the foundations of the design of the AgileTV solution," and "the architecture and solution described in the '326 patent accurately reflect the AgileTV solution by 2003." *Id.* ¶¶ 14, 16. Such testimony is based on what is described in the '326 patent, not what is claimed. Even with respect to what is described in the '326 patent, Mr. Chaiken does not adequately explain how

and to what extent the broad and varied descriptions in the '326 patent specification are the same as what is in the AgileTV system.

Mr. Chaiken fails to show that AgileTV “product embodies the claimed features, and is coextensive with them.” *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1130 (Fed. Cir. 2000). Further, on cross examination, Mr. Chaiken admitted that he did not attempt to determine the scope of the challenged claims, or examine the AgileTV system in light of that claim scope. Ex. 1028, 115:2–116:16. Patent Owner does not persuasively show whether the claim scope of the application filed in 2011 leading to the '326 patent relates to the AgileTV system, which was discontinued some five years earlier. Thus, we are not persuaded that the marketed AgileTV system embodies the claimed features of the '326 patent.

Likewise, the mention of the AgileTV system in the Specification of the '326 patent does not demonstrate that the AgileTV system embodied the claimed invention of any challenged claim. At most, mention of the AgileTV system in the Specification shows the potential compatibility of the claimed invention with an existing model of the AgileTV system, but nowhere does the Specification state that the claimed invention was to be embodied into any specific AgileTV system. See Ex. 1001, 12:38–49.

Because Patent Owner has not persuasively established that the marketed AgileTV system embodies all claimed features of any one challenged claim, a presumption of nexus has not been shown by Patent Owner. See *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1329 (Fed. Cir. 2016) (“[T]here is a presumption of nexus for objective considerations when the patentee

shows that the asserted objective evidence is tied to a specific product and that product ‘is the invention disclosed and claimed in the patent.’” (quoting *J.T. Eaton & Co. v. Atl. Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997)).

Similarly, Patent Owner also has not persuasively established that Comcast’s cable X1 System copies the AgileTV system or is covered by the claims of the ’326 patent, as explained below. Considering the record as a whole, including Patent Owner’s evidence of nonobviousness, Petitioner still has established obviousness of the challenged claims. We examine the evidence for each secondary consideration more below.

We are not persuaded by Patent Owner’s arguments alleging satisfaction of a long-felt but unresolved need (PO Resp. 28–29). Patent Owner asserts that its invention satisfied a long-felt but unresolved need, i.e., “for using voice recognition in cable systems.” PO Resp. 28. Patent Owner further asserts that prior to AgileTV’s solution, “no one had provided voice recognition processing for multiple users in a cable television network using an architecture including the claimed invention of the ’326 patent.” PO Resp. 29. The argument is misplaced, because it merely represents, at most, that Patent Owner is the first to conceive of all elements of its claimed invention. It does not mean that prior to the invention of the ’326 patent, there were no cable systems providing voice recognition. We see no basis in the record to find that Patent Owner’s claimed invention is the only way to use voice recognition in cable systems.

Through the misplaced argument, Patent Owner is asserting that whatever system that did not use Patent Owner’s claimed invention had a need that was

long-felt and unresolved. This circular approach is inappropriate and not meaningful. For purposes of further discussion, we separate the claimed invention from Patent Owner’s assertion of what was the long-felt but unresolved need, and focus on what Patent Owner has clearly stated as the long-felt but unresolved need, i.e., “using voice recognition in cable systems.” *Id.* at 28.

“[A]n allegation [of an unsolved problem in the art] is not evidence of unobviousness unless it is shown . . . that the widespread efforts of skilled workers having knowledge of the prior art had failed to find a solution to the problem.” *In re Allen*, 324 F.2d 993, 997 (CCPA 1963) (citing *Toledo Pressed Steel Co. v. Standard Parts, Inc.*, 307 U.S. 350, 356 (1939) (“Nor is there any evidence of general or widespread effort to solve the problem here involved.”)). More recently, the Federal Circuit clarified that although evidence is particularly probative of nonobviousness when it demonstrates both that a demand existed for the patented invention and that others tried but failed to satisfy that demand, a patent owner “may establish a long-felt need without presenting evidence of failure of others.” *Millennium Pharm., Inc. v. Sandoz Inc.*, 862 F.3d 1356, 1369 n.5 (Fed. Cir. 2017). That clarification, is not of significance here because to demonstrate long-felt but unresolved need, Patent Owner does not rely on the character and nature of pre-existing “solutions” that have been provided.

Patent Owner identifies prior “solutions” by others as providing voice recognition processing for multiple users in a cable television network. *Id.* Petitioner refers to only one such prior solution as unsuccessful. *Id.* Patent Owner’s characterization of the attempt as unsuccessful is not sufficiently supported

or explained. Mr. Chaiken states, in a conclusory manner without explanation: “To my knowledge, Integra5’s solution [using a telephone call to request content] was not successful.” Ex. 2032 ¶ 7. We do not credit that testimony because Mr. Chaiken does not provide the underlying basis for his conclusion that Integra5’s solution was not successful.

Patent Owner identifies other solutions that “ran solely on a set-top box, without a voice-activated remote control, and did not perform any operations at the headend.” PO Resp. 29 (citing Ex. 2040). Patent Owner does not state whether those “solutions” worked or failed, in providing voice recognition in cable systems. If those solutions worked, then there was no long-felt but unresolved need at the time of invention of the ’326 patent. If those solutions failed, Patent Owner has not explained why. Furthermore, it is unclear what problem those efforts were attempting to solve. It is unclear if those efforts even intended to include a voice-activated remote control unit. In any event, Patent Owner has not explained why the general problem of providing voice recognition in a cable system requires a voice-activated remote control unit to solve. The identification of these other “solutions” is insufficiently explained to establish satisfaction of long-felt but unresolved need for using voice recognition in a cable system. Further, we note that the AgileTV system was not commercially adopted apart from a limited test and thus there is absence of any showing by Patent Owner of a prompt adoption of its proposed solution, which can be indicative of satisfaction of long-felt but unresolved need. *See In re Mixon*, 470 F.2d 1374, 1377 (CCPA 1973). Finally, as of 1995, Houser provided detailed disclosures for voice recognition technology that could be integrated in subscription television systems. *See* Ex. 1012, 1:1–20.

To the extent Patent Owner regards providing voice recognition processing for multiple users as the long-felt but unresolved need, none of the challenged claims require a system for multiple users. *See* PO Resp. 29 (“no one had provided voice recognition processing for multiple users in a cable television network using an architecture including the claimed invention of the ’326 patent”). Thus, Patent Owner’s own invention would not meet that need because the challenged claims of the ’326 patent do not require voice recognition processing for *multiple users* in a cable television network. *See Therasense, Inc. V. Becton, Dickinson & Co.*, 593 F.3d 1325, 1336 (Fed. Cir. 2010) (“finding no long-felt need because the claims were broad enough to cover devices that did not solve the problem”).

For all the reasons set forth above, Patent Owner’s arguments are not well supported by underlying evidence and testimony to establish satisfaction of a long-felt need for Patent Owner’s patented invention in the cable TV industry.

Patent Owner’s evidence of industry (and Comcast) praise is also not persuasive. The recognition given by a report by Buckingham Research Group (Ex. 2020, 7) is directed to the ease of voice recognition searches, yet numerous prior art references of record in these proceedings also teach the same features. *See* IPR2018-00343, Paper 56 (final decision). The evidence for the award by “Speech Technology Magazine,” is simply Patent Owner’s own self-congratulatory press release without any evidence of the actual basis or criteria for the award, or information from the magazine about the award. *See* Pet. Reply 20 (citing Ex. 2009, 1–2). Patent Owner has not shown that this

press release actually issued to the public. Additionally, the internal press release itself identifies purported advantages of the AgileTV system outside the scope of the challenged claims. *Id.* For example, the press release states that “Promptu utilizes an extensive, dynamically managed database of more than 100,000 phrases and delivers higher than 90 percent voice recognition accuracy” (Ex. 2009, 1), yet the claims do not require these features. Ex. 1027, 250:15–253:14, 255:22–258:21, 316:4–6. Additionally, the AgileTV system employed voice recognition processing provided by a third-party vendor. *Id.*

The appearance of AgileTV’s former CEO (Paul Cook) and CTO (Harry Printz) on the Kudlow & Cramer television show on CNBC in 2004 to discuss the AgileTV solution and to demonstrate the technology shows that others had an interest in the technology, but the appearance alone does not establish industry praise. *See* Ex. 2032 ¶ 23; Ex. 2018; Ex. 2019. Moreover, the product did not work during this broadcast. Ex. 2019, 1–3 (“It won’t work precisely. Just go through a dry run.”); Ex. 1028, 96:14– 97:19. More importantly, the description of the product during the broadcast highlighted the same voice search functionality disclosed in the prior art. Ex. 2019, 3 (such as “find movies with Brad Pitt”). Patent Owner does not effectively tie the evidence of industry or Comcast praise, if any, to any novel feature of the challenged claims. As explained above, any praise given to AgileTV does not translate to the claims of the ’326 patent because Patent Owner has not established a nexus.

Patent Owner also states its alleged “industry praise above was directly based, for example, on the AgileTV system’s ability to provide voice recognition

processing for *multiple users* in a cable television network using an architecture including the claimed invention of the '326 patent.” PO Resp. 31 (emphasis added). But again, to the extent Patent Owner regards providing voice recognition processing for *multiple users* as the basis of any industry praise, the claims of the '326 patent do not even require voice recognition processing for multiple users.

As for copying, Patent Owner asserts that Comcast’s implementation of voice recognition in its X1 System is practically identical to the AgileTV solution installed in Comcast’s cable network in the mid-2000s, but we find Patent Owner’s support for these allegations also lacking. Patent Owner does not persuasively establish whether the X1 System is a copy of the AgileTV system or whether the X1 System would be covered by the claims of the '326 patent. Patent Owner’s proof that the Comcast X1 system copied AgileTV are district court “Initial Claim Charts” (Ex. 1021, 83) and Exhibit 2026, which is an instructional video for “Promptu Voice Controlled Television” for Comcast Cable. Because the initial claim charts are not supported by corresponding argument in the briefs or expert testimony, we find them unpersuasive in establishing copying or proving that the X1 system is covered by the claims of the '326 patent.

Patent Owner alleges that Comcast rejected its AgileTV system and “instead market[ed] its own voice recognition product,” with an “implementation” that “is practically identical.” PO Resp. 34–35 (citing Ex. 2032 ¶¶ 33–35). The support for these assertions is Mr. Chaiken’s testimony 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. This statement

is hearsay and excluded from consideration because the statement is being offered for the truth of the matter asserted and the “acquaintances” have not made any appearance in this proceeding to subject their beliefs to cross-examination. The only other evidence cited by Mr. Chaiken to support his assertions that Comcast’s X1 system somehow relates to AgileTV is the fact that an infringement lawsuit was filed. *Id.* ¶ 35. Mr. Chaiken does not offer testimony as to the accuracy of the district court litigation initial claim charts. Ex. 1021, 83. In the aggregate, Patent Owner’s evidence supporting the assertion that Comcast’s X1 system is a “copy” of AgileTV is not persuasive.

Finally, we determine that Patent Owner’s evidence and argument fails to demonstrate that the AgileTV system was commercially successful. Patent Owner alleges commercial success because Comcast licensed the AgileTV system and AgileTV received investor funding. Again, Patent Owner has not established that the challenged claims of the ’326 patent cover any commercial embodiment of the AgileTV system. But, even if there was an established nexus, the AgileTV system was not successful because the product was not adopted except in limited Comcast test markets. Ex. 1027, 215:13–218:13. Also, the money transferred by Comcast to AgileTV pursuant to the license agreement was a loan that was repaid by AgileTV. Ex. 1027, 156:5–12, 160:20–161:25; *see* Pet. Reply 21–23. Further, Patent Owner dropped its AgileTV system after being rejected by Comcast and shifted to unrelated automobile voice control technology. Ex. 1027, 215:13–218:13. We also do not view investor funding of a company, without more, as demonstrating commercial success of a product made by the company, and Patent Owner has not presented

persuasive evidence tying investment to the challenged claims. *See* Ex. 2021, 1–2.

Patent Owner has not provided any pertinent information about competing products on the market, nor has Patent Owner provided any relevant market share information. *See In re Applied Materials, Inc.*, 692 F.3d 1289, 1300 (Fed. Cir. 2012) (“An important component of the commercial success inquiry in the present case is determining whether Applied had a significant market share relative to *all* competing pads based on the merits of the claimed invention, which Applied did not show.”). Patent Owner also has not shown pertinent market share information regarding the sales of products incorporating the claimed invention.

Petitioner also presents persuasive evidence and arguments addressing the unique limitations of claim 12, which are not found in claim 1. Specifically, Petitioner relies on Houser’s remote node embodiment, wherein “the voice command is transmitted to node 517 for speech recognition processing,” as teaching “transferring said speech information in an unrecognized state.” Pet. 29 (citing Ex. 1012, 33:56–61, 5:62–67, 15:7–18, 15:29–34, 15:42–46, 16:47–50, 16:58–17:7, 17:8–15). Petitioner relies on Houser’s disclosure of a television for the “second device,” or controlled device. *Id.* (citing Ex. 1012, 7:30–33). We agree that “[a] person of ordinary skill in the art would have known that a television, in the subscriber television network of Houser, was ‘capable of displaying electronically coded and propagated moving or still images and playing electronically coded and propagated audio.’” *Id.* (quoting Ex. 1023 ¶ 178). Petitioner also establishes how Houser teaches that “said first network path and said second network paths are

different,” “whereas Houser’s “first network path’ . . . goes from the remote control to the subscriber terminal unit to node 517 and the ‘second network path’ begins either at node 517 or the information distribution center and goes through the subscriber terminal unit to the controlled device (e.g., television).” Pet. 23–24. Patent Owner does not challenge these unique limitations found in claim 12 (but not claim 1) and we find persuasive Petitioner’s argument and evidence for these limitations.

For the foregoing reasons, considering the entirety of the evidence before us, we determine that the evidence of obviousness outweighs that of nonobviousness. Petitioner has established by a preponderance of the evidence that claims 1 and 12 are unpatentable as obvious over Houser.

v. Analysis (Claims 2–7 and 13–17)

We have reviewed Petitioner’s contentions regarding each of claims 2–7 and 13–17, and determine that, notwithstanding Patent Owner’s argument discussed below, the information presented by Petitioner establishes by a preponderance of the evidence that these claims would have been obvious over Houser. *See* Pet. 23–34; Ex. 1023 ¶¶ 147–194, 169. We determine that Petitioner’s arguments with regard to the limitations added by these dependent claims relative to the independent base claim are persuasive as highlighted below.

Claim 2 depends from claim 1 and further requires “said first network path and said second network path are different paths.” Petitioner presents persuasive arguments and credible evidence to support a finding that Houser discloses this limitation whereas Houser’s “first network path’ . . . goes from

the remote control to the subscriber terminal unit to node 517 and the ‘second network path’ begins either at node 517 or the information distribution center and goes through the subscriber terminal unit to the controlled device (e.g., television).” Pet. 23–24.

Claim 3 depends from claim 1 and claim 13 depends from claim 12. Each claim further requires “wherein said first device and said second device are different devices.” Petitioner presents persuasive arguments and credible evidence to support a finding that Houser discloses this limitation. *Id.* at 24, 31 (“Houser discloses a first device (i.e., remote control) that is different than the second device (i.e., controlled device).” (citing Ex. 1023 ¶¶ 154–155)).

Claims 4 depends from claim 1 and claim 14 depends from claim 12. Each claim further requires “wherein said speech information comprises video search information; and wherein said information delivery comprises video information.” Petitioner presents persuasive arguments and credible evidence to support a finding that Houser discloses this limitation whereas Houser uses spoken search commands to identify video programming and then displays several records that satisfy a query in a manner to allow user selection. *Id.* at 25–26, 32 (citing Ex. 1012, 30:19–64, 15:55–59, 32:12–36, 31:3–5, 5:40–50; Ex. 1023 ¶¶ 157–159).

Claim 5 depends from claim 1 and claim 15 depends from claim 12. Each claim further requires “wherein said speech information transfer comprises transferring said speech information in either of a partially recognized state or an unrecognized state.” Petitioner presents persuasive arguments and credible evidence to support a finding that Houser discloses this limitation whereas Houser’s speech transfer from

the remote control to the speech recognition engine for speech processing is in “an unrecognized state” as claimed. *Id.* at 26, 32 (citing Ex. 1012, 33:56–61; Ex. 1023 ¶ 161).

Claim 6 depends from claim 1 and claim 16 depends from claim 12. Each claim further requires “wherein said wireless device is used for input and output for control purposes, wherein said information delivery is to said second device which comprises a television and STB.” Petitioner presents persuasive arguments and credible evidence to support a finding that Houser discloses these limitations whereas Houser’s wireless remote control is an “input” for spoken commands that are then “output” to the subscriber terminal. *Id.* at 27 (citing Ex. 1012, 4:16-25, 15:20–24, 16:51–55, 2:19–23, Figs 2C, 4–6; Ex. 1023 ¶¶ 163–167). Further, Petitioner shows how the voice commands cause the information distribution center to deliver video information, such as television programs, to the subscriber terminal unit and controlled device. *Id.* (citing Ex. 1012, 5:40–50, 15:55–59, 30:19–22, 30:26–42, 30:61–64; Ex. 1023 ¶ 166).

Patent Owner does not address Petitioner’s contentions for the above claims and has therefore waived any opposition. *See generally* PO Resp.; *see also* Paper 14 (“The patent owner is cautioned that any arguments for patentability not raised in the response will be deemed waived.”).

Patent Owner’s only rebuttal as to the claims discussed in this subsection is to challenge whether Houser alone teaches the requirement found in claims 7 and 17⁷ of “determining a user site associated with

⁷ Claim 17 has the same limitations as claim 7. *See* Ex. 1001, 53:14–25. Claims 9 and 19 have similar “user site” limitations.

a user of the first device.” Ex. 1001, 51:34–35 (claim 7). We address the parties’ contentions below related to this limitation. Claim 7 requires:

The method of claim 1, further comprising at least one of the steps of:

determining a user site associated with a user of said first device;

determining said associated user site from said recognized speech;

determining said associated user site from said recognized speech and a speaker identification library;

determining said associated user site from said recognized speech and a speech recognition library; and

determining said associated user site from an identification within said speech channel.

Ex. 1001, 51:24–43. Importantly, only one of the above steps need be shown in Houser to meet the “at least one of” claim language. Petitioner, and Mr. Schmandt, contend Houser teaches “determining a user site associated with a user of said first device.” Pet. 28 (citing Ex. 1023 ¶¶ 168–169).

Petitioner addresses the “user site” limitation in the Petition, arguing that:

Id. at 51:62–52:4. Claims 9 and 19 are not challenged by Petitioner as obvious based on Houser alone, but our analysis here is equally applicable to Petitioner’s challenges of claims 9 and 19 addressed below.

After performing speech recognition processing, the remote node transmits the recognized command back to the subscriber terminal unit. *Id.* To do so, the remote node must determine “user site associated with” the user that issued the speech command using “said first device” (i.e., remote control 166). Schmandt Decl. ¶ 169. Thus, Houser discloses “determining a user site associated with a user of said first device,” as recited in claim 7.

Pet. 28. Mr. Schmandt explains that “Houser discloses a system in which multiple different users at multiple different locations all access the same remote network node to perform speech recognition processing.” Ex. 1023 ¶ 169. Mr. Schmandt relies on Figure 15 of Houser, which shows an implementation in a subscription television system where node 517 is an off-premises device connected to a plurality of subscriber terminal units that access node 517 on a time-sharing basis. *Id.* (citing Ex. 1012, 33:61–67). Based on these disclosures, Mr. Schmandt concludes,

[a] person of ordinary skill in the art would know that the remote node (node 517) would have to determine the particular subscriber system issuing a particular voice command so that the recognized command could be transmitted back to the correct subscriber terminal unit Thus, Houser discloses determining a user site, and the user site is associated with a user of said first device (remote control).

Ex. 1023 ¶ 169 (citing Ex. 1012, 15:20–24). We credit the testimony of Mr. Schmandt because it is consistent with and supported by the cited evidence, as well as on its face rational.

Patent Owner contends that Petitioner only sets forth a case of inherency of the user site limitation, but “the petition does not explain why this feature would be inherent.” PO Resp. 20.

We have considered Patent Owner’s Response, which consists only of attorney argument that the “user site” claim limitation required by claims 7, 9, 17, and 19 is not taught, either explicitly or inherently, by Houser and Petitioner failed to explain why this feature would be inherent. After considering the final record before us, we determine Petitioner has shown by a preponderance of the evidence that Houser teaches a user site associated with a user of said first device as required by the claim language. As noted above, Petitioner, and Mr. Schmandt, establish that Houser’s “remote node [node 517] transmits the recognized command back to the subscriber terminal unit,” and that “[t]o do so, the remote node must determine the ‘user site associated with’ the user that issued the speech command.” Pet. 28; Ex. 1023 ¶ 169. We find Patent Owner’s attorney argument to the contrary unpersuasive. Thus, based on the final record, Houser teaches determining a user site associated with a user of said first device (remote control), as required by claim 7 and as similarly required by claims 9, 17, and 19.

As noted above in the context of the independent claims, we have determined that the objective evidence of nonobviousness does not overcome Petitioner’s strong showing of obviousness. The same is true for these dependent claims. Furthermore, the evidence of nonobviousness is just as weak for these dependent claims because the dependent claims include more limitations than the independent claims from

which they depend, and Patent Owner has not submitted secondary considerations evidence specifically directed to the features of these dependent claims. For the foregoing reasons, Petitioner has established by a preponderance of the evidence that claims 2–7 and 13–17 are unpatentable as obvious over Houser.

*3. Obviousness Ground Based on Houser and
Either Banker or Gordon*

Claims 8 and 9 each depend from claim 1, and claims 18 and 19 each depend from claim 12. Petitioner contends that claims 8, 9, 18, and 19 are unpatentable over Houser and either Banker or Gordon under 35 U.S.C. § 103(a), relying on the supporting testimony of Mr. Schmandt. Pet. 34–43 (citing Ex. 1023 ¶¶ 198–232). We have reviewed the complete record, and we are persuaded, notwithstanding Patent Owner’s arguments discussed below, that Petitioner has established the unpatentability of these claims by a preponderance of the evidence.

Claim 8 depends from claim 1 and adds two additional limitations. The first limitation requires “assessing a response identified as to a user device comprising any of said first device and said second device to create a financial consequence.” Petitioner contends Houser teaches this limitation. Pet. 35. “In particular, Houser discloses that a viewer can issue voice commands to select and order pay-per-view movies.” *Id.* (citing Ex. 1012, 32:12–36, Fig. 14). A viewer verbally selects a pay-per-view item, thus the user assesses a recognized voice command associated with a particular user device to “create a financial consequence” (i.e., purchase of a pay-per-view movie), as recited in the claim. *Id.* (citing Ex. 1023 ¶ 199).

The next limitation of claim 8 requires “billing a user associated with said user device based upon said financial consequence.” Petitioner contends that Houser teaches this limitation. Pet. 35–36 (citing Ex. 1023 ¶ 200; Ex. 1012, 32:19–31 (emphasis omitted)). Alternatively, Petitioner relies on either Banker or Gordon combined with Houser for teaching this limitation. Petitioner points to Houser’s disclosure that once a viewer selects a pay-per-view movie to purchase, billing information is generated so that the user can be billed for the purchase. *Id.* (citing Ex. 1012, 32:19–31). Petitioner also argues that “Houser can be combined with either the Banker or Gordon prior art patents to disclose the ‘assessing’ and ‘billing’ steps of claim 8.” *Id.* Petitioner argues that “Banker discloses a system in which the user can purchase a pay-per-view movie by pressing the ‘BUY key’ on the television remote control and then entering a code provided by the system to begin a purchase sequence.” *Id.* at 36–37 (citing Ex. 1016, 16:43–50, 16:62–17:1, Fig. 6F, 16:51–55 (“the user by actuating the BUY key initiates a buy sequence. Consequently, this key is used to purchase an event”). Once entered by the user, the “code is checked with the code stored in memory” (i.e., “assessing a response identified” with the user). *Id.* at 37 (citing Ex. 1016, 16:67–17:1). After pressing a buy key, the user is billed. *Id.* “Thus,” Petitioner establishes how “Banker discloses the ‘assessing’ and ‘billing’ steps recited in claim 8.” *Id.* (citing Ex. 1023 ¶ 202). Likewise, Gordon teaches offering the subscriber an option to purchase an on-demand program subscription, generating a master PIN as confirmation, and then updating the billing system with the new subscriber’s account number. *Id.* (citing Ex. 1017, 9:64–10:9, Figs. 3B, 8).

Claim 9 depends from claim 1 and further requires “assessing a response to create a financial consequence identified with a user site” and “communicating said financial consequence to said user.” Petitioner relies on Houser’s disclosure of a payment for a movie-on-demand as creating a financial consequence. Pet. 38 (Ex. 1023 ¶ 207). Petitioner also shows how Banker and Gordon disclose “assessing” a response to “create a financial consequence,” and then displaying this “financial consequence.” *Id.* at 38–40 (Ex. 1023 ¶¶ 207–211); Pet. 38–39 (“In Banker, a user can purchase a pay-per-view movie by pressing the ‘BUY key’ on the television remote control and then entering a code provided by the system to begin a purchase sequence. Banker at 16:43-55, 16:62-17:1, Fig. 6F.”); *see also* Ex. 1016, 16:62–17:3 (describing a display screen confirming the viewer’s intent to accept the purchase).

Claim 9 further requires “said user confirming said communicated financial consequence to create a financial commitment,” and “billing said user based upon said financial commitment.” Pet. 40–41. Petitioner contends that “[a] person of ordinary skill in the art would know that a pay-per-view movie purchase, such as that disclosed in Houser, involves informing the user that they are making a purchase and confirming their intent.” *Id.* at 40. Alternatively, Petitioner contends Banker and Gordon also disclose confirming the displayed financial consequence to create a financial commitment as required by this claim. *Id.* (citing Ex. 1023 ¶ 214); *see id.* at 40 (describing Banker’s “BUY” key and code for confirming the intent to purchase). Claim 9’s last requirement of “billing said user based upon said financial commitment” is taught by Houser’s pay-per-view system, or, alternatively, Banker and Gordon also disclose billing the subscriber for a pay-per-view purchase. *Id.* at 41 (Ex.

1023 ¶ 216); *see id.* at 41 (“Banker also discloses billing the subscriber for a pay-per-view purchase. Banker at 7:60-63, 16:62-17:3.”). We find Petitioner’s contentions for claim 9 persuasive on the final record before us.

Claim 18 recites limitations identical to claim 8, and Petitioner adopts the analysis of claim 8 discussed above. Pet. 41–42. That analysis is persuasive for reasons discussed above in the context of claim 8.

Claim 19 recites limitations identical to claim 9, and Petitioner adopts the analysis of claim 9 discussed above. *Id.* at 42. That analysis is persuasive for reasons discussed above in the context for claim 9.

Petitioner establishes persuasively that a person of ordinary skill in the art would have been motivated to combine the teachings of Houser with the above-noted teachings of either Banker or Gordon. *Id.* at 42–43 (citing Ex. 1003 ¶¶ 78–81). Each reference provides similar interfaces for interactive television networks and cable networks in particular, as well as providing pay-per-view functionality. Ex. 1012, Abstract; Ex. 1016, Abstract; Ex. 1017, 2:41–63, 1:8–14. Mr. Schmandt testifies that a person of ordinary skill in the art would have naturally considered Banker or Gordon in connection with the system disclosed by Houser. Ex. 1023 ¶ 233. As argued by Petitioner, “Banker and Gordon both teach user interfaces for implementing pay-per-view and video-on-demand systems on cable networks,” and both references teach the benefits of user interfaces that minimize the chances of unauthorized accidental purchases. Pet. 43 (citing Ex. 1016, 16:43–50, 16:51–55, 16:62–17:3, Fig. 6F; Ex. 1017, 2:60–63, 3:61–63, 8:66–10:9, 10:43–46; Figs. 3B, 8; Ex. 1023 ¶ 234). As explained by Mr. Schmandt, and with the above benefits of Banker and

Gordon in mind, “[i]t would also have been within the capability of a person of ordinary skill in the art to combine Houser with either Banker or Gordon to permit a user to order pay-per-view movies using the sequence described by Banker or Gordon but using voice commands as in Houser.” Ex. 1023 ¶ 234.

Patent Owner alleges that Petitioner fails to articulate a motivation to combine the features of the prior art to yield the claimed invention. PO Resp. 21. According to Patent Owner, “the petition only provides a general statement about similarities between the references and Houser, but no explanation of why any specific modification would be made.” *Id.*

We disagree, and we find Petitioner’s contentions specific and persuasive. Houser discloses that its voice-controlled system for retrieving digital programming can be used in pay-per-view applications, and both Banker and Gordon teach user interfaces for implementing pay-per-view and video-on-demand systems on cable networks. Pet. 42–43; Ex. 1023 ¶¶ 233–234. Integrating either Banker or Gordon’s interface, which allows for purchases, but minimizes the chances of unauthorized accidental purchases, would enhance Houser’s existing voice-controlled system for retrieving digital programming. *See id.*; Pet. Reply 12. Further, Patent Owner’s general arguments do not specifically address each of the reasons provided in the Petition for making the combinations of references as proposed by Petitioner. For example, “Houser discloses that its voice-controlled system for retrieving digital programming can be used in pay-per-view applications,” such as in Banker and Gordon, which “both teach user interfaces for implementing pay-per-view and video-on-demand systems on cable networks.” Pet. 42–43.

Based on the final record, Petitioner has established a persuasive rationale for combining the teachings of references as proposed in the Petition. *See* Pet. 42–43. The evidence of obviousness before us is strong.

With regard to the evidence of nonobviousness, we have determined above, with respect to independent claims 1 and 12, that the evidence of nonobviousness is weak. That evidence is just as weak with respect to dependent claims 8, 9, 18, and 19, because these claims include all the elements of the independent claims from which they depend. Patent Owner has not persuasively shown that whatever was sold or licensed, whatever was allegedly copied, and whatever was praised by others, had all the elements of the claimed subject matter. Also, other deficiencies of the assertions of industry praise, commercial success, copying, and satisfaction of long-felt but unresolved need, with respect to claims 1 and 12, also apply to claims 8, 9, 18, and 19. Thus, as is the case with independent claims 1 and 12, we determine that on the final record the weak evidence of nonobviousness does not outweigh the strong evidence of obviousness presented by Petitioner. For the foregoing reasons, Petitioner has established by a preponderance of the evidence that claims 8, 9, 18, and 19 are unpatentable as obvious over Houser and either Banker or Gordon.

*4. Obviousness Ground Based on Houser and
Either Martin or Blahut*

Claim 11 depends from claim 1, and claim 21 depends from claim 12. Petitioner asserts that claims 11 and 21 are unpatentable over Houser and either Martin or Blahut under 35 U.S.C. § 103(a), relying on the supporting testimony of Mr. Schmandt. Pet. 43–46 (citing Ex. 1023). For this ground, Petitioner relies

on either Marin or Blahut combined with Houser for teaching remote control devices that transmit identifiers. Pet. 45 (citing Ex. 1023 ¶ 242). For the reasons set forth above, and for the reasons explained below, Petitioner has proven by a preponderance of the evidence based on the final record that claims 11 and 21 would have been obvious over Houser and either Martin or Blahut.

Claim 11 requires “responding to recognized speech identified as to said first device based upon natural language to create a response uniquely identified with said user device.” Ex. 1001, 52:12–28. Claim 21 recites a nearly identical limitation. *Id.* at 53:47–50. Petitioner relies on Houser for its teaching of responding to recognized speech based upon natural language. Pet. 44 (citing Ex. 1012, 30:26–31, 30:47–64, 31:3–5). Petitioner contends that “[o]nce the voice command is recognized, the Houser system provides the requested content (e.g., movie, television program) to the particular requesting user – one of many users accessing the speech recognition engine.” *Id.* Thus, Houser teaches using the recognized speech to provide a response uniquely identified with the requesting user. *Id.* at 45.

Petitioner then alternatively contends that one of skill in the art would have combined Houser with Martin and Blahut, which both disclose remote control devices that transmit identifiers. According to Petitioner,

A person of ordinary skill in the art would recognize the benefit of combining Houser with this teaching, including, for example, uniquely identifying remote controls for access control purposes and providing the system designer with options for an identifier for

the particular home system, and thus the combination of Houser with either Martin or Blahut would render this claim obvious. [Ex. 1023] ¶¶ 243, 249–250.

Pet. 45.

Petitioner further establishes persuasively that a person of ordinary skill in the art would have been motivated to combine the teachings of Houser with either Martin or Blahut. *Id.* at 46–47 (citing Ex. 1023 ¶¶ 249–250). Petitioner notes each reference is in the field of “interactive television networks” and each relates to “remote controls communicating wirelessly with television set-top boxes.” *Id.* at 46. Petitioner argues that the combination would provide a system designer with options for an identifier for the particular home system, and the combination would enable “uniquely identifying a remote control,” which in turn “would allow the system to limit what channels or functions are available to a particular user, such as a child, of a remote control. *Id.* at 47 (citing Ex. 1019, 1:21–30; Ex. 1023 ¶ 250). Thus, according to Petitioner, “[a] person of ordinary skill in the art would have naturally considered Martin or Blahut in connection with the system disclosed by Houser.” *Id.* at 46 (citing Ex. 1023 ¶ 249).

Patent Owner contends Petitioner’s motivations for combining Houser with Martin or Blahut are facially deficient. PO Resp. 21. Patent Owner argues that “the petition likewise only provides a general statement about similarities between references, but no explanation of why any specific modification would be made.” *Id.* We disagree.

Petitioner has persuasively established a reasoned rationale for combining the references supported by the final record. Pet. 45–47. Petitioner explains that “all three references disclose remote controls wirelessly communicating with television set-top boxes, and a skilled artisan would have been motivated to use a unique remote control identifier, as taught by Martin or Blahut, in Houser’s remote control.” Pet. Reply 12–13. Petitioner explains that use of such a unique identifier would allow the system to limit what channels or functions are available to a particular remote control user, such as a child, as explained by Mr. Schmandt and as described in Blahut. Ex. 1019, 1:21–30; Ex. 1023 ¶ 250 (“In such a combined system, the unique identifier of the remote control would also be sent along with the voice command to determine whether the particular remote control (and thus the user of that control) could perform certain operations.”).

With regard to the evidence of nonobviousness, the evidence of nonobviousness is also weak with respect to dependent claims 11 and 21. Claim 11 depends from claim 1 and thus includes all the elements of claim 1. Claim 21 depends from claim 12 and thus includes all the elements of claim 12. For the same reasons discussed above with respect to the elements of claim 1, and the elements of claim 12, Patent Owner has not persuasively shown that whatever was sold or licensed, whatever was allegedly copied, and whatever was praised by others, had all the elements of the claimed subject matter. Also, other deficiencies of the assertions of industry praise, commercial success, copying, and satisfaction of long-felt but unresolved need, with respect to claims 1 and 12, also apply to claims 11 and 21. Thus, as is the case with independent claims 1 and 12, we determine that on the final record

the weak evidence of nonobviousness does not outweigh the strong evidence of obviousness presented by Petitioner. For the foregoing reasons, Petitioner has established by a preponderance of the evidence that claims 11 and 21 are unpatentable over Houser and either Martin or Blahut.

III. MOTION TO EXCLUDE

Petitioner filed a Motion to Exclude evidence (Paper 38), which Patent Owner opposed (Paper 44), which Petitioner replied (Paper 47). In its Motion to Exclude, Petitioner seeks to exclude “inadmissible evidence submitted by Patent Owner in Exhibits 2001, 2002, 2003, 2009, 2010, 2011, 2015, 2021, 2024, and 2032.” See Paper 38, 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 inadmissible hearsay under FRE 801–803. Paper 38, 2.

We deny Petitioner’s request to exclude these exhibits. Patent Owner contends, and we agree, that each of these three exhibits meets the hearsay exception for business records. Paper 44, 4 (citing FRE 803(6)). Notably, we have not cited these specific exhibits in our Final Decision, although each has been considered in our analysis.

Exhibits 2009 and 2021 – Press Releases

Exhibits 2009 and 2021 all purported press releases. Petitioner argues these exhibits should be excluded as inadmissible hearsay under FRE 801– 803.

Patent Owner cites Exhibit 2009 to show that it actually received the award described in the draft press release. Paper 22, 30.

We deny Petitioner's request to exclude Exhibit 2009. Patent Owner contends, and we agree, that this exhibit meets the hearsay exception for business records. Paper 44, 5 (citing FRE 803(6)). Notably, we have weighed Petitioner's concerns in our analysis above. For example, by failing to produce the actual award that Exhibit 2009 describes, including the criteria for the award or linking the award to the innovative features of the invention, we have not given significant weight to Exhibit 2009 as evidence of industry praise.

Exhibit 2021 is a news article containing a press release related to AgileTV obtaining investor funding. Patent Owner claims that the document contains non-hearsay, relevant evidence. Paper 44, 5–6. Because the fact that AgileTV obtained investor funding is not disputed, and because we do not rely on Exhibit 2021 in our final decision, we deny Petitioner's motion to exclude Exhibit 2021 as moot.

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 38, 4.

Patent Owner responds that “the email and its attachments fall within the business records exception to hearsay overcoming Comcast's objection. Fed. R. Evid. 803(6).” Paper 44, 6.

We deny Petitioner's request to exclude Exhibit 2010. This exhibit meets the hearsay exception for

business records, and Patent Owner established a sufficient foundation for its admissibility under the exception.

*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 system. We do not believe an email summarizing alleged statements by numerous Comcast employees to fall within the business records exception to the hearsay rule. Because the only relevant purpose of this exhibit is for the content of the third party statements, 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," and the "Weekly Update" email purports to recount conversations with certain Comcast employees. Ex. 2015, 1. 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. 31–32. 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.

Ex. 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.” Paper 22, 34. According to Petitioner, “[t]he article (which does not identify an author) primarily discusses AgileTV and its then-contemplated trial with a small cable company called Sunflower Broadband.” Paper 38, 5–6. Petitioner complains that the statements related to Promptu being in the field “is not attributed to anyone at Comcast— indeed, no Comcast representatives are mentioned or quoted in the article.” *Id.* at 6. Thus, according to Petitioner, “[t]he article is an out-of-court statement offered to prove the truth of the matter asserted therein.” *Id.*

Because we do not rely on Exhibit 2024 in our Final Decision, we deny Petitioner’s request to exclude this exhibit as moot.

Exhibit 2032 – Portions of the Chaiken Declaration

Exhibit 2032 is the declaration of Patent Owner’s former CTO David Chaiken. Ex. 2032 ¶ 3. Petitioner contends that in paragraph 34, Mr. Chaiken testifies that “acquaintances of mine . . . told me they confused Comcast’s functionality with the AgileTV solution.” This statement is being used to prove copying by Petitioner – the truth of the matter asserted. Paper 44, 13. We agree this statement is impermissible hearsay that should be excluded. Further, this is not the type of information an expert witness would normally rely upon (uncited sources conveying speculative information) in forming an opinion.

IV. SUMMARY

For the foregoing reasons, we determine that Petitioner has proven by a preponderance of the evidence that claims 1–7 and 12–17 would have been obvious over Houser.

Petitioner has proven that claims 8, 9, 18, and 19 would have been obvious over Houser and either Banker or Gordon.

Petitioner has proven that claims 11 and 21 would have been obvious over Houser and either Martin or Blahut.

Petitioner's Motion to Exclude (Paper 38) is granted-in-part and denied-in-part. Specifically, the hearsay statements in Exhibit 2032 ¶ 34 are excluded; the request to exclude Exhibit 2011 is granted; and, the request to exclude Exhibits 2024, 2015, 2010, 2021, 2009, 2001, 2002, and 2003 is denied.

V. ORDER

Accordingly, it is:

In consideration of the foregoing, it is hereby:

ORDERED that Petitioner has shown by a preponderance of the evidence that claims 1–9, 11–19, and 21 are unpatentable;

FURTHER ORDERED that Petitioner's Motion to Exclude (Paper 38) is *GRANTED-IN-PART* and *DE-NIED-IN-PART*; 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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APPENDIX D

UNITED STATES PATENT AND
TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND
APPEAL BOARD

COMCAST CABLE COMMUNICATIONS, LLC,
Petitioner,

v.

PROMPTU SYSTEMS CORPORATION,
Patent Owner.

Case IPR2018-00343
Patent RE44,326 E

Before JAMESON LEE, ROBERT L. KINDER, and
ALEX S. YAP, *Administrative Patent Judges*

KINDER, *Administrative Patent Judge.*

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

I. INTRODUCTION

Petitioner, Comcast Cable Communications, LLC. (“Comcast”), filed a Petition (Paper 12,¹ “Pet.”) requesting an *inter partes* review of claims of claims 1–9, 11–19, and 21 of U.S. Patent RE44,326 E (Ex. 1001, “the ’326 patent”). Patent Owner, Promptu Systems Corporation (“Promptu”), filed a Preliminary Response (Paper 14, “Prelim. Resp.”).

Pursuant to 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a), we issued an Initial Decision (Paper 15, “Dec.”) on July 19, 2018, instituting an *inter partes* review of *all* challenged claims (1–9, 11–19, and 21) of the ’326 patent, based on all grounds raised in the Petition. Dec. 30. *See also* U.S. Patent and Trademark Office, *Guidance on the Impact of SAS on AIA Trial Proceedings* (Apr. 26, 2018) (“SAS Guidance”).²

After institution of trial, Patent Owner filed a Patent Owner Response (Paper 24, “PO Resp.”), which Petitioner replied (Paper 33, “Pet. Reply”). Patent Owner also filed a Sur-Reply (Paper 41, “PO Sur-Reply”).

Petitioner filed a Motion to Exclude evidence (Paper 40), which Patent Owner opposed (Paper 46), which Petitioner replied (Paper 49). Petitioner’s Motion to Exclude is decided below.

¹ On April 12, 2018, we granted Petitioner’s Unopposed Motion to Correct Petition (Paper 1). Paper 11. Our citations and quotations are to the Corrected Petition – Paper 12.

² Available at <https://www.uspto.gov/patents-application-process/patent-trial-and-appeal-board/trials/guidance-impact-sas-aia-trial>.

Oral argument was conducted on January 28, 2019, and the transcript of the hearing has been entered as Paper 54 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 318(a). After considering the evidence and arguments of both parties, and for the reasons set forth below, we determine that Petitioner has shown, by a preponderance of the evidence, that claims 1–9, 11–19, and 21 of the ’326 patent are unpatentable.

A. Related Matter

The ’326 patent is the subject of a pending civil action, *Promptu Systems Corp. v. Comcast Corp. and Comcast Cable Communications, LLC*, Case No. 2:16-cv-06516 (E.D. Pa.). Patent Owner’s Mandatory Notices (Paper 4), 2. Petitioner filed a related petition for *inter partes* review of the ’326 patent. Pet. viii; see also IPR2018-00342. The final decision in IPR2018-00342 addresses the same set of challenged claims and that final decision is being issued concurrently with this decision. The Board also instituted trial of the ’326 patent in a covered business method review on October 9, 2018. CBM2018-00034, Paper 9. Patent Owner also identifies IPR2017-00344 and IPR2017-00345, as challenging related U.S. Patent No. 7,047,196. Paper 4, 2.

B. The ’326 Patent

The ’326 patent, titled “System and Method of Voice Recognition Near a Wireline Node of a Network Supporting Cable Television and/or Video Delivery,” was issued on June 25, 2013. Ex. 1001, [45]. It issued as a reissued patent from U.S. Patent No. 7,685,523, which issued on March 23, 2010. The ’326 patent was filed on November 3, 2011, and claims benefit back to U.S. Provisional Application No. 60/210,440 filed on

June 8, 2000. *Id.* at [21], [22], [60]. The '326 patent relates to using a first network path to transfer speech information to a speech recognition engine, which recognizes the speech information and effects information delivery to a second device via a second network path. *See* Ex. 1001, 50:23–44.

The '326 patent describes a “method and system of speech recognition presented by a back channel from multiple user sites within a network supporting cable television and/or video delivery.” *Id.* at Abstract. As noted below however, the claims of the '326 patent do not require a back channel or address multiple user sites. 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 2:8–11. The Specification states that “the problems of voice 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 2:5–8. The Specification describes how one embodiment of the invention provides speech recognition services to a collection of users over a network that supports cable television and/or video delivery. *Id.* at 4:66–5:1. In addition, “user identification based upon speech recognition is provided over a cable television and/or video delivery network.” *Id.* at 4:66–5:3.

Even though the specification relates to a centralized voice recognition system in some places, voice recognition may occur at or near any node in the system: “*This invention* relates to voice recognition performed *near a wireline node of a network* supporting cable television and/or video delivery.” *Id.* at 1:38–40 (emphases added). “A speech processor system *may*

be centrally located in or near a wireline node, which may include a Cable Television (CATV) central location.” *Id.* at 18:16–18 (emphasis added).

User identification based upon speech recognition is provided over a cable television and/or video delivery network.” *Id.* at 5:1–3. Figure 3 of the ’326 patent is reproduced below.

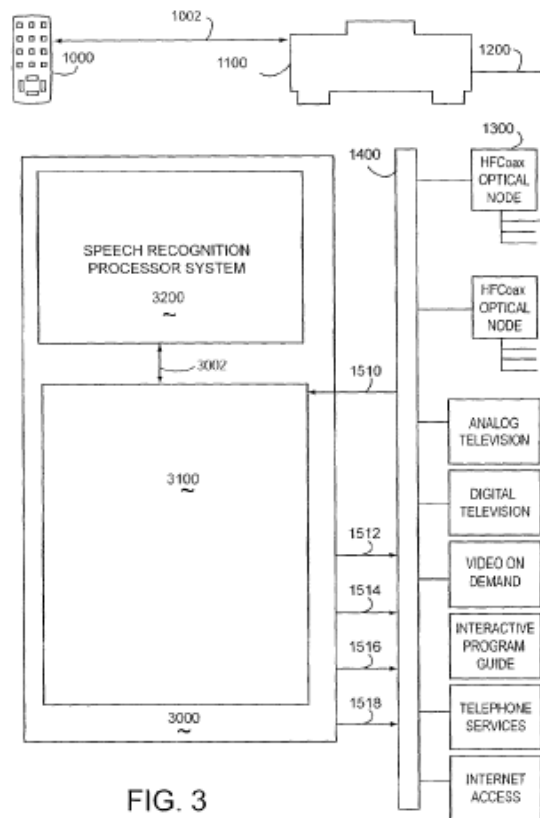


FIG. 3

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, 7:13–20.

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. In one example embodiment, a set-top appliance 1100 may receive a wireless signal 1002 from remote 1000 and then re-modulate it for upstream transmission 1200 on a cable return path. *Id.* at 11:10–13.

The disclosed invention may involve multiple user sites and multiple channels: “The 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 22:2–4. At each user site, “[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 12:14–17.

To begin the process of obtaining content through a system such as that depicted in Figure 3 above, “[i]n the subscriber’s premises, a speech-enabled remote control [1000] may be employed, e.g. containing a microphone, as well as traditional universal remote control functionality.” *Id.* at 13:46–48. “The speech output may be wirelessly transmitted to a set[-]top pod, module, or appliance located at the set-top box.” *Id.* at 13:51–53. “The function of the set-top appliance

1100 may be to receive the RF signal from the remote control and then digitize and compress the speech signal and prepare it for upstream transmission.” *Id.* at 11:34–36. “The invention supports unidirectional communication via coupling 1002, supporting communicative transfer from the remote 1000 via coupling 1002 to set-top apparatus 1100.” *Id.* at 26:13–15.

Regarding example content derived by using the microphone, “[i]n . . . embodiments of the invention, spoken commands from a cable subscriber are recognized and then acted upon to control the delivery of entertainment and information services, such as Video On Demand, Pay Per View, Channel control, online shopping, and the Internet.” *Id.* at 5:14–22.

C. Challenged Claims

Claims 1 and 12 are independent. Claim 1 is a method claim “*for speech directed information delivery, comprising*” (*id.* at 50:23–27), and claim 12 is similarly directed to a “[*a*] *method for speech directed information delivery*” (*id.* at 52:29–30). Claims 2–9 and 11 depend directly or indirectly from claim 1, while claims 13–19 and 21 depend directly or indirectly from claim 12. Independent claim 1, reproduced below, is illustrative of the challenged claims.

1. A method *for speech directed information delivery*, comprising:

receiving speech information at a first device, wherein said first device is a wireless device;

transferring said speech information from said first wireless device via a first network path to a speech recognition engine; and

at said speech recognition engine, recognizing said speech information and effecting information delivery to a second device via a second network path.

Ex. 1001, 50:23–44 (excluding text deleted in the reissue patent).

D. Evidence Relied Upon

Petitioner relies on the following references:

Exhibit	Reference
1013	United States Patent No. 7,013,283 B1, issued March 14, 2006 (“Murdock”).
1015	United States Patent No. 6,513,063 B1, issued January 28, 2003 (“Julia”).
1016	United States Patent No. 5,477,262, issued December 19, 1995 (“Banker”).
1017	United States Patent No. 6,314,573 B1, issued November 6, 2001 (“Gordon”).
1018	United States Patent No. 5,500,691, issued March 19, 1996 (“Martin”).
1019	United States Patent No. 5,663,756, issued September 2, 1997 (“Blahut”).

Pet. 3. Petitioner also relies on the Declarations of Christopher Schmandt (Ex. 1023, “Schmandt Declaration”; Ex. 1033, “Schmandt Reply Declaration”), and on the Declaration of Winston Liaw (Ex. 1022, “Liaw Declaration”). Patent Owner relies on the Declaration of David Chaiken (Ex. 2032, “Chaiken Declaration”) and the Declaration of Paul Cook (Ex. 2042, “Cook

Declaration”). Below, we provide an overview of each reference relied upon by Petitioner.

1. *Murdock (Ex. 1013)*

Murdock describes a “system and a concomitant method for providing programming content in response to an audio signal.” Ex. 1013, Abstract. Figure 1 of Murdock is reproduced below.

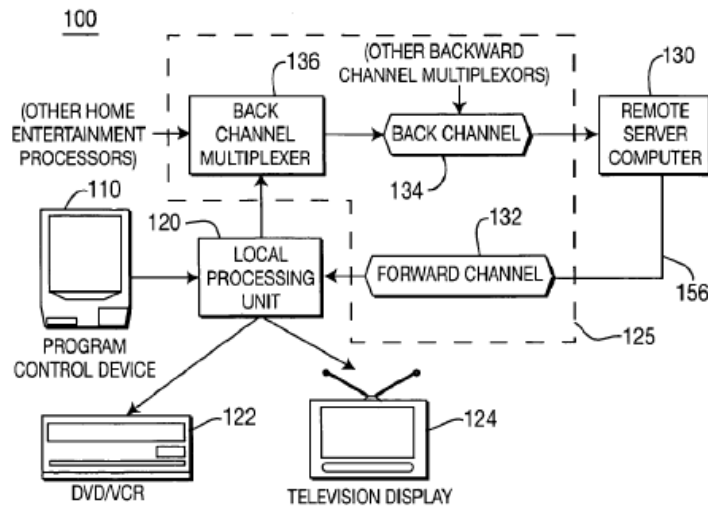


FIG. 1

Figure 1 “depicts a high-level block diagram of a voice control system.” Ex. 1013, 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. 1015)

Julia describes “navigation of electronic data by means of spoken natural language requests.” Ex. 1015, 1:16–18. Figure 1a of *Julia* is reproduced below.

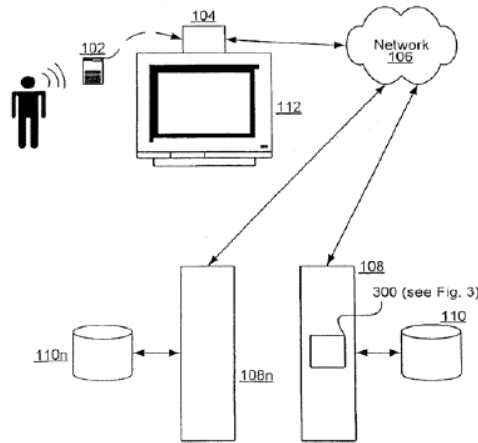


Fig. 1a

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[, which p]referably [] includes a button or the

like that can be pressed or held down to activate a listening mode.” *Id.* at 3:39–43. Input device 102 can also be “a portable remote control device with an integrated microphone, and the voice data is transmitted from device 102 preferably via infrared (or other wireless) link to [a receiver in] communications box 104.” *Id.* at 3:46–52. “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. Communications box 104 is used for “receiving and decoding/formatting the desired electronic information that is received across communications network 106.” *Id.* at 4:27–30. It is “preferabl[e to use] the same [] communications box 104, but [it] may also be a separate unit) for receiving and decoding/formatting the desired electronic information that is received across communications network 106.” *Id.* at 4:25–30.

3. *Banker (Ex. 1016)*

Banker describes an apparatus “for providing a user friendly interface to a subscription television terminal.” Ex. 1016, 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. Figures 6E and 6F of Banker are reproduced below.

FIG.6E

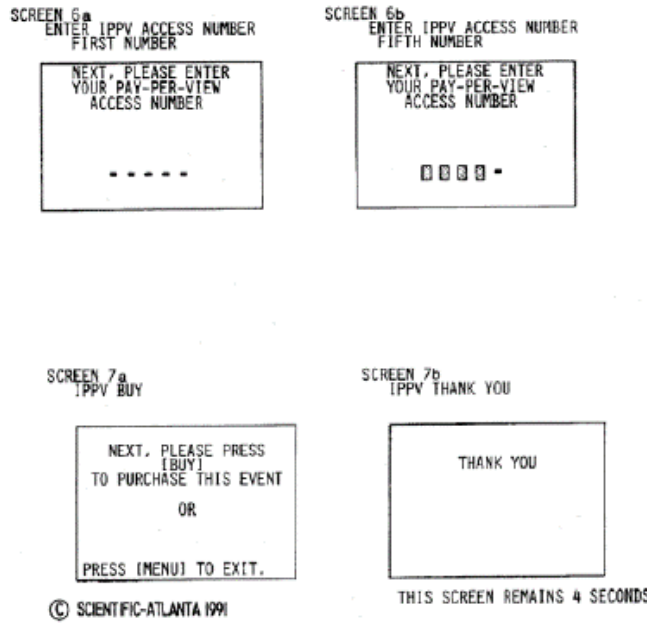
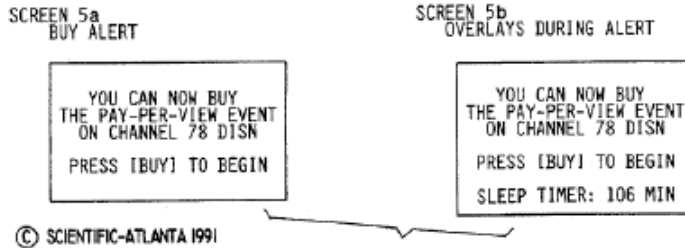


FIG.6F

Figures 6E (top) and 6F (bottom) illustrate 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 discussed how customers can be billed for using the subscription television terminal. *See id.* at 7:58–8:3, 12:1–15.

4. Gordon (Ex. 1017)

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. 1017, Abstract. Figure 8 of Gordon is reproduced below.



FIG. 8

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 [can] select[] a programming package [and] become[] a subscriber to that package and [will be] billed accordingly.” *Id.* at 2:61–63.

5. Martin (Ex. 1018)

Martin is titled “Remote Control Identifier Setup in a Video System Having Both IR and RF Transmitters,” and it describes “[a] video system is disclosed including a receiver that generates a remote identifier setup display on a television monitor and further including a remote control unit having a radio frequency transmitter and an infrared transmitter.” Ex. 1018, [54], Abstract. Petitioner relies on Martin for its teaching of remote control devices that transmit identifiers. *See* Pet. 67 (analysis of claims 11 and 21). As

explained by Martin, “[t]he video system enables a user to enter a remote control identifier for the radio frequency transmitter through the remote identifier setup display using the infrared transmitter.” Ex. 1018, Abstract.

6. *Blahut (Ex. 1019)*

Blahut is titled “Restricted Access Remote Control Unit,” and it describes a “device for restricting access to certain programs.” Ex. 1019, [54], Abstract. Blahut describes the use of remote control units (“RCUs”), as well as RCUs that may be used in an interactive television environment. Ex. 1019, 1:8–11. Petitioner relies on Blahut for its teaching of remote control devices that transmit identifiers. *See* Pet. 67 (analysis of claims 11 and 21).

E. Instituted Grounds of Unpatentability

Petitioner challenges claims 1–9, 11–19, and 21 of the ’326 patent based on the asserted grounds of unpatentability set forth in the following table. Pet. 3–4.

Asserted Grounds		
Reference(s)	Basis³	Claims Challenged
Murdock	§ 103(a)	1–7 and 12–17
Murdock and Banker or Gordon	§ 103(a)	8, 9, 18, and 19

³ The relevant section of the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, took effect on March 16, 2013. Because the application from which the ’326 patent issued was filed before that date, the pre-AIA statutory framework applies.

Asserted Grounds		
Reference(s)	Basis ³	Claims Challenged
Murdock and Martin or Blahut	§ 103(a)	11 and 21
Julia	§ 103(a)	1–7 and 12–17 ⁴
Julia and Banker or Gordon	§ 103(a)	8, 9, 18, and 19
Julia and Martin or Blahut	§ 103(a)	11 and 21

We instituted *inter partes* review of claims 1–9, 11–19, and 21 on all grounds set forth in the above table for these claims. Dec. 30.

II. ANALYSIS

A. *Level of Ordinary Skill in the Art*

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted). In that regard, Petitioner and Mr.

⁴ The Petition states at page 3 that “[a]ll challenged claims are unpatentable as obvious over Julia (Ex. 1015) alone,” but at page 45, and thereafter, the Petition only challenges claims 1–7 and 12–17 as obvious based on Julia alone. Because the Petition includes no substantive analysis of any claim other than claims 1–7 and 12–17, based on Julia alone, we read the Petition as challenging only claims 1–7 and 12–17 based on Julia alone. The Petition makes the same mistake for the ground based on Murdock alone. *See* Pet. 3, 18–32.

Schmandt contend that a person of ordinary skill in the relevant 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. 8 (emphases added) (citing Ex. 1023 ¶¶ 81–83). Patent Owner does not propose an alternative definition nor does Patent Owner respond to Petitioner’s proposal. *See generally* PO Resp.

Based on the final record, we adopt, with modification (e.g., removal of the qualifier “at least,” which broadens ordinary skill to include expert level knowledge and skill), Petitioner’s definition of a person of ordinary skill in the art:

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

in the field of multi-media systems including in particular speech recognition and control technologies.

We further note that the prior art in the instant proceeding reflects the level of ordinary skill in the art at the time of the invention. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). For example, as reflected in Julia, a person of ordinary skill in the art would have familiarity with “the navigation of electronic data by means of spoken natural language requests,” such that a user may “interact by means of intuitive natural language input not strictly conforming to the step-by-step browsing architecture of the existing navigation system.” *See Ex. 1015*, 1:16–20, 2:13–20.

B. Claim Construction

In an *inter partes* review based on a petition filed prior to November 13, 2018, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b) (2017); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard as the claim construction standard to be applied in an *inter partes* review proceeding). Under the broadest reasonable interpretation standard,⁵ claim terms generally are

⁵ The claim construction standard to be employed in an *inter partes* review recently has changed. *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Nov. 13, 2018) (codified at 37 C.F.R. pt. 42). That new standard, however, applies only to proceedings in which the petition is filed on or after November 13, 2018. This Petition was filed on December 19, 2017.

given their ordinary and customary meaning as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Petitioner proposes constructions for two terms: “speech recognition engine” and “STB.” Pet. 8–11. Patent Owner argues that “[t]he Board need not construe either of these terms because construction is unnecessary to resolve to dispute between the parties.” PO Resp. 8. We agree that the claim construction of these two terms is not necessary to resolve the current dispute.

Patent Owner instead proposes that one other term—“network path”—“must be construed to resolve the dispute between the parties.” *Id.* We agree. Patent Owner argues that “network path” should be construed as a physical route through which data is transmitted from a source to a destination. *Id.* at 8. Patent Owner notes that this was a “compromise” definition agreed to by the parties in district court litigation. *Id.* at 11 (citing Ex. 2039, 20). As discussed below, we agree with this “compromise” definition. Petitioner notes that adopting Patent Owner’s construction does not change the result. *See* Pet. Reply 10–11 (“Nevertheless, even under Patent Owner’s proposed construction, the prior art discloses the same ‘first network path’ and ‘second network path.’ Schmandt Reply Decl. ¶¶ 4-10.”).

The main claim construction issue arises in Patent Owner’s attempt to differentiate the asserted prior art from the claimed invention. Thus, examining the term “network path” requires not just consideration of the arguments made by Patent Owner in its claim construction section, but also a consideration of the arguments made to differentiate the prior art. A

point of contention between the parties is that Patent Owner additionally argues that the “network path” must have two nodes. For instance, Patent Owner argues a “network path” also requires a path or physical route between two nodes within a network. PO Resp. 8, 14–15. Patent Owner then adds an additional requirement, arguing that a “node” must be a device that can both send and receive messages. *Id.* at 17. Based on the final record before us, we do not agree with Patent Owner that a network path must have nodes that can both send and receive messages.

Petitioner argues that the “broadest reasonable interpretation of the claim term ‘network path’ in light of the specification is simply a path that a signal takes through a network of devices.” Pet. Reply 9 (citing Ex. 1033 ¶ 4). Petitioner contends that the “compromise” definition adopted in the related district court proceeding should not be adopted. *Id.* Petitioner then argues, that

[n]evertheless, even under Patent Owner’s proposed construction, the prior art discloses the same “first network path” and “second network path.” Schmandt Reply Decl. ¶¶ 4-10. Patent Owner’s proposed construction of “network path” is a “physical route through which data is transmitted from [a] source to [a] destination,” which a person of ordinary skill in the art would understand to include the network paths Petitioner identified in Murdock and Julia. *Id.*; Schmandt Decl. ¶¶ 259-261, 263-265, 394, 397-398.

Id. at 10–11. As addressed more below, we agree with Petitioner that Patent Owner’s proposed construction does not change the result here—the challenged

claims are invalid in view of the prior art under either proposed definition of “network path.”

The main dispute, as noted above, is not with Patent Owner’s basic proposed claim construction for “network path”—*a physical route through which data is transmitted from a source to a destination*—but instead with Patent Owner’s additional proposals that further restrict this limitation. *See* PO Resp. 11 (citing Ex. 2039, 20). In its analysis of the prior art, Patent Owner further requires that a “network path” must consist of “(1) a ‘path’ or physical route of travel between two nodes (2) within a ‘network.’” *Id.* at 14–15. Patent Owner then argues that Julia’s wireless remote cannot be a node on the network because it “cannot ‘receive[] messages from the network and . . . put messages on the network,’ . . . and thus cannot be a node under Schmandt’s definition.” *Id.* at 17 (citing Ex. 2034, 32:17–19); PO Sur-Reply 1. We disagree with this last point of contention.

We have considered the intrinsic evidence and find no support in the Specification for requiring every node to be capable of both receiving and sending messages on the network. First, we agree with Mr. Schmandt that a skilled artisan would have known that a “physical” route in a network “includes both wireline connections (e.g., signals traveling through wire, fiber-optic cable, etc.) and wireless connections (e.g., signals traveling through the air).” Ex. 1033 ¶ 8; *see also* Ex. 1001, Fig. 3 (illustrating the signal path from the user through the network and ultimately to the voice recognition processors), 9:42–51, 10:16–22. Second, the word “node” does not appear in the challenged claims of the ‘362 patent. Third, even if nodes were required, the Specification reveals that the wireless connection between the remote and set-top box

can be bi-directional or “strictly from remote control 1000 to set-top box or appliance 1100.” Ex. 1001, 10:63–67; *see also id.* at 26:13–15 (“The invention supports *unidirectional* communication via coupling 1002, supporting communicative transfer from the remote 1000 via coupling 1002 to set-top apparatus 1100.” (emphasis added)), 28:36–41 (a node “may also support bi-directional communication” but does not otherwise suggest that such a requirement would be necessary in all situations).

Mr. Schmandt’s clarifying testimony is also persuasive.

Patent Owner’s argument appears to interpret my testimony to define a “node” as something that both puts messages on the network and also receives messages from the network. In my opinion, that is not a reasonable reading of my testimony particularly in light of my explanation that a network includes nodes that are endpoints. In the context of the ’326 Patent and the cited prior art, such end points include the television remote control and the television (i.e., nodes with only one path into it).

Ex. 1033 ¶ 15. We agree with Mr. Schmandt that nothing in the record limits a node to a device that both sends and receives messages because “[a] person of ordinary skill in the art would understand that a ‘network’ includes unidirectional nodes (i.e., nodes that send or receive messages but not both).” *Id.* ¶ 17.

Accordingly, we agree with Patent Owner that a “network path” means *a physical route through which data is transmitted from a source to a destination*. We do not agree with Patent Owner that a “network path”

also requires nodes that both send and receive messages. Based on our review of the final record before us, we determine that no additional claim terms require express construction to resolve the controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017); *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (holding that only claim terms that “are in controversy” need to be construed and “only to the extent necessary to resolve the controversy”).

C. Obviousness

1. General Principles

A claim is unpatentable under § 103(a) if the differences between the claimed subject matter “and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, objective indicia of non-obviousness (i.e., secondary considerations). *Graham v. John Deere Co.*, 383 U.S. 1, 17– 18 (1966).

An invention “composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Rather, to establish obviousness, it is peti-

tioner’s “burden to demonstrate both that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016) (quotations omitted); see *KSR*, 550 U.S. at 418. Moreover, a petitioner cannot satisfy this burden by “employ[ing] mere conclusory statements” and “must instead articulate specific reasoning, based on evidence of record” to support an obviousness determination. *Magnum Oil*, 829 F.3d at 1380. Stated differently, there must be “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). The “factual inquiry” into the reasons for “combin[ing] references must be thorough and searching, and [t]he need for specificity pervades” *In re NuVasive, Inc.*, 842 F.3d 1376, 1381–82 (Fed. Cir. 2016) (quotations omitted). We analyze the asserted grounds with these principles in mind.

2. *Obviousness Ground Based on Julia Alone*

Petitioner contends that claims 1–7 and 12–17 are unpatentable over Julia under 35 U.S.C. § 103(a), relying on the supporting testimony of Mr. Schmandt. Pet. 45–59 (citing Ex. 1023). For the reasons set forth above and below, Petitioner’s explanations and evidence establish by a preponderance of the evidence that claims 1–7 and 12–17 would have been obvious pursuant to this ground. We begin our analysis with an overview of the parties’ contentions related to independent claims 1 and 12, followed by our analysis

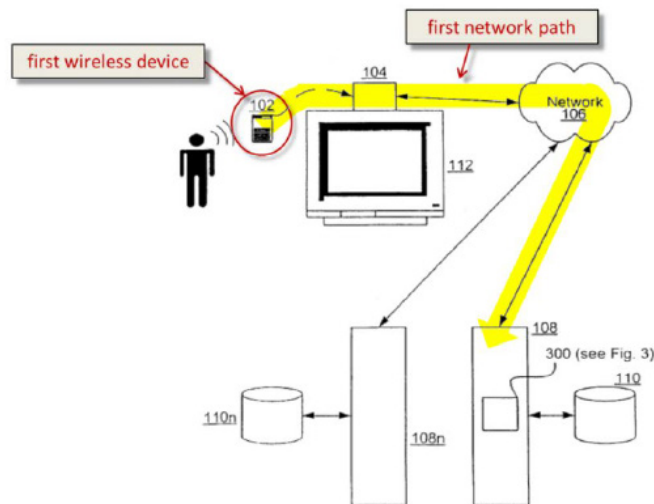
for claims 1 and 12. We then address the parties' contentions related to the remaining claims, followed by our analysis.

i. Petitioner's Challenge (Claims 1 and 12)

In challenging claim 1, Petitioner notes that "both the '326 patent and Julia specifically relate to remote recognition of voice commands for a cable television client device." Pet. 59 (citing Ex. 1001, 5:10–13; Ex. 1015, 2:30–36). Petitioner submits that "Julia discloses a method for speech directed information delivery." Pet. 45 (citing Ex. 1023 ¶ 390). Petitioner points to Julia's disclosure of "a system, method, and article of manufacture for navigating network-based electronic data sources in response to spoken input requests." *Id.* (quoting Ex. 1015, 2:27–30). Julia receives spoken requests and interprets the request in order to "automatically construct[] an operational navigation query to retrieve the desired information from one or more electronic network data sources." *Id.* (quoting Ex. 1015, 2:36–41).

Petitioner identifies the claimed receiving speech information at a first device, wherein said first device is a wireless device of claim 1 as being taught by Julia's "'voice input device 102' (in Fig. 1a), which constitutes a 'first device' that is 'wireless' and 'receiv[es] speech information.'" *Id.* at 46 (quoting Ex. 1023 ¶ 392; Ex. 1015, 3:45–54). According to Petitioner, Julia's "voice input device 102 is a 'portable remote control device with an integrated microphone, and the voice data is transmitted from device 102 preferably *via infrared (or other wireless) link* to communications box 104.'" *Id.*

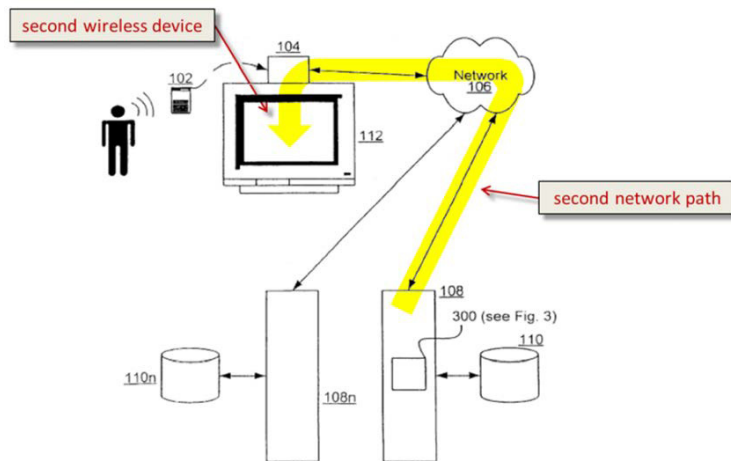
Claim 1 next requires “transferring said speech information from said first wireless device via a first network path to a speech recognition engine.” Petitioner contends that Julia teaches “transmitting spoken commands (i.e., the claimed ‘speech information’) from voice input device 102 to communications box 104 and then over network 106 to remote server 108 for speech recognition processing.” Pet. 47 (quoting Ex. 1015, 3:45–66 (“[T]he voice data is processed by request logic 300 in order to understand the user’s request and construct an appropriate query or request for navigation of remote data source 110.”)). Petitioner next contends that “request processing logic 300’ located at remote server 108 constitutes a ‘speech recognition engine,’ as recited in the claim.” *Id.* at 47 (citing Ex. 1023 ¶ 394). To illustrate these positions, Petitioner submits annotated versions of Julia’s Figure 1a (*id.* at 47–50), copies of which we reproduce below:



Julia Fig. 1a (annotated)

Petitioner’s annotated Figure 1a (Pet. 48) depicts a first wireless device and first network path. Petitioner identifies the first network path disclosed by Julia from voice input device 102 through communications box 104 and then over network 106 to remote server 108 for speech processing logic 300. Pet. 47–48 (citing Ex. 1015, 3:45–66).

As for the claimed “recognizing said speech information and effecting information delivery to a second device via a second network path,” Petitioner relies on “Julia disclos[ing] transmitting programming content (i.e., ‘effecting information delivery’) from the remote server computer to the local processing unit and then to the television display (i.e., ‘second device’).” Pet. 49 (quoting Ex. 1023 ¶ 397). Petitioner relies on a second annotated Figure 1a as further illustrating the “second network path” from the speech recognition engine to the viewer’s television:



Julia Fig. 1a (annotated)

Petitioner’s annotated Figure 1a (Pet. 50) depicts a highlighted second network path leading to client display device 112, which Petitioner identifies as the claimed second device. Relying on the testimony of Mr. Schmandt, Petitioner identifies the second network path as the path “transmitting requested content from remote server 108 through network 106 to communications box 104 and ultimately to client display device 112.” Pet. 50 (citing Ex. 1015, 3:45–66; Ex. 1023 ¶ 397).

Petitioner addresses the contention that input device 102 is not in the network path by arguing that

Julia discloses that “voice data is transmitted from voice input device 102 . . . to communications box 104” and the “voice data is then transmitted across network 106 to a remote server or servers 108” for speech recognition processing. Ex. 1015, 3:45–55, 61–66. Thus, the voice input device is the source of the voice data and remote server 108 is the destination. The path between them (illustrated above) is the “first network path” even under Patent Owner’s proposed construction. Schmandt Reply Decl. ¶ 6.

Pet. Reply 13–14. Petitioner next argues in Reply that Julia’s voice input device need not be considered a node on the network, because “the word ‘node’ does not appear in any of the challenged claims or even in Patent Owner’s proposed construction of ‘network path.’” *Id.* at 14. Petitioner points out that Patent Owner attempts “to make ‘node’ relevant to ‘first network path’ by citing a proposed construction from related litigation that includes the word ‘node’—a proposal that Patent Owner itself opposed and that was never agreed to or adopted.” *Id.* Petitioner further contends that

“[t]here is simply no basis to apply Patent Owner’s unreasonable alternative construction of a ‘network path,’ [which] exclude[s] any device that does not both transmit and receive messages.” *Id.* at 14–15.

Petitioner relies on the testimony of Mr. Schmandt, who states “that a network includes nodes that are endpoints,” such as “the television remote control and the television.” Ex. 1033 ¶ 15. Mr. Schmandt similarly testifies that

I certainly do not understand, and one of ordinary skill in the art would not understand, that a node is limited to a device that both sends and receives messages, and I did not interpret the term “network path” in the challenged claims to exclude devices that cannot both send and receive messages. It would be unreasonable to impose such a limitation. A person of ordinary skill in the art would understand that a “network” includes unidirectional nodes (i.e., nodes that send or receive messages but not both). For example, a person of ordinary skill in the art would understand televisions in a broadcast television network to be network nodes (i.e., part of the network) though they only receive television signals. Similarly, a person of ordinary skill in the art would understand that video cameras are part of a security network though they only transmit data to the central location.

Id. ¶ 17; Pet. Reply 14–15. As explained more below, we find Mr. Schmandt’s testimony as to this issue persuasive.

Petitioner also relies on the Specification of the ’326 patent, “which states that the wireless connection

between the remote and settop box can be bi-directional or ‘strictly from remote control 1000 to set-top box or appliance 1100.’” Pet. Reply 15 (quoting Ex. 1001, 10:63–67). “Thus,” according to Petitioner, “the remote is in the ‘first network path’ even though it can be a unidirectional device.” *Id.* at 15–16.

“Petitioner also identified an alternative ‘second network path’ in Julia from remote server 108 (source) through network 106 to communications box 104 (destination). Pet. at 50; Schmandt Decl. ¶ 398; Schmandt Reply Decl. ¶ 6,” and Petitioner contends that “Patent Owner appears to concede that this path constitutes a ‘second network path’ as claimed.” Pet. Reply 17.

Claim 12 is similar in scope to claim 1, whereas claim 12 also requires “[a] method for speech directed information delivery,” and an identical “receiving speech” step. *See* Pet. 55; Ex. 1001, 50:29–54. The “transferring” step of claim 12 is nearly identical to the “transferring” step of claim 1 with only one difference being that claim 12 states that the speech information is transferred from the first device “in an unrecognized state.” *See id.* Petitioner relies on Julia’s user’s voice command being transmitted to the remote server for speech recognition processing. Pet. 56 (citing Ex. 1015, 3:45–66). “Thus,” according to Petitioner, “Julia discloses ‘transferring said speech information in an unrecognized state.’” *Id.* (citing Ex. 1023 ¶ 426).

The “recognizing” limitations of claim 12 overlap substantially with the same limitations of claim 1. “The only difference is that claim 12 recites that the second device ‘is capable of displaying electronically coded and propagated moving or still images and playing electronically coded and propagated audio.’” *Id.* at 56–57 (citing Ex. 1023 ¶ 71). Petitioner relies on

Julia’s disclosure of client display device 112 (television) for the “second device,” or controlled device. *Id.* (citing Ex. 1023 ¶¶ 428–429). Relying on the testimony of Mr. Schmandt, Petitioner reasons that “[a] person of ordinary skill in the art would have known that a television, in the cable network implementation of Julia, was “capable of displaying electronically coded and propagated moving or still images and playing electronically coded and propagated audio.” *Id.* at 57 (quoting Ex. 1023 ¶ 429). Notably, Patent Owner does not specifically challenge any of the unique limitations found in claim 12, and, as such, we examine claims 1 and 12 concurrently.

As explained below, we find Petitioner’s contentions persuasive, notwithstanding Patent Owner’s arguments set forth, and addressed, below.

ii. Patent Owner’s Argument (Claims 1 and 12)

Patent Owner presents arguments in contesting Petitioner’s challenge to claims 1 and 12, and more specifically, whether Julia teaches a first and a second network path. PO Resp. 14–18. In particular, Patent Owner first argues that it does not matter that the two identified paths begin and end at different endpoints because “under the plain meaning of the claim language, those points must be on the network.” *Id.* at 14. Patent Owner contends that Julia’s “device 102” (first wireless device) is actually “outside the network” and Petitioner fails to identify any disclosure of the remote being inside the network. *Id.* at 14–15 (“the network connection ends at element 104”).

As for the claimed “second network path,” Patent Owner further alleges that television 112 is outside the network. *Id.* at 15. According to Patent Owner, “the network connection ends at element 104,” and as

such, “both of the ‘paths’ identified by the petition have **the same** endpoints— element 104 and element 108.” *Id.* at 16. Patent Owner further argues “that the wireless microphone (el. 102) and element 112 are not part of a network,” because a network path requires a path or physical route of travel between two nodes within a network, and these nodes must all be capable of receiving messages from the network and putting messages on the network. *Id.* at 16–17 (citing Ex. 2034, 32:17–19). Patent Owner contends that “Julia only discloses that communication box 104, not the wireless microphone or device 112, is connected to network 106 and can receive messages and put messages on the network.” *Id.* at 17 (citing Ex. 1015, 3:47–55, 4:25–30).

Similarly, Patent Owner contends the Petition fails to establish that Julia’s wireless microphone is a node on the network. *Id.* According to Patent Owner, “[b]ecause Julia only discloses that the voice input device has transmission (and not reception) capabilities, it clearly cannot ‘receive[] messages from the network and . . . put messages on the network,’ and thus cannot be a node under Schmandt’s definition. Ex. 2034 at 32:17-19.” *Id.* at 17; *see also id.* at 17–18 (“[T]he petition does not assert that the television can ‘receive[] messages from the network and can put messages on the network,’ Ex. 2034 at 32:17-19, and thus failed to show the television is node under Schmandt’s definition.”). As explained above in the claim construction analysis, we reject this narrow interpretation of “network path.”

In its Sur-Reply, Patent Owner similarly argues that the voice input device and display device of Julia are not part of a network path because these devices are not nodes on a communication network. PO Sur-

Reply 4–7. Patent Owner analogizes that while a keyboard can input text into an email and a monitor is capable of displaying this information, neither device would be considered part of the network because they cannot send and receive messages. *Id.* at 4. According to Petitioner, Julia’s voice input device 102 is not on network 106 because the endpoint is communications box 104. *Id.* at 5–6. Likewise, for the second network path, Patent Owner argues that display device 112 is not an endpoint because “in Julia, it is the communications box 104, not display device 112, that receives the network messages.” *Id.* at 7. Thus, Patent Owner concludes that “the Petition fails to establish that Julia discloses the claimed first and second network paths because it fails to prove that the remote and the controlled device are nodes on a communication network, which its mappings would require.” *Id.* at 7–8.

iii. Secondary Considerations

Patent Owner’s Contentions

Patent Owner contends that “several objective indicia based on the success and acclaim of an AgileTV system embodying the invention of the ’326 patent provide compelling additional evidence that the challenged claims were nonobvious.” PO Resp. 21. Patent Owner relies on the purported success of AgileTV’s (the assignee of the ’326 patent) system using “a voice-enabled search and navigation solution for the cable industry.” *Id.*

Citing the Chaiken Declaration, Patent Owner first alleges that the “AgileTV system embodies the invention disclosed and claimed in the ’326 patent.” *Id.* at 24–25 (citing Ex. 2032 ¶¶ 8–12, 13–16). Mr. Chaiken testifies that “[t]he embodiments described

in the '326 patent describe the foundations of the design of the AgileTV solution,” and “[t]he '326 patent describes the initial architecture of the AgileTV solution, which was subsequently extended and improved by AgileTV.” Ex. 2032 ¶ 14. Patent Owner also contends that “[t]he specification of the '326 patent further describes the AgileTV solution at the time of the '326 patent, including the AgileTV Speech Processor, the AgileTV Voice Processing Unit (AVPU), and a similar depiction of the system architecture.” PO Resp. 25.

Patent Owner alleges that “[u]nlike existing speech recognition methods and systems, the '326 patent teaches using a first network path to transfer speech information to a speech recognition engine, which recognizes the speech information and effects information delivery via a second network path.” *Id.* (citing Ex. 1001, 22:8–12, 23:63–24:3). According to Patent Owner, “the evidence of objective indicia of nonobviousness similarly relates to these same features of the AgileTV system that were used to provide voice recognition processing for users in a cable television network.” *Id.* Patent Owner contends “[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.” *Id.* at 27 (emphasis added). Thus, Patent Owner asserts a nexus exists between the AgileTV systems and the claimed invention.

Patent Owner next claims that “[t]here was a long-felt but unmet need for using voice recognition in cable systems, and the AgileTV system successfully satisfied this need in Comcast’s own network.” *Id.* (emphasis omitted). According to Patent Owner,

there was an unmet need “for using voice recognition in cable systems,” and “[p]revious tools for navigating the large amounts of content in cable systems were unwieldy and impractical.” *Id.* (citing Ex. 2032 ¶¶ 6–8). Patent Owner alleges that “prior to AgileTV’s solution, no one had provided voice recognition processing for multiple users in a cable television network using an architecture including the claimed invention of the ’326 patent.” PO Resp. 28. Patent Owner alleges that the AgileTV system satisfied the long-felt but unmet need and was successfully implemented, such as through demonstrations and field trials in Comcast’s cable network system and for other potential customers. *Id.* Patent Owner’s evidence in support of this contention consists of citation to Mr. Chaiken’s Declaration and to a 2005 online article (Ex. 2040), which states that AgileTV was “the first company to bring voice-activated remotes and program guide[s] to market.” *Id.* (quoting Ex. 2040 (*Hey, Remote: Find ‘Seinfeld’*, Steve Donahue, (dated Jan. 23, 2005))).

Patent Owner next contends that “the AgileTV system was widely praised within the cable industry because it provided advantages that previously were unavailable.” PO Resp. 29 (citing Ex. 2032 ¶¶ 17–25). Patent Owner points to AgileTV’s alleged “Most Innovative Solution Award” from Speech Technology Magazine. *Id.* (citing Ex. 2009, 3). Exhibit 2009, discussed in more detail below in relation to Petitioner’s Motion to Exclude, is an internal email purporting to be a communication related to a potential AgileTV press release discussing the “Most Innovative Solution Award.” *See* Ex. 2009, 1 (“first draft of the AgileTV Speech Technology award press release”).

Patent Owner also cites the appearance of AgileTV's former CEO (Paul Cook) and CTO (Harry Printz) to the Kudlow & Cramer television show on CNBC in 2004 to talk about the AgileTV solution and to demonstrate the technology. PO Resp. 29 (citing Ex. 2032 ¶ 23; Ex. 2018; Ex. 2019). Patent Owner also relies on “[a] study of Comcast by the Buckingham Research Group in May 2005.” *Id.* at 30 (citing Ex. 2032 ¶ 24; Ex. 2020, 7).

Patent Owner also alleges that Comcast praised the AgileTV system. PO Resp. 30. Patent Owner points to a request by Comcast to deploy AgileTV's “voice recognition solution into portions of Comcast's cable network,” and Comcast further allegedly “requested AgileTV to demonstrate its solution for Comcast's management and even Senators.” *Id.* (citing Ex. 2032 ¶¶ 19–21; Ex. 2011; Ex. 2012; Ex. 2013; Ex. 2014). Patent Owner further contends that “Comcast expressed an intent to invest in AgileTV and deploy the AgileTV solution for Comcast's 21 million subscribers.” *Id.* at 31 (citing Ex. 2032 ¶ 21; Ex. 2015). Patent Owner also relies on a license agreement with Comcast, claiming “that Comcast itself previously licensed the AgileTV solution, including rights to what is now the '326 Patent.” *Id.* at 32 (citing Ex. 2032 ¶ 27; Ex. 2022 (“License and Development Agreement”); Ex. 2023 (“Marketing Trial Agreement for Voice Activated Television Control Service”). The agreements provide Comcast with rights to use the AgileTV solution internally and to run trials of the system. *Id.* at 32–33. Patent Owner presents evidence that the AgileTV solution was tested by Comcast, with test market households receiving “a voice-activated remote, the Promptu receiver, an installation DVD, quick start guide, user's guide, and voice reference card.” *Id.* at

33 (citing Ex. 2032 ¶¶ 31–32; Ex. 2026; Ex. 2027; Ex. 2028; Ex. 2029).

Patent Owner next claims that “Comcast copied the claimed invention.” PO Resp. 33. Patent Owner alleges that after the field trials of the AgileTV solution, Comcast did not take a longer-term license, and thereafter began marketing its own voice recognition product. *Id.* (citing Ex. 2032 ¶ 33). Patent Owner contends that “Comcast’s implementation of voice recognition in its X1 System is practically identical to the AgileTV solution installed in Comcast’s cable network in the mid-2000s.” *Id.* at 33–34. Patent Owner claims that “Comcast’s X1 System practices the invention claimed in the ’326 patent.” *Id.* at 34 (citing Ex. 1021, 83–103). Patent Owner’s proof of copying are district court “initial claim charts” (Ex. 1021, 83) and Exhibit 2026, which is an instructional video for “Promptu Voice Controlled Television” for Comcast Cable.

Patent Owner also contends that the AgileTV solution was commercially successful because it raised millions in investment funding. PO Resp. 31–32 (citing Ex. 2032 ¶ 26; Ex. 2002, 3; Ex. 2003, 34; Ex. 2021, 1–2).

Petitioner’s Contentions

Petitioner contends that Patent Owner has failed to “establish a nexus between its evidence and any novel features of the challenged claims.” Pet. Reply 19 (emphasis omitted). Petitioner disagrees that a nexus should be presumed because Patent Owner has not established that the AgileTV product embodies the claimed invention. *Id.* at 19–20. Petitioner attacks Patent Owner’s supporting evidence. Petitioner notes that “Patent Owner relies on a conclusory dec-

laration by its former CTO David Chaiken and a figure Patent Owner asserts is in the '326 Patent's provisional application, but which does not actually appear in the provisional application (or any of Patent Owner's other exhibits). *Id.* Petitioner contends that Mr. Chaiken's testimony is insufficient because he makes no attempt to show that the elements of the challenged claims were embodied in the AgileTV product or that it was "coextensive" with the challenged claims. Pet. Reply 19, n.8 (citing Ex. 2032 ¶¶ 14–16). Petitioner also alleges that Mr. Chaiken "never attempted to determine the scope of the challenged claims." *Id.* (citing Ex. 1028, 115:2–116:16).

Petitioner next argues that Patent Owner does not attempt to identify any purportedly novel aspect of the claims tied to its evidence of secondary considerations. Pet. Reply 20. Specifically, Petitioner argues:

Rather, it asserts that the challenged claims were "[u]nlike existing speech recognition methods and systems" because the patent "teaches using a first network path to transfer speech information to a speech recognition engine, which recognizes the speech information and effects information delivery via a second network path." PO Resp. at 25. Patent Owner makes no attempt to tie its secondary considerations evidence to these purportedly novel aspects of the claims

Id. at 20–21. Petitioner also contends that the purported invention was known in the prior art, for example, "Julia discloses transmitting voice commands on a first network path to a speech recognition engine that recognizes and transmits content back on a second network path." *Id.* at 21.

Petitioner next challenges the contention that the AgileTV system satisfied a long-felt but unmet need. Pet. Reply 22. Petitioner makes the point that the only evidence of long-felt need is testimony that the problem arose as early as 2000, which was the same year that the provisional application cited by the '326 patent was filed. *Id.* Petitioner reasons that the need could not be long-felt if the need arose in 2000 and was met in the same year. *Id.* Petitioner further argues that “Patent Owner offers no evidence to show that the alleged “long-felt need” was “persistent” and not already satisfied by the prior art. *Id.* Petitioner also argues that the “long-felt need” could not have been satisfied by the AgileTV product in Comcast’s own network because “Comcast undisputedly rejected it.” *Id.* at 22–23 (citing Ex. 1027, 215:13–217:7; Ex. 1028, 70:19-71:8).

Petitioner next contends that any evidence of industry praise is not tied to any novel feature of the challenged claims, and should therefore be discounted. Pet. Reply 23–24. Petitioner points out that the recognition given by a report by Buckingham Research Group (Ex. 2020, 7) is directed to the ease of voice recognition searches, yet numerous prior art references of record already taught the same features. *Id.* at 23. Likewise, Petitioner contends that Comcast’s “praise[] of the AgileTV product suffers the same defect—the cited statements all relate to spoken search functionality in the prior art.” *Id.*

As for the purported award by “Speech Technology Magazine,” Petitioner contends there is no supporting evidence of such an award except a self-congratulatory press release without any evidence of an actual award. *Id.* (citing Ex. 2009, 1–2). Further, the Petitioner argues that “the press release credits aspects of

the AgileTV system not in the challenged claims.” *Id.* at 23–24. Petitioner also questions the alleged industry praise from a trial conducted in just 10 homes over a month period (Ex. 2010, 5) because the summary of this trial “shows only that an extremely limited test did not fail—not ‘industry praise.’” *Id.* at 25.

Petitioner next argues that the challenged claims are not commercially valuable and that the invention has not been commercially successful. Pet. Reply 25. Petitioner first notes that “Comcast’s payment under the License and Development Agreement was a loan that Patent Owner later repaid in full.” *Id.* (citing Ex. 1027, 156:5–12, 160:20–161:2). Petitioner then notes that Comcast declined to license Patent Owner’s patents and “[a]fter failing to win Comcast’s business, Patent Owner dropped its television product and shifted to an automobile product instead.” *Id.* Petitioner also notes that Comcast did not license the challenged claims, but instead conducted a limited evaluation of the AgileTV product. *Id.* at 26 (Ex. 2022, 8). Notably, Petitioner points out that “[t]he license required ‘no additional consideration’ for all of Patent Owner’s then-pending patent applications and four SRI patents.” *Id.* (citing Ex. 2022, 77–78 (Exhibit E); Ex. 1036, 450:25–452:19). Further, Petitioner notes that “[t]he license shows no ‘recognition and acceptance’ of the challenged claims because they did not yet exist.” *Id.* (citation omitted).

Petitioner argues that the investment funding received was for two distinct products and nothing mentions particular patents or claimed features of the television product that would tie any investment to the challenged claims. Pet. Reply 25 (citing Ex. 2003, 34; Ex. 2002, 3; Ex. 2021, 1–2). Petitioner also notes that

Patent Owner has cited no legal authority that investment funding is a secondary consideration of nonobviousness regarding a patent issued to the company years later. *Id.* n.11.

As for alleged copying, Petitioner argues that the only evidence presented are district court preliminary infringement contentions, and infringement contentions standing alone are not sufficient evidence of copying. Pet. Reply 27. As explained below, we agree with Petitioner that Mr. Chaiken’s testimony that “unidentified ‘acquaintances’ saying ‘they confused Comcast’s functionality with the AgileTV solution’ from ten years earlier,” is impermissible hearsay, to which we give no weight. *Id.* (citing Ex. 2032 ¶ 34).

iv. Analysis (claims 1 and 12)

Based on the final record before us, and notwithstanding Patent Owner’s arguments and evidence, we find Petitioner’s contentions with respect to claims 1 and 12 persuasive. Considering the evidence as a whole, including Patent Owner’s evidence of objective indicia of nonobviousness, we determine that Petitioner has established by a preponderance of the evidence that claims 1 and 12 would have been unpatentable as obvious over Julia.

Petitioner persuasively shows on the final record that a person of ordinary skill in the art would have understood Julia’s disclosure of voice input device 102 acts as the claimed “first device” for receiving spoken commands, or speech information, wherein voice input device 112 is a wireless device. Pet. 45–46; Ex. 1015, 3:45–54; Ex. 1023 ¶ 392.

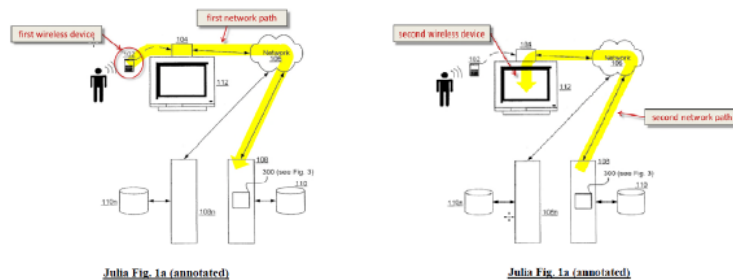
Claims 1 and 12 next require “transferring said speech information from said first wireless device via a first network path to a speech recognition engine,”

and we are persuaded by Petitioner’s contention that “Julia describes transmitting spoken commands (i.e., the claimed ‘speech information’) from voice input device 102 to communications box 104 and then over network 106 to remote server 108 for speech recognition processing.” Pet. 47 (citing Ex. 1015, 3:45–66, Fig. 1a; Ex. 1023 ¶ 394).

As explained above in the claim construction analysis, we disagree with Patent Owner’s contentions that a “network path” requires devices that both send and receive messages. *See, e.g.*, PO Resp. 17 (“Julia only discloses that communication box 104, not the wireless microphone or device 112, is connected to network 106 and can receive messages and put messages on the network.”). We find Mr. Schmandt’s testimony more persuasive in opining that “one of ordinary skill in the art would not understand[] that a node [on a network path] is limited to a device that both sends and receives messages, and I did not interpret the term ‘network path’ in the challenged claims to exclude devices that cannot both send and receive messages.” Ex. 1033 ¶ 17. Further, we agree with Petitioner that the network contemplated within the ’326 patent includes unidirectional nodes (i.e., nodes that send or receive messages but not both). Petitioner also has persuasively shown that a physical route in a network includes both wireline connections and wireless connections. *See* Ex. 1033 ¶¶ 7–10; Ex. 1001, 50:39–41 (“said first device is a wireless device”).

Given Patent Owner’s proposed basic construction of “network path,” i.e., physical route through which data is transmitted from a source to a destination, which we have adopted, a person of ordinary skill in the art would understand such a route to include the

network paths Petitioner identified in Julia. Petitioner's annotated Figure 1a (Pet. 48, 50) of Julia and corresponding analysis explain how Julia teaches both a first wireless device and first network path, as well as a second network path leading to display device 112, which Petitioner identifies as the claimed second device.



Petitioner's annotated Figures 1a (Pet. 21, 22) of Julia depicting a first network path and second network path. Julia discloses that the user's speech commands are transmitted from the first wireless device (input device 102) to communications box 104 and then over network 106 to remote server 108 for speech recognition processing. Ex. 1015, 3:45–66. As illustrated above, we agree with Petitioner that the path from input device 102 through communications box 104 and then to remote server 108 for speech recognition processing constitutes the claimed "first network path." See Ex. 1023 ¶ 397.

With regard to Patent Owner's first arguments, we are not persuaded that input device 102 is outside the network within the first network path identified by Petitioner. Patent Owner argues that input device 102 is not in the network path because "element 102 is not included in network 106." PO Resp. at 15. We disagree because Julia teaches that "voice data is transmitted from device 102 preferably via infrared

(or other wireless) link to communications box 104 (e.g., a set-top box or a similar communications device that is capable of retransmitting the raw voice data and/or processing the voice data) local to the user's environment and coupled to communications network 106" for transmission across network 106. Ex. 1015, 3:45–55. Communications box 104 simply retransmits the raw voice data (or processes it) that has originated from device 102. "Thus," we agree with Petitioner that "the voice input device is the source of the voice data and remote server 108 is the destination." Pet. Reply 14 (citing Ex. 1033 ¶ 6). We agree with Petitioner that the path between them (illustrated above) is the "first network path," even under Patent Owner's proposed construction. See Ex. 1033 ¶¶ 5–6. Petitioner has presented persuasive evidence and testimony from Mr. Schmandt explaining why these claim elements are taught by Julia. See Pet. Reply 12–16; Ex. 1023 ¶¶ 394, 426; Ex. 1033 ¶¶ 5–6.

Patent Owner additionally argues that the device 112 (television) is outside the network, and thus not part of a second network path as required by claims 1 and 12. PO Resp. 15–16 ("Petitioner draws a television 112, which is outside the network, as being inside the network."). We also find this argument unpersuasive to rebut Petitioner's contentions on the final record. Claim 1 and 12's final limitation requires "recognizing said speech information and effecting information delivery to a second device via a second network path." We agree with Petitioner that "Julia discloses that '[a]t remote server 108, the voice data is processed by request processing logic 300 in order to understand the user's request' and the requested content 'is electronically transmitted via network 106 to the user for viewing on client display device 112.'" Pet. Reply 16 (quoting Ex. 1015, 3:61–66, 4:18–20).

Patent Owner again suggests that because communications box 104 acts as a transfer, that somehow display device 112 cannot be considered the destination of the second network path. But, considering the plain meaning of the claim language, Patent Owner's arguments do not persuasively explain why display device 112 would be outside the second network path identified by Petitioner. Claim 1 requires "effecting information delivery to a second device via a second network path" and this operation is taught by Julia as Petitioner and Mr. Schmandt explain. *See* Ex. 1023 ¶¶ 397–398; Pet. Reply 16; Ex. 1033 ¶ 6.

Further, Petitioner also identified an alternative "second network path" in Julia from remote server 108 (source) through network 106 to communications box 104 (destination). Pet. 50; Ex. 1023 ¶ 398 (explaining that alternatively the communications box also constitutes a "second device" as claimed); Pet. Reply 17. Patent Owner does not persuasively address this alternative. *See* generally PO Resp. To the contrary, Patent Owner states that "the network connection ends at element 104" and element 104 is part of the network. PO Resp. 15, 17–18.

We have considered the evidence presented by both parties related to the objective indicia of nonobviousness. Considering the final record before us, we find the evidence of nonobviousness to be weak and the evidence of obviousness to be strong. On balance, the strong evidence of obviousness outweighs the weak evidence of nonobviousness.

Patent Owner contends that its AgileTV system has been commercially successful and received industry praise. We address each of these considerations below, but at the outset, we are not persuaded that Patent Owner has established that its AgileTV system

embodies the claimed invention. Patent Owner proceeds as if there is a presumption that because both the AgileTV system and the '326 patent relate to voice-enabled searching, a nexus must therefore exist between the product and the patent in that whatever is claimed is embodied in the product. *See* PO Resp. 24–27. That is inappropriate.

Although the AgileTV system had many attributes related to a voice-enabled search and navigation system, it simply cannot be presumed that what is claimed is what is in the commercial product. Also, the patent claims focus not just on voice-enabled search and navigation features, but also on a defined first and second network path. Specifically, Patent Owner does not persuasively show how the commercial AgileTV system performed “transferring said speech information from said first wireless device via a first network path to a speech recognition engine,” and then “recognizing said speech information and effecting information delivery to a second device via a second network path.” *See* Ex. 2032 ¶¶ 8–16.

To establish the relationship between the claims of the '326 patent and the AgileTV system, Patent Owner relies on two pieces of evidence—we address each below. The first is a declaration by its former CTO David Chaiken (Ex. 2032 ¶¶ 8–12, 13–16). The second is a figure (PO Resp. 23, 26) Patent Owner asserts is in the '326 patent's provisional application. This figure purports to show how “voice data could be received by the Agile Engine [Agile TV platform] over a first path (in blue), which could effect the video on demand content provided from the VOD server over a second path (in red).” PO Resp. 22. We first address this figure and then Mr. Chaiken's testimony.

We are not persuaded that the Patent Owner has persuasively established that the figure appearing at pages 23 and 26 of Patent Owner's Response depicts a commercial embodiment of the AgileTV system. First, Patent Owner alleges this figure is found in Exhibit 2006 (provisional application file history), but Exhibit 2006 has no such figure. Thus, this figure does not actually appear in the provisional application (or any of Patent Owner's other exhibits in this proceeding). *See* Ex. 2006. Patent Owner later clarifies that the figure appearing at pages 23 and 26 of Patent Owner's Response "actually comes [from] the provisional application for the '538 Patent," and it "show[s] the architecture of the AgileTV system created by AgileTV in 2001." PO Sur-Reply 20–21, n.5. Regardless, Patent Owner has not persuasively shown the relevance of this figure. Apart from the attorney argument quoted above, Patent Owner also has not presented persuasive evidence showing that the AgileTV system actually implemented the architecture depicted in the figure found at page 23 of the Response. *See* Sur-Reply 20–21; *see also* PO Resp. 22–26; Ex. 2032 ¶¶ 9–16 (citing no evidence to support his testimony related to the function of AgileTV and not discussing Exhibit 2006 or the figure at page 23 of the Response). Patent Owner simply failed to tie the figure appearing at pages 23 and 26 of Patent Owner's Response to any commercially produced version of the AgileTV system for which Patent Owner now alleges commercial success, industry praise, and copying.

Mr. Chaiken's testimony regarding the AgileTV system fares no better because he has not explained sufficiently or shown that the commercial AgileTV system relied upon for commercial success, praise, and copying, is covered by any challenged claim. *See*

Ex. 2032 ¶¶ 8–16. He testifies that “[t]he embodiments described in the ’326 patent describe the foundations of the design of the AgileTV solution,” and “the architecture and solution described in the ’326 patent accurately reflect the AgileTV solution by 2003.” *Id.* ¶¶ 14, 16. Such testimony is based on what is described in the ’326 patent, not what is claimed. Even with respect to what is described in the ’326 patent, Mr. Chaiken does not adequately explain how and to what extent the broad and varied descriptions in the ’326 patent specification are the same as what is in the AgileTV system.

Mr. Chaiken fails to show that AgileTV “product embodies the claimed features, and is coextensive with them.” *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1130 (Fed. Cir. 2000). Further, on cross examination, Mr. Chaiken admitted that he did not attempt to determine the scope of the challenged claims, or examine the AgileTV system in light of that claim scope. Ex. 1028, 115:2–116:16. Patent Owner does not persuasively show whether the claim scope of the application filed in 2011 leading to the ’326 patent relates to the AgileTV system, which was discontinued some five years earlier. Thus, we are not persuaded that the marketed AgileTV system embodies the claimed features of the ’326 patent.

Likewise, the mention of the AgileTV system in the Specification of the ’326 patent does not demonstrate that the AgileTV system embodied the claimed invention of any challenged claim. At most, mention of the AgileTV system in the Specification shows the potential compatibility of the claimed invention with an existing model of the AgileTV system, but nowhere does the Specification state that the claimed invention

was to be embodied into any specific commercial AgileTV system. *See* Ex. 1001, 12:38–49.

Because Patent Owner has not persuasively established that the marketed AgileTV system embodies all claimed features of any one challenged claim, a presumption of nexus has not been shown by Patent Owner. *See WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1329 (Fed. Cir. 2016) (“[T]here is a presumption of nexus for objective considerations when the patentee shows that the asserted objective evidence is tied to a specific product and that product ‘is the invention disclosed and claimed in the patent.’” (quoting *J.T. Eaton & Co. v. Atl. Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997))).

Similarly, Patent Owner also has not persuasively established that Comcast’s cable X1 System copies the AgileTV system or is covered by the claims of the ’326 patent, as explained below. Considering the record as a whole, including Patent Owner’s evidence of nonobviousness, Petitioner still has established obviousness of the challenged claims. We examine the evidence for each secondary consideration more below.

We are not persuaded by Patent Owner’s arguments alleging satisfaction of a long-felt but unresolved need (PO Resp. 27–28). Patent Owner asserts that its invention satisfied a long-felt but unresolved need, i.e., “for using voice recognition in cable systems.” PO Resp. 27. Patent Owner further asserts that prior to AgileTV’s solution, “no one had provided voice recognition processing for multiple users in a cable television network using an architecture including the claimed invention of the ’326 patent.” *Id.* at 28. The argument is misplaced, because it merely represents, at most, that Patent Owner is the first to conceive of all elements of its claimed invention. It does

not mean that prior to the invention of the '326 patent, there were no cable systems providing voice recognition. We see no basis in the record to find that Patent Owner's claimed invention is the only way to use voice recognition in cable systems.

Through the misplaced argument, Patent Owner is asserting that whatever system that did not use Patent Owner's claimed invention had a need that was long-felt and unresolved. This circular approach is inappropriate and not meaningful. For purposes of further discussion, we separate the claimed invention from Patent Owner's assertion of what was the long-felt but unresolved need, and focus on what Patent Owner has clearly stated as the long-felt but unresolved need, i.e., "using voice recognition in cable systems." *Id.* at 28.

"[A]n allegation [of an unsolved problem in the art] is not evidence of unobviousness unless it is shown . . . that the widespread efforts of skilled workers having knowledge of the prior art had failed to find a solution to the problem." *In re Allen*, 324 F.2d 993, 997 (CCPA 1963) (citing *Toledo Pressed Steel Co. v. Standard Parts, Inc.*, 307 U.S. 350, 356 (1939) ("Nor is there any evidence of general or widespread effort to solve the problem here involved.")). More recently, the Federal Circuit clarified that although evidence is particularly probative of nonobviousness when it demonstrates both that a demand existed for the patented invention and that others tried but failed to satisfy that demand, a patent owner "may establish a long-felt need without presenting evidence of failure of others." *Millennium Pharm., Inc. v. Sandoz Inc.*, 862 F.3d 1356, 1369 n.5 (Fed. Cir. 2017). That clarification, is not of significance here because to demonstrate long-felt but unresolved need, Patent Owner

does not rely on the character and nature of pre-existing “solutions” that have been provided.

Patent Owner identifies prior “solutions” by others as providing voice recognition processing for multiple users in a cable television network. *Id.* Petitioner refers to only one such prior solution as unsuccessful. *Id.* Patent Owner’s characterization of the attempt as unsuccessful is not sufficiently supported or explained. Mr. Chaiken states, in a conclusory manner without explanation: “To my knowledge, Integra5’s solution [using a telephone call to request content] was not successful.” Ex. 2032 ¶ 7. We do not credit that testimony because Mr. Chaiken does not provide the underlying basis for his conclusion that Integra5’s solution was not successful.

Patent Owner identifies other solutions that “ran solely on a set-top box, without a voice-activated remote control, and did not perform any operations at the headend.” PO Resp. 28 (citing Ex. 2040). Patent Owner does not state whether those “solutions” worked or failed, in providing voice recognition in cable systems. If those solutions worked, then there was no long-felt but unresolved need at the time of invention of the ’326 patent. If those solutions failed, Patent Owner has not explained why. Furthermore, it is unclear what problem those efforts were attempting to solve. It is unclear if those efforts even intended to include a voice-activated remote control unit. In any event, Patent Owner has not explained why the general problem of providing voice recognition in a cable system requires a voice-activated remote control unit to solve. The identification of these other “solutions” is insufficiently explained to establish satisfaction of long-felt but unresolved need for using voice recogni-

tion in a cable system. Further, we note that the AgileTV system was not commercially adopted apart from a limited test, and thus there is absence of any showing by Patent Owner of a prompt adoption of its proposed solution, which can be indicative of satisfaction of long-felt but unresolved need. *See In re Mixon*, 470 F.2d 1374, 1377 (CCPA 1973). Finally, as of 2000, Julia provided detailed disclosures for voice recognition technology that could be integrated into the home entertainment market. *See Ex. 1015*, 1:17–48.

To the extent Patent Owner regards providing voice recognition processing for multiple users as the long-felt but unresolved need, none of the challenged claims require a system for multiple users. *See PO Resp. 28* (“no one had provided voice recognition processing for multiple users in a cable television network using an architecture including the claimed invention of the ’326 patent”). Thus, Patent Owner’s own invention would not meet that need because the challenged claims of the ’326 patent do not require voice recognition processing for *multiple users* in a cable television network. *See Therasense, Inc. V. Becton, Dickinson & Co.*, 593 F.3d 1325, 1336 (Fed. Cir. 2010) (“finding no long-felt need because the claims were broad enough to cover devices that did not solve the problem”).

For all the reasons set forth above, Patent Owner’s arguments are not well supported by underlying evidence and testimony to establish satisfaction of a long-felt need for Patent Owner’s patented invention in the cable TV industry.

Patent Owner’s evidence of industry (and Comcast) praise is also not persuasive. The recognition given by a report by Buckingham Research Group (Ex. 2020, 7) is directed to the ease of voice recognition

searches, yet numerous prior art references of record in these proceedings also teach the same features. *See* IPR2018-00342, Paper 54 (final decision). The evidence for the award by “Speech Technology Magazine” is simply Patent Owner’s own self-congratulatory press release without any evidence of the actual basis or criteria for the award, or information from the magazine about the award. *See* Pet. Reply 23 (citing Ex. 2009, 1–2). Patent Owner has not shown that this press release actually issued to the public. Additionally, the internal press release itself identifies purported advantages of the AgileTV system outside the scope of the challenged claims. *Id.* For example, the press release states that “Promptu utilizes an extensive, dynamically managed database of more than 100,000 phrases and delivers higher than 90 percent voice recognition accuracy” (Ex. 2009, 1), yet the claims do not require these features. Ex. 1027, 250:15–253:14, 255:22–258:21, 316:4–6. Additionally, the AgileTV system employed voice recognition processing provided by a third-party vendor. *Id.*

The appearance of AgileTV’s former CEO (Paul Cook) and CTO (Harry Printz) on the Kudlow & Cramer television show on CNBC in 2004 to discuss the AgileTV solution and to demonstrate the technology shows that others had an interest in the technology, but the appearance alone does not establish industry praise. *See* Ex. 2032 ¶ 23; Ex. 2018; Ex. 2019. Moreover, the product did not work during this broadcast. Ex. 2019, 1–3 (“It won’t work precisely. Just go through a dry run.”); Ex. 1028, 96:14–97:19. More importantly, the description of the product during the broadcast highlighted the same voice search functionality disclosed in the prior art. Ex. 2019, 3 (such as “find movies with Brad Pitt”). Patent Owner does not effectively tie the evidence of industry or Comcast

praise, if any, to any novel feature of the challenged claims. As explained above, any praise given to AgileTV does not translate to the claims of the '326 patent because Patent Owner has not established a nexus.

Patent Owner also states its alleged “industry praise above was directly based, for example, on the AgileTV system’s ability to provide voice recognition processing for *multiple users* in a cable television network using an architecture including the claimed invention of the '326 patent.” PO Resp. 30 (emphasis added). But again, to the extent Patent Owner regards providing voice recognition processing for *multiple users* as the basis of any industry praise, the claims of the '326 patent do not even require voice recognition processing for multiple users.

As for copying, Patent Owner asserts that Comcast’s implementation of voice recognition in its X1 System is practically identical to the AgileTV solution installed in Comcast’s cable network in the mid-2000s, but we find Patent Owner’s support for these allegations also lacking. Patent Owner does not persuasively establish whether the X1 System is a copy of the AgileTV system or whether the X1 System would be covered by the claims of the '326 patent. Patent Owner’s proof that the Comcast X1 system copied AgileTV are district court “Initial Claim Charts” (Ex. 1021, 83) and Exhibit 2026, which is an instructional video for “Promptu Voice Controlled Television” for Comcast Cable. Because the initial claim charts are not supported by corresponding argument in the briefs or expert testimony, we find them unpersuasive in establishing copying or proving that the X1 system is covered by the claims of the '326 patent.

Patent Owner alleges that Comcast rejected its AgileTV system and “instead market[ed] its own voice recognition product,” with an “implementation” that “is practically identical.” PO Resp. 33–34 (citing Ex. 2032 ¶¶ 33–35). The support for these assertions is Mr. Chaiken’s testimony 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. This statement is hearsay and excluded from consideration because the statement is being offered for the truth of the matter asserted and the “acquaintances” have not made any appearance in this proceeding to subject their beliefs to cross-examination. The only other evidence cited by Mr. Chaiken to support his assertions that Comcast’s X1 system somehow relates to AgileTV is the fact that an infringement lawsuit was filed. *Id.* ¶ 35. Mr. Chaiken does not offer testimony as to the accuracy of the district court litigation initial claim charts. Ex. 1021, 83. In the aggregate, Patent Owner’s evidence supporting the assertion that Comcast’s X1 system is a “copy” of AgileTV is not persuasive.

Finally, we determine that Patent Owner’s evidence and argument fails to demonstrate that the AgileTV system was commercially successful. Patent Owner alleges commercial success because Comcast licensed the AgileTV system and AgileTV received investor funding. Again, Patent Owner has not established that the challenged claims of the ’326 patent cover any commercial embodiment of the AgileTV system. But, even if there was an established nexus, the AgileTV system was not successful because the product was not adopted except in limited Comcast test markets. Ex. 1027, 215:13–218:13. Also, the money

transferred by Comcast to AgileTV pursuant to the license agreement was a loan that was repaid by AgileTV. Ex. 1027, 156:5–12, 160:20–161:25; *see* Pet. Reply 25. Further, Patent Owner dropped its AgileTV system after being rejected by Comcast and shifted to unrelated automobile voice control technology. Ex. 1027, 215:13–218:13. We also do not view investor funding of a company, without more, as demonstrating commercial success of a product made by the company, and Patent Owner has not presented persuasive evidence tying investment to the challenged claims. *See* Ex. 2021, 1–2.

Patent Owner has not provided any pertinent information about competing products on the market, nor has Patent Owner provided any relevant market share information. *See In re Applied Materials, Inc.*, 692 F.3d 1289, 1300 (Fed. Cir. 2012) (“An important component of the commercial success inquiry in the present case is determining whether Applied had a significant market share relative to *all* competing pads based on the merits of the claimed invention, which Applied did not show.”). Patent Owner also has not shown pertinent market share information regarding the sales of products incorporating the claimed invention.

Petitioner also presents persuasive evidence and arguments addressing the unique limitations of claim 12, which are not found in claim 1. Specifically, Petitioner relies on Julia’s voice command being transmitted to the remote server for speech recognition processing, as teaching “transferring said speech information in an unrecognized state.” Pet. 56 (citing Ex. 1015, 3:45–66; Ex. 1023 ¶ 426). Petitioner relies on Julia’s disclosure of client display device 112 for the “second device,” or controlled device. *Id.* at 57 (citing

Ex. 1023 ¶ 428–429). We agree that “[a] person of ordinary skill in the art would have known that a television, in the cable network implementation of Julia, was ‘capable of displaying electronically coded and propagated moving or still images and playing electronically coded and propagated audio.’” *Id.* (quoting Ex. 1023 ¶ 429). Petitioner also establishes how Julia teaches that “said first network path and said second network paths are different,” because Julia’s “‘first network path’ . . . goes from the voice input device to the communications box and then via the network to the remote server, while the ‘second network path’ begins at the remote server and goes via the network to the communications box and ultimately to the client display device (i.e., television).” Pet. 51. Patent Owner does not challenge these unique limitations found in claim 12 (but not claim 1) and we find persuasive Petitioner’s argument and evidence for these limitations.

For the foregoing reasons, considering the entirety of the evidence before us, we determine that the evidence of obviousness outweighs that of nonobviousness. Petitioner has established by a preponderance of the evidence that claims 1 and 12 are unpatentable as obvious over Julia.

v. Analysis (Claims 2–7 and 13–17)

We have reviewed Petitioner’s contentions regarding each of claims 2–7 and 13–17, and determine that, notwithstanding Patent Owner’s argument discussed below, Petitioner establishes by a preponderance of the evidence that these claims would have been obvious over Julia. *See* Pet. 50–59. We determine that Petitioner’s arguments with regard to the limitations

added by these dependent claims relative to the independent base claim are persuasive as highlighted below.

Claim 2 depends from claim 1 and further requires “said first network path and said second network path are different paths.” Petitioner presents persuasive arguments and credible evidence to support a finding that Julia discloses this limitation whereas Julia’s “‘first network path’ . . . goes from the voice input device to the communications box and then via the network to the remote server, while the ‘second network path’ begins at the remote server and goes via the network to the communications box and ultimately to the client display device (i.e., television).” Pet. 51.

Claim 3 depends from claim 1 and claim 13 depends from claim 12. Each claim further requires “wherein said first device and said second device are different devices.” Petitioner presents persuasive arguments and credible evidence to support a finding that Julia discloses this limitation. *Id.* (“Julia discloses a first device (i.e., voice input device 102) that is different than the second device (i.e., client display device 112).”) (citing Ex. 1023 ¶ 406); *see also* Pet. 57–58 (citing Ex. 1023 ¶¶ 72, 433).

Claim 4 depends from claim 1 and claim 14 depends from claim 12. Each claim further requires “wherein said speech information comprises video search information; and wherein said information delivery comprises video information.” Petitioner presents persuasive arguments and credible evidence to support a finding that Julia discloses this limitation whereas Julia uses spoken search command to identify video programming and then displaying several records that satisfy a query in a manner to allow user

selection. *Id.* at 51–52, 58 (citing Ex. 1015, 11:29–32, 36–43; Ex. 1023 ¶¶ 409–411, 435–437).

Claim 5 depends from claim 1 and claim 15 depends from claim 12. Each claim further requires “wherein said speech information transfer comprises transferring said speech information in either of a partially recognized state or an unrecognized state.” Petitioner presents persuasive arguments and credible evidence to support a finding that Julia discloses this limitation whereas Julia’s speech transfer from voice input device 102 to remote server 108 for speech processing is in “an unrecognized state” as claimed. *Id.* at 52–53, 58 (citing Ex. 1015, 3:45–66 (“capable of transmitting the raw voice data and/or processing the voice data” and the voice data may be transmitted in compressed digital form or analog format); Ex. 1023 ¶¶ 413, 439).

Claim 6 depends from claim 1 and claim 16 depends from claim 12. Each claim further requires “wherein said wireless device is used for input and output for control purposes, wherein said information delivery is to said second device which comprises a television and STB.” Petitioner presents persuasive arguments and credible evidence to support a finding that Julia discloses these limitations whereas Julia’s portable voice input device is an “input” for spoken commands that are then “output” to the communications box. *Id.* at 53–54, 58 (Ex. 1015, 3:37–60, 4:18–30; Ex. 1023 ¶¶ 415–417). Further, Petitioner shows how the voice commands cause the remote server to deliver video information, such as television programs, to the communications box and client display device. *Id.*

Patent Owner does not address Petitioner’s contentions for the above claims and has therefore waived

any opposition. *See generally* PO Resp.; *see also* Paper 16, 3 (“The patent owner is cautioned that any arguments for patentability not raised in the response will be deemed waived.”).

Patent Owner’s only rebuttal as to the claims discussed in this subsection is to challenge whether Julia alone teaches the requirement found in claims 7 and 17⁶ of “determining a user site associated with a user of the first device.” Ex. 1001, 51:34–35 (claim 7). We address the parties’ contentions below related to this limitation. Claim 7 requires:

The method of claim 1, further comprising at least one of the steps of:

determining a user site associated with a user of said first device;

determining said associated user site from said recognized speech;

determining said associated user site from said recognized speech and a speaker identification library;

determining said associated user site from said recognized speech and a speech recognition library; and

determining said associated user site from an identification within said speech channel.

⁶ Claim 17 has the same limitations as claim 7. *See* Ex. 1001, 53:14–25. Claims 9 and 19 have similar “user site” limitations. *Id.* at 51:62–52:4. Claims 9 and 19 are not challenged by Petitioner as obvious based on Julia alone, but our analysis here is equally applicable to Petitioner’s challenges of claims 9 and 19 addressed below.

Ex. 1001, 51:24–43. Importantly, only one of the above steps need be shown in Julia to meet the “at least one of” claim language. Petitioner, and Mr. Schmandt, contend Julia teaches “determining a user site associated with a user of said first device.” Pet. 54–55 (citing Ex. 1023 ¶¶ 419–420).

Petitioner addresses the “user site” limitation in the Petition, arguing that:

Julia discloses a system in which multiple different users at multiple different locations all access the same remote server to perform speech recognition processing. Schmandt Decl. ¶ 420. Julia states that “multiple users, each having their own client input device, may issue requests, simultaneously or otherwise, for navigation” of the remote data source. Julia at 6:12-16. Once the Julia system identifies and recognizes a user’s voice command, the remote server retrieves the desired information from the data source and transmits the information to the user’s communications box and client display device. *Id.* at 4:18-20. . . . To do so, the remote server must determine the “user site associated with” the user that issued the speech command using “said first device” (i.e., voice input device 102). *Id.* at 3:45-54; Schmandt Decl. ¶ 420.

Pet. 55. As further explained by Mr. Schmandt, “[a] person of ordinary skill in the art would know that the remote server would have to determine the particular communications box issuing a particular voice command so that the recognized command could be transmitted back to the correct communications box,” and further “[t]hat communications box has an associated ‘first device’ (i.e., voice input device 102), which the

user of the system uses to input spoken commands.” Ex. 1023 ¶ 420 (citing ex. 1015, 3:45–54). “Thus,” according to Mr. Schmandt, “Julia discloses determining a user site, and the user site is associated with a user of said first device (voice input device).” *Id.* We credit the testimony of Mr. Schmandt because it is consistent with and supported by the cited evidence, as well as on its face rational.

Patent Owner contends that Petitioner only sets forth a case of inherency of the user site limitation for each claim, but “the petition does not explain why this feature would be inherent.” PO Resp. 19. Specifically, Patent Owner argues “the petition fails to establish a reasonable likelihood⁷ that claim 7 is unpatenable.” *Id.* at 19–20. Patent Owner makes identical arguments for claims 17 and 9. *Id.* at 20.

We have considered Patent Owner’s Response, which consists only of attorney argument that the “user site” claim limitation required by claims 7, 9, 17, and 19 is not taught, either explicitly or inherently, by Julia. After considering the final record before us, we determine Petitioner has shown by a preponderance of the evidence that Julia teaches a user site associated with a user of said first device as required by the claim language. Julia’s remote server would have to determine the particular communications box issuing a particular voice command so that the recognized command could be transmitted back to the correct communications box. Ex. 1023 ¶ 420. Petitioner establishes that Julia’s disclosure of allowing users to request content, and then delivering that content in

⁷ Petitioner must prove the elements of its case by a “preponderance of the evidence” and not just present a “reasonable likelihood.”

response, creates a specific financial consequence “such that content is provided to a user pay-per-view or video-on-demand location and thus identified with the user site as required by claim 9 (and claim 19).” Pet. Reply 17–18 (citing Ex. 1023 ¶¶ 458, 475). Further “Julia also discloses that ‘multiple users, each having their own client input device, may issue requests’ . . . of the remote data source,” such that “[o]nce the desired information has been retrieved from data source 110, it is electronically transmitted via network 106 to the user for viewing.” *Id.* at 18 (citing Ex. 1015 4:24–30). Thus, Petitioner presents persuasive argument and credible evidence that “Julia teaches ‘determining a user site associated with a user of said first device’ as recited in claim 7 and 17,” and also as similarly required for claims 9 and 19. *Id.*

As noted above in the context of the independent claims, we have determined that the objective evidence of nonobviousness does not overcome Petitioner’s strong showing of obviousness. The same is true for these dependent claims. Furthermore, the evidence of nonobviousness is just as weak for these dependent claims because the dependent claims include more limitations than the independent claims from which they depend, and Patent Owner has not submitted secondary considerations evidence specifically directed to the features of these dependent claims. For the foregoing reasons, Petitioner has established by a preponderance of the evidence that claims 2–7 and 13–17 are unpatentable as obvious over Julia.

3. Obviousness Ground Based on Julia and Either Banker or Gordon

Petitioner contends that claims 8, 9, 18, and 19 are unpatentable over Julia and either Banker or Gor-

don under 35 U.S.C. § 103(a), relying on the supporting testimony of Mr. Schmandt. Pet. 59–65 (citing Ex. 1023 ¶¶ 388, 450–483). Having now considered the evidence in the complete record established during trial, we are persuaded that, based on this record, Petitioner has demonstrated by a preponderance of the evidence that claims 8, 9, 18, and 19 would have been obvious over those references in combination.

Claim 8 depends from claim 1 and adds two additional limitations. The first limitation requires “assessing a response identified as to a user device comprising any of said first device and said second device to create a financial consequence.” Petitioner contends Julia teaches this limitation. Pet. 59–60. “In particular, Julia states that the disclosed invention could be implemented ‘on any number of different hardware and software computing platforms and environments’ specifically including the ‘Diva Systems video-on-demand system.’ *Id.* at 60 (citing Ex. 1015, 6:47–59; Ex. 1023 ¶ 450). Petitioner contends that “[a] person of ordinary skill in the art would have known that the Diva System provided pay-per-view functionality,” and “a user could verbally request a pay-per-view movie using the Julia system, and the remote server would process the request and retrieve the content.” *Id.* (citing Ex. 1023 ¶ 450).

The next limitation of claim 8 requires “billing a user associated with said user device based upon said financial consequence.” Petitioner contends that “Julia discloses to a skilled artisan the step of ‘billing’ the requesting user ‘based upon said financial consequence’ (i.e., the pay-per-view purchase).” Pet. 60–61 (citing Ex. 1023 ¶¶ 450–451).

Alternatively, Petitioner relies on either Banker or Gordon combined with Julia for meeting the “assessing” and “billing” steps of claim 8. Pet. 61. Petitioner argues that “Banker discloses a system in which the user can purchase a pay-per-view movie by pressing the ‘BUY key’ on the television remote control and then entering a code provided by the system to begin a purchase sequence.” *Id.* at 34–35, 61 (citing Ex. 1016, 7:60–63, 16:43–17:3, Figs. 6F, 16:51–55 (“[T]he user by actuating the BUY key initiates a buy sequence. Consequently, this key is used to purchase an event.”). “Once entered by the user, the ‘code is checked with the code stored in memory’ (i.e., ‘assessing [a] response identified’ [with the] user).” *Id.* at 35 (citing Ex. 1016, 16:67–17:1). After pressing a buy key, the user is billed. “Thus,” Petitioner establishes how “Banker discloses the ‘assessing’ and ‘billing’ steps recited in claim 8.” *Id.* (citing Ex. 1023 ¶ 335). Likewise, Gordon teaches offering the subscriber an option to purchase an on-demand program subscription, generating a master PIN as confirmation, and then updating the billing system with the new subscriber’s account number. *Id.* (citing Ex. 1017, 2:60–63, 9:64–10:9, 10:16–27, 10:43–46, Figs. 3B and 8). We find Petitioner’s contentions for claim 8 persuasive on the final record before us.

Claim 9 depends from claim 1 and further requires “assessing a response to create a financial consequence identified with a user site” and “communicating said financial consequence to said user.” Petitioner relies on Julia’s disclosure of a payment for a movie-on-demand as creating a financial consequence. Pet. 61–62 (Ex. 1023 ¶¶ 458, 459–461). Petitioner also shows how Banker and Gordon disclose “assessing” a response to “create a financial conse-

quence,” and then displaying this “financial consequence.” *Id.* at 62 (Ex. 1023 ¶¶ 341, 459–461); Pet. 36 (“In Banker, a user can purchase a pay-per-view movie by pressing the ‘BUY key’ on the television remote control and then entering a code provided by the system to begin a purchase sequence. Banker at 16:43-55, 16:62-17:1, Fig. 6F.”); *see also* Ex. 1016, 16:62–17:3 (describing a display screen confirming the viewer’s intent to accept the purchase).

Claim 9 further requires “said user confirming said communicated financial consequence to create a financial commitment,” and “billing said user based upon said financial commitment.” Pet. 62–63. Petitioner contends that “[a] person of ordinary skill in the art would know that a pay-per-view movie purchase, such as that disclosed in Julia, involves informing the user that they are making a purchase and confirming their intent.” *Id.* at 63 (citing Ex. 1023 ¶ 465). Alternatively, Petitioner contends Banker and Gordon also “disclose confirming the ‘displayed financial consequence’ to ‘create a financial commitment’ as required by this claim.” *Id.* (citing Ex. 1023 ¶ 465); *see id.* at 38 (describing Banker’s “BUY” key and code for confirming the intent to purchase). Claim 9’s last requirement of “billing said user based upon said financial commitment” is taught by Julia’s pay-per-view system, or, alternatively, “Banker and Gordon also disclose billing the subscriber for a pay-per-view purchase.” *Id.* at 63 (Ex. 1023 ¶ 467); *see id.* at 39 (“Banker also discloses billing the subscriber for a pay-per-view purchase. Banker at 7:60-63, 16:62-17:3.”). We find Petitioner’s contentions for claim 9 persuasive on the final record before us.

Claim 18 recites limitations identical to claim 8, and Petitioner adopts the analysis of claim 8 discussed above. Pet. 63–64. That analysis is persuasive for reasons discussed above in the context of claim 8.

Claim 19 recites limitations identical to claim 9, and Petitioner adopts the analysis of claim 9 discussed above. *Id.* at 64. That analysis is persuasive for reasons discussed above in the context for claim 9.

Petitioner establishes persuasively that a person of ordinary skill in the art would have been motivated to combine the teachings of Julia with Banker or Gordon. Pet. 64–65 (citing Ex. 1023 ¶¶ 484–485). Each reference provides similar interfaces for interactive television networks and cable networks in particular, as well as providing pay-per-view functionality. *Id.* (citing Ex. 1015, 1:30–38, 3:36–60, Fig. 1a; Ex. 1016, Abst.; Ex. 1017, 1:8–13). Mr. Schmandt testifies that a person of ordinary skill in the art would have naturally considered Banker or Gordon in connection with the system disclosed by Julia. Ex. 1023 ¶ 484. As argued by Petitioner, “the discussion of on-demand video functionality in Julia suggests systems like those disclosed in Banker or Gordon,” and both references teach the benefits of user interfaces that minimize the chances of accidental or unauthorized purchases. Pet. 65 (citing Ex. 1023 ¶ 485, Ex. 1016, 16:43–50, 16:51–55, 16:62–17:3, Fig. 6F; Ex. 1017, 2:60–63, 3:61–63, 8:66–10:9, 10:43–46; Figs. 3B, 8). As explained by Mr. Schmandt, and with the above benefits of Banker and Gordon in mind, “[i]t would also have been within the capability of a person of ordinary skill in the art to combine Julia with either Banker or Gordon to permit a user to order pay-per-view movies using the sequence described by Banker

or Gordon but using voice commands as in Julia.” Ex. 1023 ¶ 485.

Patent Owner does not present any arguments addressing Petitioner’s contentions for claims 8, 9, 18, and 19 as obvious over Julia and either Banker or Gordon. *See generally* PO Resp. Patent Owner’s Response does not mention Banker or Gordon, nor does the Response address the combination of Julia with either Banker or Gordon. Patent Owner has therefore waived any arguments for patentability related to this ground. *Id.*; *see also* Paper 16, 3 (“The patent owner is cautioned that any arguments for patentability not raised in the response will be deemed waived.”).

With regard to the evidence of nonobviousness, we have determined above, with respect to independent claims 1 and 12, that the evidence of nonobviousness is weak. That evidence is just as weak with respect to dependent claims 8, 9, 18, and 19, because these claims include all the elements of the independent claims from which they depend. Patent Owner has not persuasively shown that whatever was sold or licensed, whatever was allegedly copied, and whatever was praised by others, had all the elements of the claimed subject matter. Also, other deficiencies of the assertions of industry praise, commercial success, copying, and satisfaction of long-felt but unresolved need, with respect to claims 1 and 12, also apply to claims 8, 9, 18, and 19. Thus, as is the case with independent claims 1 and 12, we determine that on the final record the weak evidence of nonobviousness does not outweigh the strong evidence of obviousness presented by Petitioner. For the foregoing reasons, Petitioner has established by a preponderance of the evidence that claims 8, 9, 18, and 19 are unpatentable as obvious over Julia and either Banker or Gordon.

4. *Obviousness Ground Based on Julia and
Either Martin or Blahut*

Petitioner asserts that claims 11 and 21 are unpatentable over Julia and either Martin or Blahut under 35 U.S.C. § 103(a), relying on the supporting testimony of Mr. Schmandt. Pet. 65–69 (citing Ex. 1023 ¶¶ 487–500). For this ground, Petitioner relies on either Martin or Blahut combined with Julia for teaching remote control devices that transmit identifiers. Pet. 66 (citing Ex. 1023 ¶ 487–489). For the reasons set forth above, and for the reasons explained below, Petitioner has proven by a preponderance of the evidence based on the final record that claims 11 and 21 would have been obvious over Julia and either Martin or Blahut.

Claim 11 requires “responding to recognized speech identified as to said first device based upon natural language to create a response uniquely identified with said user device.” Ex. 1001, 52:12–28. Claim 21 recites a nearly identical limitation. *Id.* at 53:47–50. Petitioner relies on Julia’s disclosure “that request processing logic 300 (located on remote server 108) includes both ‘speech recognition engine 310’ to perform speech recognition and ‘natural language (NL) parser 320,’ which ‘linguistically parses and interprets the textual output of the speech recognition engine.” Pet. 66 (citing Ex. 1015, 7:12–13, 7:47–49, Figs. 3, 4). Petitioner contends that the natural language interpreter determines both meaning of words and grammar of the statement and then “the Julia system provides the requested content (e.g., movie, television program) to the particular requesting user – one of many users accessing the speech recognition engine.” *Id.* (citing 1015, 4:18–20, 4:24–30, 6:12–16, Figs. 1a, 1b, 2). “Thus,” according to Petitioner, “Julia

discloses using the ‘recognized speech’ to provide ‘a response uniquely identified’ with the requesting user, as claimed.” *Id.* at 66–67 (citing Ex. 1023 ¶ 489).

Petitioner then alternatively contends that one of skill in the art would have combined Julia with Martin and Blahut, which both disclose remote control devices that transmit identifiers. According to Petitioner,

A person of ordinary skill in the art would recognize the benefit of combining Julia with this teaching, including, for example, uniquely identifying remote controls for access control purposes and providing the system designer with options for an identifier for the particular home system, and thus the combination of Julia with either Martin or Blahut would render this claim obvious. [Ex. 1023] ¶¶ 494, 501–502.

Pet. 67.

Petitioner further establishes that a person of ordinary skill in the art would have been motivated to combine the teachings of Julia with either Martin or Blahut. *Id.* at 68–69 (citing Ex. 1023 ¶¶ 501–502). Petitioner notes each reference is in the field of “interactive television networks” and each relates to “remote controls communicating wirelessly with television set-top boxes.” *Id.* at 68. Petitioner argues that the combination would provide a system designer with options for an identifier for the particular home system, and the combination would enable “uniquely identifying a remote control,” which in turn “would allow the system to limit what channels or functions are available to a particular user, such as a child, of a remote control. *Id.* at 68–69 (citing Ex. 1019, 1:21–30;

Ex. 1023 ¶ 502). Thus, according to Petitioner, “[a] person of ordinary skill in the art would have naturally considered Martin or Blahut in connection with the system disclosed by Julia.” *Id.* at 68 (citing Ex. 1023 ¶ 501).

We have considered Petitioner’s arguments and evidence set forth above and find them persuasive on the final record before us. Patent Owner does not present any arguments addressing Petitioner’s contentions for claims 11 and 21 as obvious over Julia and either Martin or Blahut. *See generally* PO Resp. Patent Owner’s Response does not mention Martin or Blahut, nor does the Response address the combination of Julia with either Martin or Blahut. Patent Owner has therefore waived any arguments for patentability related to this ground. *Id.*; *see also* Paper 16 (“The patent owner is cautioned that any arguments for patentability not raised in the response will be deemed waived.”).

With regard to the evidence of nonobviousness, the evidence of nonobviousness is also weak with respect to dependent claims 11 and 21. Claim 11 depends from claim 1 and thus includes all the elements of claim 1. Claim 21 depends from claim 12 and thus includes all the elements of claim 12. For the same reasons discussed above with respect to the elements of claim 1, and the elements of claim 12, Patent Owner has not persuasively shown that whatever was sold or licensed, whatever was allegedly copied, and whatever was praised by others, had all the elements of the claimed subject matter. Also, other deficiencies of the assertions of industry praise, commercial success, copying, and satisfaction of long-felt but unresolved need, with respect to claims 1 and 12, also apply to claims 11 and 21. Thus, as is the case with independent

claims 1 and 12, we determine that on the final record the weak evidence of nonobviousness does not outweigh the strong evidence of obviousness presented by Petitioner. For the foregoing reasons, Petitioner has established by a preponderance of the evidence that claims 11 and 21 are unpatentable over Julia and either Martin or Blahut.

5. All Obviousness Grounds Based on Murdock

Petitioner contends that claims 1–9, 11–19, and 21 are unpatentable over Murdock alone (Ground 1), Murdock in view of Banker or Gordon (Ground 2) or in view of Martin or Blahut (Ground 3) under 35 U.S.C. § 103(a), relying on the supporting testimony (Exs. 1023, 1033) of Mr. Schmandt. Pet. 11–14, 16–44.

The '326 patent is a reissue of U.S. Patent No. 7,685,523, which issued from an application (11/283,176) filed on November 17, 2005, which, in turn, is a continuation of an application (09/785,375)⁸ filed on February 16, 2001. Ex. 1001, at [22], [60], [63], [64]; Pet. 6. This 2001 application claims the benefit of priority to a provisional application (60/210,440) with a filing date of June 8, 2000. *Id.* As addressed in detail below, Petitioner accepted this June 8, 2000 date as the priority date for the '326 patent.

Murdock was filed on November 16, 2000, after the June 8, 2000 effective filing date of the '326 patent that was adopted in the Petition, but claims the benefit of priority to the filing date of Provisional Applica-

⁸ This application issued as U.S. Patent No. 7,047,196, which is subject to related proceedings mentioned *supra*.

tion No. 60/166,010 (Ex. 1014, the “Murdock Provisional”), which was filed on November 17, 1999. Ex. 1013, at [22], [60]. Petitioner argues that Murdock is 35 U.S.C. § 102(e) prior art to the ’326 patent because Murdock is entitled to the benefit of priority to the filing date of the Murdock Provisional. Pet. 12.

In *Ex Parte Mann*, the Board held that “under *Dynamic Drinkware*, a non-provisional child can be 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.” 2016 WL 7487271, at *6 (PTAB Dec. 21, 2016) (discussing whether *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) requires “support in the provisional [] for *all* claims, *any* claim, or something in between”). The Board further held that “the [party claiming priority] also must show that the subject matter relied upon in the non-provisional is sufficiently supported in the provisional application [and that t]his subject matter test is in addition to the comparison of claims required by *Dynamic Drinkware*.” *Id.* at *5.

Recognizing these requirements, Petitioner asserts that:

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. Schmandt Decl. ¶¶ 109–124. In addition, Petitioner’s expert witness shows that the Murdock provisional application meets this requirement, too. Schmandt Decl. ¶¶ 254, 257, 261, 266, 270, 275, 280, 283, 288, 292, 295, 298, 301, 305, 308, 311, 316, 319, 324, 327, 338, 349, 355, and 367 (showing that

the provisional application discloses the same subject matter disclosed in Murdock and cited to herein).

Pet. 11–12.

Patent Owner contends that the Petition omits the analysis necessary to establish Murdock as prior art, and instead relies on bare conclusions lacking any factual support, and improper incorporation by reference, that could sustain its position. PO Resp. 11–14. Patent Owner notes Petitioner’s assertion and analysis is a “barebones analysis” that is insufficient to support Petitioner’s contention that Murdock is entitled to the filing date of the Murdock Provisional. PO Resp. 13. Patent Owner notes that Petitioner improperly incorporates by reference “thirty-nine paragraphs of essential analysis from the declaration into the petition.” *Id.* Petitioner presents two primary arguments why the Petition is insufficient.

“First,” Patent Owner argues, “the incorporation lacks the particularity and specificity required of supporting evidence under the governing statute and rules set forth in 35 U.S.C. § 312(a)(3) and in 37 C.F.R. §§ 42.22(a)(2), 42.104(b)(4)–(5).” *Id.* “Second, . . . the incorporation violates the Board’s rules prohibiting arguments made in a supporting document from being incorporated by reference into a petition. *Id.* (citing 37 C.F.R. § 42.6(a)(3)).

We agree here with Patent Owner that Petitioner’s barebones analysis, in its Petition, is insufficient to support its contention that Murdock is entitled to the filing date of the Murdock Provisional. Specifically, although there is no requirement to rewrite every word or example from an expert declaration into a petition, Petitioner’s two sentences concluding that

“at least claim 1 of Murdock is supported by the disclosure in the [Murdock P]rovisional application” and that “the [Murdock P]rovisional . . . provide[s] support for the subject matter relied upon,” are insufficient to establish Murdock as prior art. “Arguments must not be incorporated by reference from one document into another document.” 37 C.F.R. § 42.6(a)(3). Here, Petitioner cites to 39 paragraphs, spanning just as many pages in the Schmandt Declaration. No 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. The Petition must provide reasonable notice to Patent Owner as to how the Murdock Provisional provides support for the subject matter relied upon. In this proceeding, we initially determined that the Petition offered only an insufficient conclusory statement as to the Murdock Provisional. Dec. 19–22. Nonetheless, pursuant to *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1355 (2018) and Patent Office practice, we instituted review of all grounds, including the grounds based on Murdock. *Id.* at 30.

We maintain our initial determination and disregard all the material improperly incorporated by reference for this issue, which is paragraphs 109–124, 254, 257, 261, 266, 270, 275, 280, 283, 288, 292, 295, 298, 301, 305, 308, 311, 316, 319, 324, 327, 338, 349, 355, and 367 of the Schmandt Declaration (Ex. 1023). We consider only the two conclusory and general sentences in the Petition with respect to why at least one claim of Murdock is supported by the disclosure of the Murdock Provisional and how the Murdock Provisional provides support for the subject matter relied upon.

Petitioner now attempts to remedy its deficient Petition in its later Reply briefing by shifting portions of the incorporated by reference material into the Reply brief. Pet. Reply 2–8. Petitioner contends that, in any event, Murdock still constitutes applicable prior art because Murdock predates the actual filing date of the '326 patent. Petitioner argues that it was incumbent on Patent Owner to establish entitlement to an earlier effective filing date, which Patent Owner did not do. *Id.* at 2. Petitioner contends that it is Patent Owner's burden to first establish that the claims of the '326 patent "are entitled to a filing date (constructive or otherwise) prior to the filing date of Murdock." *Id.* at 3 (internal quotations omitted) (quoting *Dynamic Drinkware*, 800 F.3d at 1380).

Patent Owner counters that the positions in Petitioner's Reply are "new argument[s] and [they] should not be considered." PO Sur-Reply 8. Patent Owner notes that "neither the Petition nor the Institution Decision challenged the '326 patent's effective filing date." PO Sur-Reply 9. Patent Owner views portions of the Reply related to Murdock as "a blatant attempt to circumvent not only the Board's rules on incorporation by reference but also the Panel's prior order that this material would be disregarded." *Id.* at 10.

Important to our analysis, the Petition states that: "the claimed invention was not new or novel as of the patent's effective filing date in June 2000." Pet. 1. Within a section of the Petition titled "Effective Filing Date of the '326 Patent," Petitioner affirmatively states: "The '326 Patent claims priority to a provisional application filed on June 8, 2000. Thus, the effective filing date of the claims of the '326 Patent is no earlier than June 8, 2000. Patent Owner does not assert any earlier priority date." *Id.* at 4. *See also* Ex.

1023 ¶ 241, (“the earliest effective filing date of the ’326 Patent in June 2000”), ¶ 376 (“as of the June 2000 effective filing date of the ’326 Patent”), ¶ 492 (same). Thus, Petitioner bases its arguments and evidence on an effective filing date of June of 2000 for the ’362 patent. Petitioner does not, however, provide any notice to Patent Owner that any other date other than June 8, 2000 need be considered as the effective filing date.

We analogize Petitioner’s assertion (June 8, 2000 priority date)⁹ made in its Petition 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., Purgess 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

⁹ Whether a priority document contains sufficient disclosure under § 112, ¶ 1 is a question of law. *See Utter v. Hiraga*, 845 F.2d 993, 998 (Fed. Cir. 1988). However, “compliance with the written description aspect of that requirement is a question of fact.” *Id.* We view the admission of a priority date as an assertion of fact that is dispositive of the ultimate legal determination.

the proceeding and as a binding admission unless otherwise withdrawn. Thus, the proceeding before us is distinct from *Dynamic Drinkware* cited by Petitioner.

Alternatively, we believe that Petitioner must first raise the issue of entitlement to any earlier effective filing date in order to require the Patent Owner to establish that the asserted claims in the '326 patent are entitled to the benefit of a filing date (constructive or otherwise). In an *inter partes* review, the burden is on the petitioner to show a reasonable likelihood that it would prevail on a ground of unpatentability. 35 U.S.C. § 314(a). With respect to entitlement to any earlier effective filing date, however, a patent owner is not presumed to be entitled to the earlier filing dates of ancestral applications that do not share the same disclosure, such as in a CIP situation. *Focal Therapeutics, Inc. v. SenoRX, Inc.*, Case IPR2014-00116, slip op. at 9–10 (PTAB Apr. 22, 2014) (Paper 8). However, a petitioner first must raise the issue by at least identifying the features, claims, and ancestral applications allegedly lacking § 112 support for the claims based on the identified features. *Id.* at 10. *See also Huawei Technologies Co., Ltd. v. Samsung Electronics Co. Ltd.*, Case IPR2017-01980, slip op. 9 (PTAB Feb. 27, 2018) (Paper 9) (“Nevertheless, Petitioner first must raise the issue of whether Patent Owner is entitled to its effective filing date by ‘identifying, *specifically*, the features, claims, and ancestral applications allegedly lacking written description support for the claims based on the identified features.” (quoting *Lupin Ltd. v. Pozen, Inc.*, Case IPR2015-01775, slip op. at 10–11 (PTAB Mar. 1, 2016))). If Petitioner makes such an allegation in its Petition, then

the patent owner must make a sufficient showing¹⁰ of entitlement to earlier filing date(s), in a manner that is commensurate in scope with the specific points and contentions raised by the petitioner. *See id.*

In the proceeding before us, the Petitioner states¹¹ that “the effective filing date of the claims of the ’326 Patent is no earlier than June 8, 2000.” Pet. 4. Petitioner never raised any doubt as to this June 2000 priority date for the ’326 patent. Thus, in this circumstance, the effective filing date of the ’326 patent is June 8, 2000, without any additional showing from Patent Owner. For Murdock to be applicable prior art, Petitioner must prove Murdock is entitled to the filing date of its provisional application—a burden that Petitioner failed to meet in the Petition.

¹⁰ We observe that even an applicant for patent before the United States Patent Office is not required to explain how every element of every claim is supported by each ancestral application in the priority chain during the examination process. Typically, the applicant makes an accounting in that regard after the Examiner indicates to the applicant what claim element is not supported by which ancestral application, and the showing is limited to the claim element or elements identified by the Examiner.

¹¹ We have considered Petitioner’s arguments made during oral hearing that “we did not adopt the date [June 8, 2000].” Tr. 26:1–25. First, we disagree with this argument and view the clear statements in the Petition as judicial admissions. Second, even ignoring the admissions, the issue is whether Petitioner identified anything for Patent Owner to address. Patent Owner is not expected to explain, *sua sponte*, how each element of every claim has support through each application in the priority chain. *Focal Therapeutics, supra*. In its Reply, Petitioner has not pointed to anything in the Petition that amounts to a belief by Petitioner that an element, feature, or limitation of any challenged claim is not supported by any ancestral application in the priority chain of the priority chain of the ’326 patent. *See generally* Pet. Reply.

In its Reply, Petitioner now attempts to remedy its defective Petition. *See* Pet. Reply 2–9. Specifically, Petitioner presents new detailed argument over four pages as to how and why claim 1 of Murdock is supported by the Murdock Provisional. *See id.* at 4–7. To support its new arguments made for the first time in Reply, the briefing cites to portions of the Schmandt Declaration that we expressly excluded in our Decision on Institution for violation of our rules on incorporation by reference. Dec. 21. While we are bound by SAS to institute trial on all claims, we are not required to allow a petitioner to fix glaring deficiencies in the petition for grounds that we would otherwise not institute. This is so because Petitioner may not submit new evidence or argument in reply that it should have presented earlier. Further, after we declined to consider the 39 paragraphs in Schmandt’s Declaration at the institution phase, if we were now to consider that same evidence as if it were not excluded, we would fail to provide Patent Owner “notice of and a fair opportunity to meet the grounds of rejection.” *Belden Inc.*, 805 F.3d at 1080. Petitioner cannot present its case in chief in Reply, and Patent Owner should not be forced to present its case in response for the first time in a Sur-Reply. Accordingly, we decline to consider the new arguments and evidence submitted in Petitioner’s Reply.

Based on the above findings and determinations, Petitioner has not shown that Murdock is entitled to the benefit of priority of the filing date of the Murdock Provisional. Hence, Petitioner has not shown that Murdock is prior art to the ’326 patent. Because each of the Murdock asserted grounds relies on Murdock in whole or in part, we determine that Petitioner has not proven by a preponderance of the evidence the (1) unpatentability of claims 1–7 and 12–17 over Murdock,

(2) unpatentability of claims 8, 9, 18, and 19 over Murdock and either Banker or Gordon, or (3) unpatentability of claims 11 and 21 over Murdock and either Martin or Blahut.

III. MOTION TO EXCLUDE

Petitioner filed a Motion to Exclude evidence (Paper 40), which Patent Owner opposed (Paper 46), which Petitioner replied (Paper 49). In its Motion to Exclude, Petitioner seeks to exclude inadmissible evidence submitted by Patent Owner in Exhibits 2001, 2002, 2003, 2009, 2010, 2011, 2015, 2021, 2024, and 2032. *See* Paper 40, 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 inadmissible hearsay under FRE 801–803. *Id.* at 2.

We deny Petitioner’s request to exclude these exhibits. Patent Owner contends, and we agree, that each of these three exhibits meets the hearsay exception for business records. Paper 46, 4 (citing FRE 803(6)). Notably, we have not cited these specific exhibits in our Final Decision, although each has been considered in our analysis.

Exhibits 2009 and 2021 – Press Releases

Exhibits 2009 and 2021 all purported press releases. Petitioner argues these exhibits should be excluded as inadmissible hearsay under FRE 801–803. Patent Owner cites Exhibit 2009 to show that it actually received the award described in the draft press release. PO Resp. 29.

We deny Petitioner's request to exclude Ex. 2009. Patent Owner contends, and we agree, that this exhibit meets the hearsay exception for business records. Paper 46, 5 (citing FRE 803(6)). Notably, we have weighed Petitioner's concerns in our analysis above. For example, by failing to produce the actual award for which Exhibit 2009 describes, including the criteria for the award or linking the award to the innovative features of the invention, we have not given significant weight to Exhibit 2009 as evidence of industry praise.

Exhibit 2021 is a news article containing a press release related to AgileTV obtaining investor funding. Patent Owner claims that the document contains non-hearsay, relevant evidence. Paper 46, 5–6. Because the fact that AgileTV obtained investor funding is not disputed, and because we do not rely on Exhibit 2021 in our final decision, we deny Petitioner's motion to exclude Exhibit 2021 as moot.

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 40, 4.

Patent Owner responds that “the email and its attachments fall within the business records exception to hearsay overcoming Comcast's objection. Fed. R. Evid. 803(6).” Paper 46, 6.

We deny Petitioner's request to exclude Ex. 2010. This exhibit meets the hearsay exception for business records, whereas Patent Owner established a sufficient foundation for its admissibility under the exception.

*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. We do not believe an email summarizing alleged statements by numerous Comcast employees to fall within the business records exception to the hearsay rule. Because the only relevant purpose of this exhibit is for the content of the third party statements, 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," and the "Weekly Update" email purports to recount conversations with certain Comcast employees. Ex. 2015, 1. 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. 31–32. 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.

Ex. 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." Paper 22, 34. According to Petitioner, "the article (which does not identify an author)

primarily discusses AgileTV and its then-contemplated trial with a small cable company called Sunflower Broadband.” Paper 40, 5–6. Petitioner complains that the statements related to Promptu being in the field “is not attributed to anyone at Comcast—indeed, no Comcast representatives are mentioned or quoted in the article.” *Id.* at 6. Thus, according to Petitioner, “[t]he article is an out-of-court statement offered to prove the truth of the matter asserted therein.” *Id.*

Because we do not rely on Exhibit 2024 in our Final Decision, we deny Petitioner’s request to exclude this exhibit as moot.

Exhibit 2032 – Portions of the Chaiken Declaration

Exhibit 2032 is the declaration of Patent Owner’s former CTO David Chaiken. Ex. 2032 ¶ 3. Petitioner contends that in Paragraph 34, Mr. Chaiken testifies that “acquaintances of mine . . . told me they confused Comcast’s functionality with the AgileTV solution.” This statement is being used to prove copying by Petitioner – the truth of the matter asserted. Paper 46, 13. We agree this is impermissible hearsay that should be excluded. Further, this is not the type of information an expert witness would normally rely upon (uncited sources conveying speculative information) in forming an opinion.

IV. SUMMARY

For the foregoing reasons, we determine that Petitioner has proven by a preponderance of the evidence that claims 1–7 and 12–17 would have been obvious over Julia.

Petitioner establishes that claims 8, 9, 18, and 19 would have been obvious over Julia and either Banker or Gordon.

Petitioner has proven that claims 11 and 21 would have been obvious over Julia and either Martin or Blahut.

Petitioner's Motion to Exclude (Paper 40) is granted-in-part and denied-in-part. Specifically, the hearsay statements in Exhibit 2032 ¶ 34 are excluded; the request to exclude Exhibit 2011 is granted; and, the request to exclude Exhibits 2024, 2015, 2010, 2021, 2009, 2001, 2002, and 2003 is denied.

V. ORDER

Accordingly, it is:

In consideration of the foregoing, it is hereby:

ORDERED that Petitioner has shown by a preponderance of the evidence that claims 1–9, 11–19, and 21 are unpatentable;

FURTHER ORDERED that Petitioner's Motion to Exclude (Paper 40) is *GRANTED-IN-PART* and *DE-NIED-IN-PART*; 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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APPENDIX E

UNITED STATES PATENT AND
TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND
APPEAL BOARD

COMCAST CABLE COMMUNICATIONS, LLC,
Petitioner,

v.

PROMPTU SYSTEMS CORP.
Patent Owner.

Case CBM2018-00034
Patent RE44,326 E

Before JAMESON LEE, KARL D. EASTHOM, and
ALEX S. YAP, *Administrative Patent Judges*.

EASTHOM, *Administrative Patent Judge*.

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

I. INTRODUCTION

Petitioner, Comcast Cable Communications, LLC filed a Petition (Paper 2, “Pet.”) seeking a covered business method (“CBM”) patent review of U.S. Patent No. RE44,326 E (Ex. 1001, the “326 patent”), pursuant to § 18 of the Leahy-Smith America Invents Act (“AIA”).¹ Petitioner challenges claims 1–21 of the ’326 patent (the “challenged claims”). Pet. 1. Patent Owner, Promptu Systems Corp., filed a Preliminary Response. Paper 6.

After the Institution Decision (Paper 9) instituting trial on the challenged claims, Patent Owner filed a Patent Owner Response (Paper 12, “PO Resp.”), Petitioner filed a Reply (Paper 15, “Reply”), and Patent Owner filed a Sur-Reply (Paper 17, “PO Sur-Reply”). Pursuant to an order by the panel (Paper 23), the parties filed additional briefing to address the impact of the 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (the “Guidance”), available at <https://www.federalregister.gov/documents/2019/01/07/2018-28282/2019-revised-patent-subject-matter-eligibility-guidance>, on the instant proceedings, which issued after the Institution Decision. Paper 24 (“Pet. SMG Br.”); Paper 25 (“PO SMG Br.”).

An Oral Hearing occurred on July 26, 2019. Due to a problem with the court reporting service hired by the Patent Trial and Appeal Board, no transcript of

¹ Pub. L. No. 112-29, 125 Stat. 284 (2011); *see also id.* at 329–31 (providing that the transitional program for covered business method patents will be regarded as a post-grant review under Chapter 32 of Title 35 of the United States Code, and will employ the standards and procedures of a post-grant review, subject to certain exceptions).

the hearing exists. Patent Owner requested a second oral hearing but later withdrew that request in light of our authorization for the parties to provide a list of bullet points they desire to note expressly for consideration by the panel in this Final Written Decision). Paper 27. The parties filed these bullet points for consideration. Papers 28–30.

We have jurisdiction under 35 U.S.C. § 318(a). After considering the evidence, arguments, including arguments at the Oral Hearing and in light of the bullet points of both parties, and for the reasons set forth below, we determine that Petitioner showed by a preponderance of the evidence that claims 1–21 of the '326 patent are unpatentable.

A. *The '326 Patent*

The '326 patent, titled “System and Method of Voice Recognition Near a Wireline Node of a Network Supporting Cable Television and/or Video Delivery,” reissued from U.S. Patent No. 7,685,523 (the “523 patent”). Ex. 1001, (64). The '326 patent generally relates to using speech recognition so a user can order video or other information over a typical cable television system or other network. *See* Ex. 1001, (57), 2:5–8.

According to the '326 patent Specification, “the problems of voice 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 2:5–8. According further 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 2:8–11. In addition, “[u]ser identification based upon speech

recognition is provided over a cable television and/or video delivery network.” *Id.* at 4:66–5:3.

Even though the Specification describes a centralized voice recognition system in some places, in the first substantive sentence of the ’326 patent, it also describes voice recognition at or near any node in the system: “*This invention relates to voice recognition performed near a wireline node of a network supporting cable television and/or video delivery.*” *Id.* at 1:38–40 (emphases added). It further states “[a] speech processor system *may be* centrally located in or near a wireline node, which may include a Cable Television (CATV) central location.” *Id.* at 18:16–18 (emphasis added).

Figure 3 of the ’326 patent appears below:

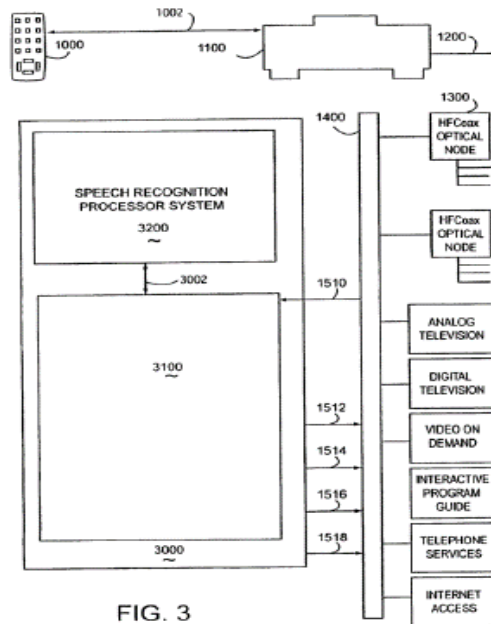


FIG. 3

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, 7:13–20.

As indicated above, Figure 3 depicts single remote control device 1000 coupled to single set-top box 1100. 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. In one embodiment, “commercial” set-top box 1100 receives a wireless signal via coupling 1002 from remote control unit 1000 and then re-modulates it for upstream transmission on cable return path 1200. *See id.* at 11:10–17.

At least one embodiment involves multiple user sites and multiple channels: “The 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 22:3–4. At each user site, “[t]he speech signal transmitted from a subscriber’s set-top box, or set-top appliance, 1100[,] is received [at the entry points] 1510 by the five to 40 MHz data receiving equipment.” *Id.* at 12:14–17. The disclosed invention contemplates a speech processing system that associates only one speech channel per user site: “At least one, and possibly all, of the identified, speech channels may have an associated site” and it “may include at least one computer.” *Id.* at 22:42–54.

To begin the process of obtaining content through a system such as that depicted in the embodiment illustrated in Figure 3 above, “[i]n the subscriber’s premises, a speech-enabled remote control [1000] may be employed, e.g.,[] containing a microphone, as well as traditional universal remote control functionality.” *Id.* at 13:46–48. “The speech output may be wirelessly transmitted to a set[-]top pod, module, or appliance located at the set-top box.” *Id.* at 13:51–53. “The function of the set-top appliance 1100 may be to receive the RF signal from the remote control and then digitize and compress the speech signal and prepare it for upstream transmission.” *Id.* at 11:34–36.

Regarding example content derived by using the microphone, “[i]n . . . embodiments of the invention, spoken commands from a cable subscriber are recognized and then acted upon to control the delivery of entertainment and information services, such as Video On Demand, Pay Per View, Channel control, online shopping, and the Internet.” *Id.* at 5:14–22.

Describing the background of the invention (“Background Art” (*id.* at 3:41)), the Specification states “[u]pstream signals in the 5 to 40 MHz band from each subscriber connected to the node are collected, combined, and then sent to the Headend via *either the same fiber used for the downstream video carriers, or a separate fiber.*” *Id.* at 3:25–28 (emphasis added). It also states “[d]ownstream control data transmission *typically* occurs in a separate frequency band from the upstream channels.” *Id.* at 3:46–47. It further states “[t]ypically, [high frequency cable] networks employ an optical fiber from a central office, or Headend, to a neighborhood node. *The fiber has forward and reverse transmission capability, which can*

alternatively be accommodated on separate fibers.” Id. at 3:48–51 (emphasis added).

Utilizing aspects of this background technology, the Specification describes as part of the invention employing upstream channels via “the return path.” For example, “the speech command which originates at the user site, often the home of the subscriber, [and] is sent upstream *via the return path* (often five to 40 MHz) in the cable system to a central speech recognition and identification engine.” *Id.* at 5:29–32 (emphasis added). Also, “[t]he set-top box 1100 may be used for both upstream and speech command signals.” *Id.* at 11:31–33. According to these descriptions, the upstream and downstream path may encompass at least part of the same path (e.g., fibers, cable, channels, set-top box), originating at the user’s microphone (first device) and returning to a TV (second device) to provide “Video On Demand, Pay Per View, Channel control, on-line shopping, and the Internet.” *See id.* at 5:14–22, Fig. 3.

B. Related Matters

The parties identify several matters related to the ’326 patent, including other PTAB proceedings and infringement litigation in a district court. Pet. x; Paper 6, 5–6; Paper 4, 2–3. The same Petitioner as here filed two other petitions challenging claims 1–9, 11–19, and 21 of the ’326 patent, and the Board held all challenged claims unpatentable for obviousness: *Comcast Cable Commc’ns, LLC v. Promptu Sys. Corp.*, IPR2018-00342, Paper 54 at 73–74 (PTAB July 18, 2019) (final written decision) (the “342 IPR” or the “342 FWD”); *Comcast Cable Commc’ns, LLC v. Promptu Sys. Corp.*, IPR2018-00343, Paper 56 at 73–74 (PTAB July 18, 2019) (final written decision) (the

“’343 IPR” or the ’343 FWD”). Patent Owner filed notices of appeal in each proceeding. ’342 IPR, Paper 56; ’343 IPR, Paper 58. The same Petitioner also filed a petition challenging a related patent, which the Board denied, in *Comcast Cable Commc’ns, LLC v. Promptu Sys. Corp.*, CBM2018-00033, Paper 9 at 12 (PTAB October 10, 2019). Patent Owner also identifies IPR2017-00344 and IPR2017-00345 as involving related U.S. Patent No. 7,047,196. Paper 4, 2.

C. Asserted Ground of Unpatentability

Petitioner asserts that the challenged claims are unpatentable on the following grounds (Pet. 3–4):

Claims Challenged	Statutory Basis	Ground
1–21	§ 101	Abstract Claiming
1–21	§ 251	Recapture
11 and 21	§ 112, ¶ 2	Indefiniteness

D. Challenged Claims

Independent claims 1 and 12, from which all other challenged claims depend, recite similar subject matter. Claim 1 of the ’326 patent reveals the substantial modifications made to claim scope during the reissue proceeding:

1. A method [of using a back channel containing a multiplicity of speech channels from a multiplicity of user devices presented to a speech recognition system in a network supporting content delivery] *for speech directed information delivery*, comprising [the steps of]:

[partitioning a received back channel containing a multiplicity of speech channels from a multiplicity of user devices into a multiplicity of received identified speech channels;

processing said multiplicity of received identified speech channels to create recognized speech for each of said received identified speech channels; and

transmitting a unique response to each of said user devices, based upon said recognized speech.]

receiving speech information at a first device, wherein said first device is a wireless device;

transferring said speech information from said first wireless device via a first network path to a speech recognition engine; and

at said speech recognition engine, recognizing said speech information and effecting information delivery to a second device via a second network path.

Ex. 1001, 50:23–44.² Reissued independent claim 12 reveals similar changes in claim scope relative to originally issued dependent claim 12. *See id.* at 52:29–54.

E. Claim Construction

The Board interprets claims of an unexpired patent using the broadest reasonable construction in

² “Matter enclosed in . . . brackets [] appears in the original patent but forms no part of this reissue [S]pecification; matter printed in italics indicates the additions made by reissue.” Ex. 1001, 1:6–10.

light of the specification of the patent in which they appear. See 37 C.F.R. § 42.300(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–45 (2016).³ “Under a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history.” *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016).

Petitioner proposes constructions for two terms: “speech recognition engine” and “set-top box” (“STB”). See Pet. 15–17. Patent Owner provides a construction for “speech recognition engine” and does not respond to Petitioner’s proposals regarding the STB.

Apart from “speech recognition engine” and “network path,” no other claim terms require express construction to resolve a controversy. See *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017); *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (only claim terms “in controversy” require construction and “only to the extent necessary to resolve the controversy”).

1. Speech Recognition Engine

Independent claims 1 and 12, process claims reciting “[a] method for speech directed information deliv-

³ Per recent regulation, the Board applies the district court claim construction standard to petitions filed on or after November 13, 2018. See 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) (to be codified at 37 C.F.R. pt. 42). Because Petitioner filed the Petition before November 13, 2018, we apply the broadest reasonable interpretation standard.

ery,” each recite “transferring said speech information” “from said first wireless device via a first network path to a speech recognition engine.”

In the Institution Decision, we did not construe the term “speech recognition engine” explicitly, but determined on a preliminary basis for institution purposes that it generally constitutes a “type[] of generic device[]” (Inst. Dec. 30), and more specifically, “a generic, conventional speech recognition engine . . . performing conventional functions as disclosed and claimed” (*id.* at 31–32 (citing Pet. 22–24, 43–46; Ex. 1029 ¶¶ 54–58, 118–121); Ex. 1029 ¶¶ 52–58, 90–99, 170–182; Ex. 1021, 285, 287)).

Patent Owner contends that “the reissue claims require a ‘speech recognition engine’ that is accessible to a multiplicity of user devices.” PO Resp. 40. Petitioner contends that the “broadest reasonable interpretation” of “speech recognition engine” should be “hardware and/or software used to identify spoken words.” Pet. 15–16. Patent Owner relies on a proposed claim construction proposed by Petitioner in a district court proceeding and asserts Petitioner “cannot dispute that the [S]pecification expressly defines ‘speech recognition engine’ to require the ability to process speech from multiple user devices.” PO Resp. 41–42 (citing Ex. 2010, 22). Petitioner maintains its “proposed construction recognizes that the ‘speech recognition engine’ can process voice commands from one or more user sites (i.e., the construction permits but is not limited to receiving voice commands from multiple users).” Reply 19.

Patent Owner’s construction involves putting a constraint on the connection scheme in the network of the “speech recognition engine.” In other words, Patent Owner’s construction involves using a generic

speech recognition engine “accessible to a multiplicity of user devices” by connecting the speech recognition engine near a network node via a switch, cable splitter, or other circuitry, so that multiple users can access it (similar to the system disclosed in the IBM Technical Disclosure Bulletin (“IBMTDB”) discussed below). During the Oral Hearing, Patent Owner verified that its construction seeks to limit the accessibility of the speech recognition engine based on its location or connection in the network, as opposed to limiting the speech recognition functionality itself. *See* Paper 28 (arguing “local (i.e., on a user’s device) speech processing remains excluded from the reissue claims”). Patent Owner cites the Specification in an effort to show that the ’326 inventors solve prior art problems by providing speech recognition to a collection of users over a network. *See* PO Resp. 43 (quoting Ex. 1001, Abstract, 4:54–56, 4:66–5:1, 5:18–22).

Notwithstanding these disclosures that support providing speech recognition to a variety of users, even if these disclosures relate to the connection or location of the speech recognition engine, this does not mean the term “speech recognition engine” itself carries a definition or construction requiring a specific connection or location. Rather, as Patent Owner makes clear in the issued patent claims prior to reissue, constraints on the connectivity for a multiple users must result from details recited about the connectivity. For example, prior to reissue, issued claim 1 in the ’523 patent recited in the preamble “[a] method of using a back channel containing a multiplicity of speech channels *from a multiplicity of user devices* presented to a speech recognition system in a network supporting content delivery,” and the body of claim recited, *inter alia*, “partitioning a received back channel containing *a multiplicity of speech channels from a*

multiplicity of user devices into a multiplicity of received identified speech channels; processing said multiplicity of received identified speech channels to create recognized speech for each of said received identified speech channels.” Supra Section I.D (emphases modified).

Patent Owner’s claim construction during the district court litigation agrees with our analysis, as Patent Owner proposed construing a “speech recognition engine” as “computer running software that accepts spoken language as input and determines (or identifies) what words and phrases or semantic information are present.” Ex. 2010, 20. This construction represents a functional description of a generic speech recognition engine. It does not constrain the functionality to anything more than what an artisan of ordinary skill expects from a generic speech recognition engine (i.e., it recognizes speech). Patent Owner’s proposed claim construction in the district court litigation does not constrain the speech recognition engine by any specific connection, network location, or functionality.

The Specification supports the claim construction of a generic speech recognition engine that Petitioner proposes here, and that Patent Owner proposed in the district court. First, as noted above, the Specification specifically contemplates almost any location for a speech recognition engine in a network “near a wireline node.” *Supra* Section I.A; Ex. 1001, 1:38–40 (“*This invention relates to voice recognition performed near a wireline node of a network supporting cable television and/or video delivery.*” (emphases added)). The Specification also discloses a wide variety of speech recognition engines as background art. Ex.

1001, 1:51–52 (“There have been numerous patents issued regarding voice recognition”), 1:42–2:4 (describing prior art voice recognition systems). The ’326 patent does not define a “speech recognition engine,” but it generically describes “[t]he speech recognition engine [as] process[ing] speech packets to create speech content and formulate the response to the speech content for each of the user sites.” *Id.* at 18:23–25. The ’326 patent also describes embodiments that include parallel processors to handle multiple users. *See id.* at Fig. 3 (server farm 3000), 17:60–62 (“[M]any system installations may require multiple AgileTV™ Voice Processing Unit (AVPU) boxes 3000 to meet the performance needs of the subscriber base.”).

The description of different types of speech recognition systems, the generic description for processing speech packets for each of the user sites (*id.* at 18:23–25), the disclosure of the *invention* as locating a speech recognition engine anywhere “near a wireline node” (*id.*), and the depiction at Figure 3 of only one user site, reveals that the Specification contemplates a generic speech recognition engine that processes speech from a single user connected in the network. The Specification contemplates modifying the speech recognition engine depending on the number of users, but it does not require reading multiple users into the broadened reissue claims. *See id.* at Fig. 3 (server farm 3000), 17:60–62. Challenged claim 1 tracks this finding, because at most it only requires one user site, by reciting “receiving speech information at a first [wireless device],” for example, a microphone. Patent Owner agrees that claim 1 requires “a single user’s interaction”: “[S]imply because the reissue claims are drawn to a single user’s interaction with a multi-user system does not mean the claims read on a single-user system.” Paper 28, 2.

As indicated above, Figure 3 depicts a single user, even if Figure 3 contemplates more than one user. *See supra* Section IA (noting microphones at a single user site as depicted in Figure 3 and as described in the '326 patent). In light of the Specification, “[t]he speech recognition engine processes speech packets to create speech content and formulate the response to the speech content for each of the user sites” connected in the network, which might be a one. *See Ex. 1001, 18:23–25.* The Specification also contemplates one speech channel for a single user site: “*At least one, and possibly all, of the identified speech channels may have an associated user site.*” *Id.* at 22:54–55 (emphases added). As reissued, claim 1 does not require identifying a single speech channel.⁴

As indicated above, the '326 patent describes an embodiment of “a speech recognition server array 3200” for handling one or more users. *Id.* at 20:58–59. The Specification states “[e]ach of these arrays will process over 1K speakers concurrently and fit into a single rack mount enclosure.” *Id.* at 21:48–49. It refers to the “speech processing system coupled to a wireline node in the network. The wireline node provides multiple received identified speech channels to the speech processing system.” *Id.* at 22:34–36. The Specification also describes using “an AVPU input multiplexor” to render “a high speed speech pro-

⁴ Claim 7 depends from claim 1 and recites “determining a user site associated with a user of said first device.” It does not require determining more than one user at respective sites. Also, claim 11 recites “*uniquely identified with* said user device[s].” In other words, claim 11, as reissued, like all the challenged claims, eliminated a previous recitation in the '523 patent claims to plural “device[s]” by eliminating the “s” at the end of “device.”

cessing unit capable of processing the data from several nodes.” *Id.* at 12:43–47. The Specification explains “the AgileTV™ Voice Processing Unit (AVPU) is a high speed speech processing unit capable of processing data from several nodes.” *Id.* at 12:43–45. The Specification also states “[t]he AVPU Engine may provide speech recognition and control services for existing services such as Interactive Programming Guides, Video on Demand (VOD) Services or access to the Internet or World Wide Web.” *Id.* at 12:61–64. The Specification also describes “an array of processors as shown as 3200 in FIG. 3.” *Id.* at 21:1–2.

Patent Owner does not urge a construction for a “speech recognition engine” that requires the disclosed “AVPU” or “an array of processors.” *See id.* at 12:43–45, 21:1–2. Patent Owner also does not urge a construction that requires the “speech recognition engine” to include, or be combined with, a “multiplexor,” or to include a “high speed speech processing unit,” or be capable of providing “control services” or “access to the Internet or World Wide Web.” *See id.* at 12:43–45. Hence, the ’326 patent describes a “speech recognition server array,” a “speech processing system,” and an “AVPU Engine” as providing speech recognition for multiple users, and also describes using a multiplexor to handle multiple nodes, but the challenged claims do not recite or require these features of the narrower embodiments (even if the claims do not preclude these described features).

Mr. Lipoff contends “[a] person of ordinary skill in the art would understand the term ‘speech recognition engine,’ as used in the ’326 Patent, to refer broadly to ‘hardware and/or software used to identify spoken words.’” Ex. 1029 ¶ 106; *see* Pet. 15 (citing Ex. 1029 ¶ 106). Mr. Lipoff credibly describes certain narrower

embodiments including the array embodiment discussed above (*see* Ex. 1029 ¶¶ 70–72, 108) and cites to passages that describe the speech recognition functionality in more generic terms (*id.* ¶¶ 107–108). For example, Mr. Lipoff refers to the following generic passages in the Specification (Ex. 1029 ¶ 107):

1) “The system can recognize and process speech so that the key words of spoken commands are recognized and displayed.” Ex. 1001, 5:33–35;

2) “The speech engine determines the most likely spoken request based on statistical analysis, and may return a text string corresponding to the spoken request.” *Id.* at 16:33–36; and

3) “The speech recognition engine processes speech packets to create speech content and formulate the response to the speech content for each of the user sites.” *Id.* at 18:23–25.⁵

Given these disclosures, Mr. Lipoff credibly testifies “[t]he claims recite ‘recognizing said speech information’ ‘at said speech recognition engine,’ but do not limit the engine to any particular device or technique, and do not identify any particular device or technique for performing speech recognition.” Ex. 1029 ¶ 106.

Patent Owner does not challenge this testimony with expert testimony. In support of its construction, Petitioner persuasively contends

⁵ Mr. Lipoff does not quote “for each of the user sites” at the end of the sentence, but provides the citation to the sentence. *See* Ex. 1029 ¶ 107. Claim 1 does not recite a “user site,” but it implicitly requires at most only one user site, so “each of the user sites” as disclosed in that sentence refers to one site in the context of claim 1.

[t]he [S]pecification describes several embodiments with “speech engines,” some of which contain a “speech processor computer 1520.” ’326 Patent at 29:4–32:13, 33:8–41:19, Figs. 23–24, 26–31. The [S]pecification also provides examples of speech recognition performed using software and hardware. *Id.* at 1:42–47 (current voice recognition “applications use voice recognition technology running on a computer or voice recognition chip technology”), 1:62–65 (“There is, however, another class of voice recognition technology referred to as natural language, which requires state of the art processing software and hundreds of megabytes of RAM to support.”).

Pet. 15–16.

As Petitioner and Mr. Lipoff show, the ’326 patent describes several embodiments of speech recognition engines. In other words, the challenged claims recite a “speech recognition engine,” instead of a “speech recognition server array,” “speech processing system” (Ex. 1001, 20:58–59, 21:48–49), “computer,” or “voice recognition chip” (*id.* at 1:42–47). This indicates the claims recite a speech recognition engine that performs the generic function of recognizing speech as Mr. Lipoff contends (*see* Ex. 1029 ¶ 106), thereby covering the several types of speech recognition engines disclosed in the ’326 patent.

As discussed above, the ’326 patent refers to locating the speech recognition engine at a “central” location in several places. However, as also discussed above, the claims do not specify any location and the Specification describes the *invention* as providing voice recognition anywhere near a wireline node. *See* Ex. 1001, 1:38–40 (“This *invention* relates to voice

recognition performed *near a wireline node of a network supporting cable television and/or video delivery.*” (emphases added)). The Specification also generally explains “[a]s used herein, *a central location may include a node, Headend, or metropolitan Headend for a residential broadband network.*” Ex. 1001, 12:18–19 (emphasis added). In another place, the ’326 patent states “[a] speech processor system *may be centrally located in or near a wireline node,* which may include a Cable Television (CATV) central location.” *Id.* at 18:16–18 (emphasis added). By specifically referring to the *invention* as involving speech recognition without any reference to location, generally referring to where a speech recognition engine “may” be located, and generally defining a central location as near any node in the system, the Specification supports the challenged claims as allowing the speech recognition engine to be located near any node in the network.

Furthermore, Patent Owner contends Petitioner “abandoned” its requirement in district court for a “centralized” location, and Patent Owner contends the panel need not determine if the speech recognition engine must be centrally located. *See* PO Resp. 42 (“[T]he Board need not decide that issue to resolve the instant dispute between the parties.”). Although Patent Owner contends the panel need not resolve the “centralized” location issue, as discussed further in the next section, Patent Owner urges the claims otherwise “require remote speech processing accessible to a multiplicity of user devices.” *Id.* at 46.

Patent Owner also argues that reading the claims on a “single-user device . . . is baseless” because “[r]eissue claim 1 expressly recites multiple user devices, a ‘first device’ and a ‘second device.’” PO Resp.

40. This argument obfuscates the issue. Petitioner does not attempt to read the claims on a “single-user device.” Rather, Petitioner refers to a single user or single user site connected in the network (with that user or site employing both the first and second devices).

The prosecution history supports our analysis and shows a speech recognition engine need not be “accessible to a multiplicity of user devices,” contrary to Patent Owner’s arguments here. *See* PO Resp. 40. During prosecution of the ’523 patent, Patent Owner stated Houser does not disclose or suggest the claimed subject matter of “providing said speech recognition system at a back channel accessible *by a multiplicity of user devices coupled to said network*,” as recited in original claim 7. Ex. 1004, 1344 (Patent Owner quoting original claim 7) (emphasis added). Then, in the next sentence, Patent Owner argued “Houser is completely silent about speech recognition system . . . accessible *by a multiplicity of user devices coupled to said network*.” *Id.* (emphasis added). Patent Owner argued similarly with respect to original claim 1. *Id.* at 1343 (“Houser has nothing to do with partitioning a received back channel containing a multiplicity of speech channels *from a multiplicity of user devices* into a multiplicity of received identified speech channels.”) (emphasis added).

Accordingly, the prosecution history verifies that Patent Owner understood that the claimed “speech recognition system” (now a “speech recognition engine” in that system) does not include the separate requirement of being “accessible to a multiplicity of user devices.” This prosecution history likewise verifies that un-recited claim limitations must be employed to provide the requirement urged by Patent Owner, for

example, recited limitations in issued claims 1 or 7 of the '523 patent (as Patent Owner understood based on its prosecution history arguments).

Although the speech recognition engine as construed herein does not preclude the capability of handling multiple users, it does not require that capability, contrary to Patent Owner's urging. *See* PO Resp. 40. Therefore, in light of the discussion above, the speech recognition engine as construed here includes the capability of handling only one user at a time, for example, via an unclaimed multiplexor (*see* Ex. 1001, 12:43–47 (describing “an AVPU input multiplexor” to render “a high speed speech processing unit capable of processing the data from several nodes”)), or otherwise.

Apart from arguing a certain connection scheme (i.e., via a “network path” as discussed in the next section) and the “accessible to a multiplicity of user devices” interpretation, Patent Owner does not urge a construction that requires the speech recognition engine itself (i.e., hardware/software) to be capable of handling more than one speech channel *simultaneously*. Neither party explicitly addresses this issue. Nevertheless, to the extent the claimed “speech recognition engine” must be capable of processing one or more users based on internal or external software or hardware, as indicated in the Specification and elsewhere, conventional speech recognition engines at the time of the invention handled multiple users at least one at a time using a multiplexor or otherwise. *See, e.g., infra* Section I.E.3; Ex. 1029 ¶¶ 46, 49, 54, 56–58, 119.⁶

⁶ “Whether [a] structural recitation limits a [method] claim depends on the language of the claim, the specification, prosecution

Based on the foregoing and the further discussion below, we maintain our initial implicit interpretation in the Institution Decision, namely, the speech recognition engine represents a generic device that performs the basic functions of recognizing speech. See Inst. Dec. 30–31. Accordingly, we adopt Petitioner’s and Mr. Lipoff’s materially same construction, namely a “speech recognition engine” includes “hardware and/or software used to identify spoken words.” Pet. 15; Ex. 1029 ¶ 106.

history, and other claims.” *Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1271 (Fed. Cir. 1986), abrogated on other grounds by *Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665 (Fed.Cir.2008) (en banc) (“[D]irect evidence of a fact is not necessary.”); see also *E-Pass Tech., Inc. v. 3COM Corp.*, 222 F.Supp.2d 1147 (N.D. Cal. 2003) (“A structural limitation on a method claim is not absolute As stated before, the size of the card is a structural limitation that is central to the very essence and purpose of the ’311 patent—substitutability.”) (citing *Moleculon* 793 F.2d at 1271). Here, requiring the “speech recognition engine” of the challenged claims to be capable of processing speech from more than one user site, simultaneously or otherwise, unnecessarily imposes a structural limitation in a method that only requires processing speech from one user at most. Patent Owner agrees “the reissue claims are drawn to a single user’s interaction.” Paper 28, 2. The Specification generally implies that the speech recognition engine must be capable of processing speech from the number of users connected to the network, i.e., a single user in the challenged claims. See Fig. 3 (disclosing one user site 1000), 18:54–55 (“At least one, and possibly all, of the identified speech channels may have an associated user site.”), 18:12–15 (“A Speech Packet Processor may be centrally located in or near a wireline node specifically to capture and prepare the upstream speech packets that are to be fed to the Speech Recognition Engine.”), 18:23–25 (“The speech recognition engine processes speech packets to create speech content and formulate the response to the speech content *for each of the user sites*. (emphasis added)).

2. First Network Path and Second Network Path

The parties do not construe explicitly the terms “first network path” and “second network path” as recited in challenged independent claims 1 and 12. Rather than relying on a central location per disclosures of some embodiments in the ’326 patent as imposing an implied location for the claimed speech recognition engine as discussed above, Patent Owner relies on these terms as invoking its alleged “accessibility [of the speech recognition engine] to a multiplicity of users” requirement. *See* PO Resp. 37–40. Patent Owner’s argument, relying on the recited “first network path” and “second network path,” as precluding “[l]ocal speech processing,” further supports our interpretation above that the speech recognition engine itself does not carry a connection requirement for a plurality of users. *See id.* at 39.

In general, without construing the terms, Patent Owner contends the “first network path” and “second network path” somehow require the speech recognition engine to be accessible to a plurality of users. For example, Patent Owner argues “[l]ocal speech processing . . . has not crept back into the claims” based on the recitation of “transferring said speech information . . . to a first network path to a speech recognition engine . . . and effecting information delivery to a second device via a second network path.” PO Resp. 37. As discussed above, however, the Specification includes examples of a microphone (first network device) sending wireless signals to a local set-top box (second network device), and a speech recognition engine may be located at or near any node in the system, including at or near a set-top box. *Supra* Sections I.A, I.E.1; PO SMG 5–6 (Patent Owner agreeing the claimed first device (a wireless device) may include a

microphone and the second device may include a set-top box: “The claims here recite a specific implementation of remote speech recognition by receiving a spoken command at a wireless device to effect information delivery to a different device . . . [and] the different device may be a television and set-top box.”).

Petitioner persuasively contends “[t]he claims broadly recite a speech recognition engine communicating with devices via network paths, which could be in a local or home network, a cable television network, or any other network.” Reply 20. In another instance, Patent Owner agrees location does not play a decisive role in accessibility to a number of users, because Patent Owner argues that even Houser’s local set-top box’s speech recognition engine may be accessible to a plurality of users.⁷ Specifically, Patent Owner contends that Petitioner

presents no evidence to support its assertion equating “speech recognition at a terminal unit” with single-user implementations only. For example, one could perform speech recognition at a terminal unit (e.g., on a primary set-top box in a living room) to independently control the television content displayed on other televisions in the same house. This would perform speech recognition at a terminal unit and still support multiple users.

PO Sur-Reply 14 n.4.

The argument above confuses the issues here. Petitioner’s single user implementation refers to the claims as reading on a single user site in a network as

⁷ The same Houser reference plays a dominant role in the recapture issue below. *Infra* Section IV.

opposed to requiring multiple user sites in the network. Whether the claims also read on multiple users at a single user site in a network needs no analysis, because it bears no relevance to any issue here.

In any event, Petitioner notes “Patent Owner argued that the Board should adopt [its] proposed construction of ‘network path’ in the pending IPR proceedings challenging the ’326 Patent.” Reply 21 (citing ’342 IPR, Paper 22 at 11; ’343 IPR, Paper 24 at 11). In the related ’342 IPR cited by Petitioner, Patent Owner urged the Board to adopt the construction of a “network path” as a “physical route through which data is transmitted from [a] source to [a] destination,” a construction Patent Owner urged in the related district court litigation. ’342 IPR, Paper 22 at 11. Patent Owner contended “Petitioner agreed to that construction [in the district court litigation], which should also be applied here [in the ’342 IPR].” *Id.* Further urging this construction in the related ’342 IPR, Patent Owner asserted “there is no reason to deviate from what the claim means ‘on its face’ when, even ‘[u]nder a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history.” *Id.* (quoting *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016) (citation omitted)). Even though the ’342 IPR involves prior art challenges to the same ’326 patent involved here, and Houser plays a dominant role in each proceeding (*see supra* note 7), Patent Owner asserted in the ’342 IPR “[t]he Board need not construe” a “speech recognition engine.” ’342 IPR, Paper 22 at 8.

The Board agreed with, and adopted, Patent Owner’s claim construction in the ’342 IPR, which the

same Petitioner did not dispute there and does not dispute here. '342 IPR, Paper 54 at 15–20; Reply 21.⁸ We agree with, and adopt, the Board's analysis and claim construction of a "network path" as a "physical route through which data is transmitted from [a] source to [a] destination," in the '342 IPR. *Id.* The two cases involve the same intrinsic evidence, namely the '326 patent Specification and claims, and we see nothing in this record to deviate from the construction and analysis in the '342 IPR. Although in the '342 IPR Patent Owner also urged the Board to interpret a source and destination as requiring "nodes that both send and receive messages" (*see id.* at 19–20), Patent Owner does not urge that construction of a "node" here. Even if the "node" issue somehow presents a material issue here, no party argues that issue here, and the two cases involve materially the same intrinsic evidence (the '326 patent Specification and claims). No reason exists to deviate from the Board's analysis in the '342 IPR. Therefore, we also adopt the Board's rationale and reasoning in the '342 IPR on the "node" issue here. *See id.* at 15–20.

Therefore, the claim construction of a "network path" does not alter the claim construction of a "speech recognition engine." Accordingly, and for the reasons explained in the preceding section, we adopt Petitioner's proposed claim construction of a "speech recognition engine" as supported by the Specification and extrinsic evidence. As we indicated in the previous section, the speech recognition engine represents

⁸ The Board employed the same claim construction in the related '343 FWD. '343 IPR, Paper 56 at 16–21; *see supra* Section I.B (Related Matters).

a generic device that includes “hardware and/or software used to identify spoken words.” *Supra* Section I.E.1.

3. Extrinsic Evidence

Extrinsic evidence also supports our claim construction of a speech recognition engine and conforms with the Specification. As noted in the Institution Decision, Mr. Lipoff cites “articles and disclosures attached as Exhibits evidencing known voice recognition technology.” Inst. Dec. 32 (citing Ex. 1029 ¶¶ 52–58). Exhibit 1020 represents a “May 1995 article disclosing a remote control with a microphone providing natural voice-control technology to control a digital set-top with menus via control at a headend.” Exhibit 1021 represents an “August 1995 IBM Technical Disclosure Bulletin [IBMTDB] disclosing ‘methods for using speech recognition to select or modify images, sound, and data transmitted on a cable television system’ using a microphone or wireless telephone.” Pet. 32 (quoting Ex. 1021, 285).

The 1995 IBMTDB, titled “Speech Recognition Methods for Controlling Cable Television,” discloses a centralized “speech recognition system 8 . . . connected to a cable television signal generator” “[a]t a remote location” relative to a subscriber TV 2, cable box 4, and telephone 5. *See* Ex. 1021, 285, Fig. 1. Three embodiments, illustrated in Figures 1–3, describe centrally located speech recognition system 8, 20, or 29, accessible by multiple users through “the telephone company switch,” 7 or 15, or signal splitter 17. *See id.* at 285–286, Figs. 1–3. The embodiment of Figure 3 involves microphone 24 and cable box 25, such that “the user’s voice commands are passed unaltered onto a channel or sub-channel of the cable television system, are compressed prior to transmission,

are intermixed with transmissions from other users, or are labeled or partly decoded in the home before transmission.” *Id.* at 287 (emphasis added). “In general, voice commands are directed from a signal splitter 27 to a speech recognition system 28, which in turn controls a television signal generator 29 and a portion of cable system 30.” *Id.* So the IBMTDB discloses a centrally located speech recognition engine accessible to multiple users. *Id.*; Ex. 1029 ¶ 57 (testifying “acoustic data from the user is sent over the cable TV network, either compressed or intermixed with transmissions from other users” in the IBMTDB system), ¶¶ 53–58 (testifying about other known speech recognition technology including the IBMTDB Figure 3).

As noted above, the ’326 patent acknowledges the use of known technology in speech recognition. Ex. 1001, 1:42–2:4; Ex. 1029 ¶ 53 (“The ’326 [p]atent admits that speech recognition and voice control systems existed in the prior art.”). Tracking the title, “System and Method of Voice Recognition Near a Wireline Node of a Network, Supporting Cable Television and/or Video Delivery” (*id.* (54)), the ’326 patent specifically states “[t]his *invention* relates to voice recognition performed near a wireline node of a network supporting cable television and/or video delivery” without any requirement about accessibility to a plurality of users. *Id.* at 1:38–40 (emphasis added).

Accordingly, the recited speech recognition engine represents a generic device for identifying spoken words. *See* Inst. Dec. 30 (determining the claims require “types of generic devices” including “a conventional speech recognition device”). Based on the foregoing discussion and for the reasons explained in the preceding two sections, as Petitioner proposes, a “speech recognition engine” includes “hardware

and/or software used to identify spoken words.” *See* Pet. 15–16.

II. COVERED BUSINESS METHOD PATENT

Section 18 of the AIA provides for the creation of a transitional program for reviewing covered business method patents and limits review to persons or their privies that have been sued or charged with infringement of a “covered business method patent.” AIA § 18(a)(1)(B); *see* 37 C.F.R. § 42.302. In addition,

the term “covered business method patent” means a patent that claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service, except that the term does not include patents for technological inventions.

AIA § 18(d)(1); *see* 37 C.F.R. § 42.301(a). A patent need have only one claim directed to a covered business method to be eligible for review. *See* Transitional Program for Covered Business Method Patents—Definitions of Covered Business Method Patent and Technological Invention; Final Rule, 77 Fed. Reg. 48,734, 48,736 (Aug. 14, 2012) (“Final Rule”).

A. *Charged with Infringement*

Under 37 C.F.R. § 42.302(a),

[a] petitioner may not file with the Office a petition to institute a covered business method patent review of the patent unless the petitioner, the petitioner’s real party-in-interest, or a privy of the petitioner has been sued for infringement of the patent or has been charged with infringement under that patent.

See AIA § 18(a)(1)(B). Under 37 C.F.R. § 42.302(a), “[c]harged with infringement means a real and substantial controversy regarding infringement of a covered business method patent exists such that the petitioner would have standing to bring a declaratory judgment action.”

Petitioner “certifies that it has been sued for infringement of the ’326 Patent and therefore satisfies the standing requirement to seek CBM review.” Pet. 3 (citing Ex. 1026, 12–14 (Complaint)). Patent Owner does not contest Petitioner’s certification.

Based on the foregoing, Petitioner shows persuasively it possesses standing to file the instant Petition for CBM review of the ’326 patent.

B. Used in the Practice, Administration, or Management of a Financial Product or Service

A covered business method (“CBM”) patent “claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service, except that the term does not include patents for technological inventions.” AIA § 18(d)(1); 37 C.F.R. § 42.301. The Board must “examine the claims when deciding whether a patent is a CBM patent.” *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1340 (Fed. Cir. 2016) (emphasis omitted).

Petitioner points to claims 8 and 18 as each reciting assessing a user’s spoken request “to create a **financial consequence**” and then “**billing** a user . . . based upon said **financial consequence**.” Pet. 19 (emphasis by Petitioner). Petitioner also points to claims 9 and 19 as each reciting “assessing the user’s spoken request “to create a **financial consequence**”

and “communicating said *financial consequence*’ to the user and ‘confirming said communicated *financial consequence* to create a *financial commitment*’ before ‘billing said user based upon said *financial commitment*.” *Id.* (quoting claims, Ex. 1001, 51:62–52:4, 53:33–40 (emphasis by Petitioner)).

Based on the foregoing, Petitioner shows that at least one claim of the ’326 patent recites “a method . . . for performing data processing or other operations used in the practice, administration, or management of a financial product or service.” AIA § 18(d)(1). Patent Owner does not contest the showing.

C. *Technological Invention*

As quoted above, under AIA § 18(d)(1), “the term ‘covered business method patent’ . . . does not include patents for technological inventions.” Under 37 C.F.R. § 42.301(b), “[i]n determining whether a patent is for a technological invention,” the Board considers “whether [1] the claimed subject matter as a whole recites a technological feature that is novel and unobvious over the prior art, and [2] solves a technical problem using a technical solution,” respectively, the first and second prongs of the technical invention exception. Both prongs must be met for a claim to fall under the exception. *See id.*; *cf. Fidelity Information Services, LLC, v. Mirror Imaging, LLC*, Case CBM2017-00064, slip op. at 22 (PTAB Apr. 24, 2018) (Paper 26) (“ [C]laim 1 . . . does not recite a technological feature that is novel and unobvious over the prior art [under the first prong of § 42.301(b)]. “Given that determination, we need not reach the second prong of whether the claim solves a technical problem using a technical solution.”)

In general, the Office Patent Trial Practice Guide (“TPG”) provides the following guidance with respect to claim content that typically would not render a patent a technological invention:

(a) Mere recitation of known technologies, such as computer hardware, communication or computer networks, software, memory, computer-readable storage medium, scanners, display devices or databases, or specialized machines, such as an ATM or point of sale device.

(b) Reciting the use of known prior art technology to accomplish a process or method, even if the process or method is novel and non-obvious.

(c) Combining prior art structures to achieve the normal, expected, or predictable result of that combination.

TPG, 77 Fed. Reg. at 48,763–64.

With respect to the second prong of § 42.301(b), Petitioner argues “[t]he ‘problem’ the ’326 [p]atent purports to address is providing speech recognition functionality in a cable television system.” Pet. 25 (quoting Ex. 1001, 4:54–56). Petitioner contends

[t]he patent discloses addressing this asserted problem by locating a “speech engine” in the cable network. ’326 [p]atent at 49:14–21. But the patent does not identify any technical problem that is solved by the challenged claims. Lipoff Decl. ¶ 122. For instance, the claims say nothing about how to solve any purported “problem” with processing speech in a cable television system. Instead, they broadly recite the steps of (1) receiving speech

information from the user, (2) transferring that speech information to a speech recognition engine for recognizing the speech, and (3) “effecting information delivery” based on that recognized speech. Lipoff Decl. ¶ 123. Thus, the claims do not recite a technological *solution* to any problem; rather, the claims merely recite well-known steps to achieve the purported goal of the patent (i.e., providing speech recognition functionality in a cable or other video delivery network). *Id.*

Id.

Patent Owner responds that Petitioner fails to “analyze the claims as a whole.” PO Resp. 8. Patent Owner relies on “Petitioner’s own chief executive,” Brian L. Roberts, quoting his statement from a 2004 article, as follows:

“[O]ne of my favorite” new pieces of technology was a TV remote control that includes a speech recognition feature. Customers would use it to switch stations by saying “Go to ESPN” or “Go to Channel 4,” and could call up on their TV screen a listing of all the John Wayne movies available through the on-demand service by saying “John Wayne movies.”

See PO Resp. 9 (quoting Ex. 2004, 1).

In discussing technology, Mr. Roberts’ statement refers to speech recognition technology without referring to any of the ’326 claims, which did not issue until 9 years after the statement. Mr. Roberts does not include an analysis or a relevant statement with respect to CBM eligibility or the breadth of the claims involved here. *See* Ex. 2004. Contrary to the related arguments by Patent Owner, Petitioner shows at least

one challenged claim does not solve a technical problem using a technical solution.

As indicated above, Petitioner initially lists the three main steps of claim 1, contending claim 1 does not solve a technical problem. Pet. 25 (citing Ex. 1029 ¶ 123). As Mr. Lipoff explains, “[t]he claims simply recite well-known steps to achieve the purported goal of the patent (i.e., providing speech recognition functionality in a cable or other video delivery network).” Ex. 1029 ¶ 123. Mr. Lipoff adds that the financial activity claims (identified in the previous section) “similarly do not solve any technical problem,” because “[t]hose claims simply recite steps for using voice commands to perform financial transactions, and the steps do not relate to, or purport to solve, any technical problem.” *Id.* ¶ 124. As Mr. Lipoff further explains, the ’326 patent purports to solve a problem related to providing speech recognition in a cable television system, but the claims do not require a cable system or embrace any proposed solution, and the ’326 patent neither describes a particular problem with providing speech recognition to cable television systems nor provides any solution thereto. *See id.* ¶¶ 121–124 (citing Ex. 1001, 4:54–56).

With respect to prior art cable and speech recognition systems, the ’326 patent describes the following problems:

While these innovations [in speech recognition] have been substantial, they do not resolve several central questions of great importance to cable television, video delivery systems, and commerce. There is no present system providing voice recognition to *a collection of users over a cable television network*. There is no present system providing user

identification based upon that voice recognition over a network that supports cable television and/or video delivery. There is no present system sufficient for real-time auctions and contracting to be conducted over a cable television and/or video delivery network, based on user identification through voice recognition.

Ex. 1001, 4:52–62 (emphasis added). Notwithstanding the problems noted, challenged claims 1 and 12 do not require “a collection of users,” let alone “providing voice recognition to a collection of users over a cable television network.” *See id.*; *supra* Section I.E.

Patent Owner describes a “two-fold” technological problem:

(1) that cable networks did not have speech recognition capabilities that could be provided over a cable or video network, Ex. 1001, 2:5–11, and (2) that they did not support multiple users, The ’326 patent does not take the prior art speech technologies, i.e., a powerful local computer or using a telephone, and apply them to a cable network. Ex. 1001, 1:41–2:4. Instead, it claims the two-network-path solution, discussed above, that the Petition fails to show was known in the art.

PO Resp. 10.

Notwithstanding the disclosure, claim 1 does not require “a cable or video network.” *See id.* Also, none of the challenged claims require multiple users. *See supra* Section I.E (claim construction). Regarding the “two-network path” solution, Patent Owner does not explain what problem that solves or why that involves anything more than a conventional network involving different devices communicating with the network

over different paths. *See* PO Resp. 2–7; *infra* Section C.2; *supra* Section I.A (noting different paths or frequency allocations were conventional in cable systems); Section I.E (discussing known conventional devices and networks).

Patent Owner refers to a “purport[ed] . . . problem of providing speech processing to multiple users,” and argues “this problem can be solved by performing speech recognition on a server.” PO Resp. 6 citing Ex. 2011 ¶ 197). Nevertheless, claim 1 does not require a server, multiple users, or the two paths to be different. *See, e.g.*, Ex. 1001, 50:56–57 (claim 2, reciting “[t]he method of claim 1, wherein said first network path and said second network path are different paths.”); *supra* Section I.E (claim construction). Also, nothing in the ’326 patent reveals how the claimed first and second network paths solves any problem.

Further regarding speech recognition and a wireless device, the ’326 patent admits as known “voice operated functions using the latest voice recognition technologies,” including with “some computers” and “cellular phones” (i.e., a wireless device). *See* Ex. 1001, 1:42–45; Pet. 5 (citing Ex. 1001, 1:42–2:4, 4:50–52 as “acknowledg[ing] that many voice recognition systems existed in the prior art”), 45 (reading the claimed first and second devices and functions respectively on conventional wireless telephones or microphones and a set-top box, television, or combination of the two and their associated predictable functions (citing Ex. 1023 ¶ 172)). The ’326 patent also admits “[t]here has been extensive research into the mechanics of speech recognition. The progress has been sufficient to allow voice trading by stock brokers using their desk top computers.” Ex. 1001, 4:49–52.

Petitioner shows that the challenged independent claims require at most the “[m]ere recitation of known technologies, such as computer hardware, communication or computer networks, . . . or specialized machines,” “the use of known prior art technology to accomplish a process or method,” and/or “[c]ombining prior art structures to achieve the normal, expected, or predictable result of that combination.” *See* Pet. 21 (citing Ex. 1029 ¶¶ 54–58, 118–121; Ex. 1021; Ex. 1022); Ex. 1029 ¶¶ 118–124; TPG, 77 Fed. Reg. at 48,763–64. Similar to the challenged independent claims, the challenged financial claims (i.e., claims 8, 9, 18, and 19, *see supra* Section IIB) also merely require the use of known technologies and predictable results.

For example, claim 8 recites “[t]he method of claim 1, further comprising the steps of: assessing a response identified as to a user device comprising any of said first device and said second device to create a financial consequence; and billing a user associated with said user device based upon said financial consequence.” As such, claim 8 recites additional steps that involve using generic well-known devices for billing a user. Accordingly, considering the steps of claim 1, Petitioner shows sufficiently that at least claim 8 reads on combining a known wireless device such as a wireless remote control with a microphone to transfer speech data to a known speech recognition engine to accomplish information data transfer to a known television or set-top box, and billing a user for the information transfer. *See* Pet. 13, 24–25.

Based on the foregoing, Petitioner persuasively shows that at least one challenged claim of the ’326

patent does not recite a technological feature that exempts the '326 patent from CBM review under 37 C.F.R. § 42.301(b).

*D. Conclusion—
A Covered Business Method Patent*

The Board may institute a CBM patent review based on the eligibility of a single claim because § 18(d)(1) of the AIA indicates CBM *patent* eligibility if at least one claim directs its subject matter to a CBM. *See* 35 U.S.C. § 324(a); Final Rule, 77 Fed. Reg. at 48,736 (Response to Comment 8). In view of the foregoing, on this preliminary record, the '326 patent constitutes a CBM patent under AIA § 18(d)(1).

III. 35 U.S.C. § 101

A. 35 U.S.C. § 101—Principles of Law

A patent-eligible invention must claim a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. However, the Supreme Court interprets § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, the Court sets up a two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with this framework, a tribunal first determines what concept the claim is “directed to.” *See id.* at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, i.e., the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kap-*

pos, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk.”).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices, *Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611; mathematical formulas, *Parker v. Flook*, 437 U.S. 584, 594–95 (1978); and mental processes, *Gottschalk v. Benson*, 409 U.S. 63, 69 (1972). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Court held that “[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 187; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). On the other hand, the Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical

formula to a known structure or process may well be deserving of patent protection.”).

If the claim is “directed to” an abstract idea, a tribunal turns to the second step of the *Alice* and *Mayo* framework, where it “must examine the elements of the claim to determine whether it contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221 (some quotation marks omitted). “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].” *Id.* (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.* In determining whether a method or process claim recites an abstract idea judicial exception, during the inquiry, a tribunal must examine the claim as a whole. *Alice*, 573 U.S. at 218 n.3. “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.* at 222.

The two steps *Alice* outlines may involve “overlapping scrutiny of the content of the claims.” *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). The Guidance (*see supra* Section I) similarly refers to “the recognized overlap in the steps depending on the facts of any given case.” Guidance, 83 Fed. Reg. at 53.

According to *Elec. Power*, under *Alice*, “the first-stage inquiry” involves

looking at the “focus” of the claims, their “character as a whole,” and the second-stage

inquiry (where reached) as looking more precisely at what the claim elements add—specifically, whether, in the Supreme Court’s terms, they identify an “inventive concept” in the application of the ineligible matter to which (by assumption at stage two) the claim is directed.

Elec. Power, 830 F.3d at 1353 (citing, *inter alia*, *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016)).

B. USPTO 2019 Revised Patent Subject Matter Eligibility Guidance

As indicated above, the PTO recently published revised USPTO § 101 Guidance. Under the Guidance, in Step 2A, the PTO determines (under two prongs) whether the claim recites the following:

- (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activities such as a fundamental economic practice, or mental processes) (Prong One); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP §§ 2106.05(a)-(c), (e)-(h) (9th ed Rev. 08.2017, Jan. 2018)) (Prong Two).

See Guidance, 84 Fed. Reg. at 51–55.

In Step 2B, only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, then the PTO determines whether the claim

- (3) adds a specific limitation beyond the judicial exception that is not “well-understood,

routine, conventional” in the field (*see* MPEP § 2106.05(d)); or

(4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See Guidance, 84 Fed. Reg. at 56.

C. Section 101 Challenge

1. Statutory Claims and Guidance Step 1

Alice involves determining whether the claims recite an exception to an otherwise statutory category under 35 U.S.C § 101. *See Alice*, 573 U.S. at 216–17. Similarly, under the Guidance, the PTO first determines “whether the claim is to a statutory category (Step 1).” Guidance, 84 Fed. Reg. at 53. Here, the challenged claims recite a statutory process, namely a process “for speech directed information delivery,” including “receiving speech information at a first device . . . , transferring said speech information . . . to a speech recognition engine; and . . . effecting information delivery to a second device.” *See* Ex. 1001, 50:27–44; Pet. 36.

2. USPTO Guidance Step 2A, Prong 1

Whether Challenged Claims Recite an Abstract Idea

“The § 101 inquiry must focus on the language of the [a]sserted [c]laims themselves.” *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1149 (Fed. Cir. 2016); *see also Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1345 (Fed. Cir. 2013) (admonishing that “the important inquiry for a § 101 analysis is to look to the claim”); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1346 (Fed. Cir. 2014) (“We

focus here on whether the claims of the asserted patents fall within the excluded category of abstract ideas.”). “An abstract idea can generally be described at different levels of abstraction.” *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016).

As noted above, under *Alice*, determining whether a process claim recites an abstract idea requires examining the claim as a whole under the first step of *Alice*. Stated differently, according to *Elec. Power*, under *Alice*, “the first-stage inquiry” involves “looking at the ‘focus’ of the claims, their ‘character as a whole,’” *Elec. Power*, 830 F.3d at 1353 (citing, *inter alia*, *Enfish*, 822 F.3d at 1335–36). Courts have recognized numerous categories of abstract ideas, such as “methods of organizing human activity,” *Intellectual Ventures I LLC v. Capital One Bank (USA), N.A.*, 792 F.3d 1363, 1367 (Fed. Cir. 2015), “a fundamental economic practice long prevalent in our system of commerce,” *Alice*, 573 U.S. at 217 (quoting *Bilski*, 561 U.S. at 609 (Stevens J. concurring)), and steps “done mentally” that “can be carried out in existing computers long in use,” *Benson*, 409 U.S. at 67. The Guidance similarly provides certain groupings of abstract ideas based on what the claim recites: mathematical concepts, certain methods of organizing human activity, such as fundamental economic principles or practices, and mental processes.⁹ 84 Fed. Reg. at 52.

⁹ The Guidance also advises that the “*Alice* Step 1” analysis should exclude analysis of whether elements represent well-understood, routine, and conventional activity. Guidance, 84 Fed. Reg. at 55. “[R]evised Step 2A specifically excludes consideration of whether the additional elements represent well-understood, routine, conventional activity. Instead, analysis of well-understood, routine, conventional activity is done in Step 2B.” *Id.*

Addressing claim 1’s character as a whole and specific recitations therein, Petitioner submits it “broadly recites the steps performed in placing an order for a delivery.” Pet. 36. Petitioner contends claim 12 adds “only two implementation details” to claim 1 without “chang[ing] the abstract nature of what is claimed.” *Id.* at 41. Petitioner contends the dependent challenged claims do not “convert the underlying abstract idea to patent-eligible subject matter.” *Id.* at 42. Finally, Petitioner contends all the challenged claims recite “‘purely functional and generic’ computer technologies” that “fail to add an inventive concept to the abstract idea.” *Id.* at 43 (quoting *Alice*, 573 U.S. at 226).

Addressing the Guidance, Petitioner asserts “[t]he challenged claims fall into . . . certain methods of organizing human activity[] because they are directed to . . . using speech recognition to process a transmitted order to deliver information.” Pet. SMG Br. 2–3 (citing Pet. 37, 41; Inst. Dec. 24–26, 29). Petitioner also contends “[t]he Petition specifically identifies examples of people making mail-order catalog purchases, dialing directory assistance, and ordering food for home delivery,” and notes the Guidance includes “sales activities” as “examples of commercial interactions and managing interactions between people.” *Id.* at 3. As a specific “example” of claims “that . . . add only insignificant limitations to the patent-ineligible abstract idea of processing an order for delivery,” Petitioner asserts “dependent claims 8–9 and 18–19 recite the abstract and uninventive concept of allowing the user to place an order and then billing for it.” *Id.*

Petitioner additionally asserts “[t]he claims also implicate Group (c) (mental processes) by using existing speech recognition technology to automate mental

processes long performed by humans.” *Id.* at 3–4 (citing Pet. 37, 40; Inst. Dec. 25). Petitioner explains “[t]he claims recite automating the mental process of taking an order for delivery.” *Id.* at 4.

Petitioner explains further that the claims involve “basic steps for placing an order [by telephone] to request delivery of a product or service have existed for many decades (at least).” Pet. 37. Petitioner similarly analyzes the steps of claim 1 as “broadly directed to the concept of:

(1) receiving a spoken request, (2) transferring the request to another location where it can be understood, and then (3) delivering the requested information.” *Id.* at 36–37 (citing Ex. 1029 ¶ 152).

Petitioner quotes the ’326 patent Specification to support its contention regarding the ordering and delivery of information embraced by the challenged claims: “In these embodiments of the invention, spoken commands from a cable subscriber are recognized and then acted upon to control the delivery of entertainment and information services, such as Video On Demand, Pay Per View, Channel control, on-line shopping, and the Internet.” *Id.* at 37 n.8 (quoting Ex. 1001, 5:14–18).

Further discussing the concept of ordering and delivering information, Petitioner relates the focus of the claims to mail order catalogs and telephone orders, as follows:

[M]ail order catalog companies have existed for more than a century and began accepting telephone ordering (i.e., “speech information”) shortly after telephone service became widespread. [Ex. 1029] ¶ 153. As in claim 1, ordering a product by telephone involves the steps

of: (1) receiving a spoken request (i.e., the caller speaks into the telephone); (2) transferring the request to another location where it can be understood (i.e., the request is transmitted over the telephone line to the merchant who determines what specific product is being requested); and then (3) delivering the requested information (i.e., the merchant sends the requested product for delivery). *Id.* ¶ 153. People have also performed these same basic steps for decades when using telephone directory assistance or ordering food for home delivery. *Id.* ¶¶ 153–154.

Id. at 37.

Focusing on specific recitations in claim 1, Petitioner contends “receiving speech information” and “‘transferring said speech information’ to speech recognition engine” involves “no more than ‘collecting information.’” Pet. 40 (quoting *Elec. Power*, 830 F.3d at 1353). According to Petitioner, “[t]he recited ‘speech recognition engine’ merely processes the speech information.” *Id.* (citing Ex. 1001, 50:42–43).¹⁰ Petitioner analogizes such processing and analyzing of speech information to claimed steps involved in *Elec. Power*, 830 F.3d at 1353, wherein the court noted “we have treated analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category.” Pet. 40

¹⁰ The analysis of the “speech recognition engine” properly belongs under Guidance Step 2A, prong two, and Step 2B, as addressed below, but our reviewing court and the Guidance recognizes the analysis sometimes involves and requires some overlap under *Alice*, as noted above in Section III.A. See, e.g., *Elec. Power*, 830 F.3d at 1353.

(quoting *Elec. Power*, 830 F.3d at 1353). In other words, Petitioner contends the limitations of “receiving speech information” and “recognizing” the speech, recite mental processes, and serve as part of a fundamental economic practice involving “effecting information delivery” under the final step of claim 1 (which requires the earlier steps of “receiving speech information,” and “transferring” and “recognizing” it, to “effect[] information delivery”). *See id.*; *see also* Pet. SMG Br. 3–4.

In particular with respect to the final step of claim 1, “effecting information delivery to a second device via a second network path,” Petitioner relies on *Elec. Power* for its reasoning that “we have recognized that merely presenting the results of abstract processes of collecting and analyzing information, without more (such as identifying a particular tool for presentation), is abstract as an ancillary part of such collection and analysis.” Pet. 40 (quoting *Elec. Power*, 830 F.3d at 1353).¹¹ Petitioner compares steps of claim 1, including the final step, and similar steps in claim 12 to “delivering rented digital data to a user.” *See id.* at 38 (citing *Dish Network Corp. v. Customedia Techs., L.L.C.*, CBM2017-00031, Paper 10 at 18–19 (PTAB July 18, 2017) (reasoning “that ‘delivering rented digital data to a user’ is little more than a generic ‘computerization’ of ‘the well-known and long-established concept of renting media content such as videos’”), 41–42 (similar analysis for claim 12).

¹¹ These network paths and first and second devices discussed below, like the speech recognition engine, properly fall under the analysis of the next prong and next step under the Guidance, but as indicated above, Petitioner presents an overlapping analysis that our court and the Guidance recognizes as proper or required in some cases. *See supra* note 10.

In other words, as indicated above, Petitioner alleges specific claim steps and the claims as a whole, respectively recite and focus on, mental steps of processing speech information and a fundamental economic contractual or commercial practice of placing an order to effect product delivery. *See* Pet. SMG Br. 3–4; Pet. 37 (“People have also performed these same basic steps for decades when using telephone directory assistance or ordering food for home delivery.” (citing Ex. 1029 ¶¶ 153–154)). Stated another way, the step of “recognizing said speech information and effecting information delivery,” as independent claims 1 and 12 each recite, constitutes mental steps of processing speech information and a fundamental economic activity of delivering an order. *See* Pet. SMG Br. 3–4 (“The challenged claims fall into . . . certain methods of organizing human activity . . . because they are directed to the abstract idea of using speech recognition to process a transmitted order to deliver information,” and “[t]he claims recite automating the mental process of taking an order for delivery.”).

Petitioner explains why independent claim 12 does not alter the basic abstract nature of claim 1. For example, Petitioner contends claim 12 “recites the same method steps of claim 1, adding only two implementation details: (1) the information is delivered to a ‘second device capable of displaying’ moving and still images and ‘playing’ audio; and (2) the two network paths are ‘different.’” *Id.* at 41. Petitioner analogizes claim 12 as similar to

placing an order by telephone (i.e., “first device”) for delivery of a 35-mm film, video cassette, digital video disc, etc. to be played on a film projector, VCR, DVD player, etc. (i.e., “second device”). The “first network path” for

ordering (e.g., telephone line) is “different” than the “second network path” for delivery (e.g., U.S. mail, etc.).

Id. (citing Ex. 1029 ¶¶ 156–157).

Petitioner similarly analyzes dependent claims 2–11 and 13–21 and contends they “recite parallel additional limitations—all of which are implementation details that cannot convert the underlying abstract idea to patent-eligible subject matter.” Pet. 41–42 (addressing claims 2–11, 13–21 citing Ex. 1029 ¶¶ 158–168).

As one example, claim 7, which depends from claim 1, follows:

7. [A method for controlling a speech recognition system coupled to a network.] *The method of claim 1, further comprising at least one of the steps of:*

[processing a multiplicity of received identified speech channels to create a multiplicity of recognized speech;

responding to said recognized speech to create a recognized speech response that is unique to each of said multiplicity of recognized speech; and

providing said speech recognition system at a back channel accessible by a multiplicity of user devices coupled to said network]

determining a user site associated with a user of said first device;

determining said associated user site from said recognized speech;

determining said associated user site from said recognized speech and a speaker identification library;

determining said associated user site from said recognized speech and a speech recognition library; and

determining said associated user site from an identification within said speech channel.

Ex. 1001, 51:2–43. Claim 7 only requires determining a user site merely by using one of the recited “determining” steps. Claim 17 recites similar limitations. Claims 10 and 20 require “identifying said user based upon recognized speech and based upon said user profile list,” wherein “said user profile list contain[s] at least one user profile.”

Petitioner contends “[c]laims 7 and 17 and claims 10 and 20 recite several different ways to identify the user site sending the request, which is no more than computerization of recognizing a frequent customer by voice or simply stating: ‘May I ask who’s calling?’” *Id.* at 43. As noted above, Petitioner summarizes the dependent claims as reciting further limitations directed to mental processes and fundamental economic practices (including commercial interactions), without altering the character of the abstract idea recited in independent claims 1 and 12. *See* Pet. SMG Br. 3–4 (summarizing claims as reciting limitations falling into the two categories). As recited in these claims, fundamental economic practices, including commercial or contractual practices, include transmitting a spoken order for information, processing the order, and delivering the information (using different ordering and delivering paths with respect to claims 17 and 20, similar to claim 12), while determining a user cite

by recognizing one or more frequent customers associated with the spoken order, a mental process. *See* Pet. 43; Pet. SMG Br. 3–4.

Claims 10 and 20 further recite limitations directed to “a user profile list” and using the list and speech to recognize a user. As noted above, Petitioner contends the dependent claims do not alter the basic character of the abstract idea recited in the independent claims. *See* Pet. 43; Pet. SMG Br. 3–4. In other words, “identifying said user based upon recognized speech and based upon said user profile list” according to claims 10 and 20 recites a mental process of recognizing a customer by collecting and analyzing data in a list. *See Smart Sys. Innovations, LLC v. Chi. Transit Auth.*, 873 F.3d 1364, 1371 (Fed. Cir. 2017) (noting a prior holding wherein “claims directed to the collection, storage, and recognition of data are directed to an abstract idea” (citing *Elec. Power Grp.*, 830 F.3d at 1353 (indicating “collecting information” may be “within the realm of abstract ideas” in some circumstances)); Pet. 41–42 (addressing dependent claims (citing Ex. 1029 ¶¶ 158–168)); Pet. SMG Br. 3–4.

Petitioner also contends dependent claims 8–9 and 18–19 recite financial limitations “that clearly recite commercial interactions falling within Group (b),” i.e., they recite limitations of a fundamental economic practice “of allowing the user to place an order and then billing for it” and the mental process of “taking an order for delivery.” Pet. SMG Br. 3–4.

As another set of examples, with respect to claims 5, 15, 11, and 21, Petitioner summarizes the claims as being directed to processing speech information “in an ‘unrecognized state’ to be recognized by the person re-

ceiving the [telephone] order ‘based upon natural language.’” *See* Pet. 42. As indicated above, Petitioner generally characterizes recognizing and processing speech as reciting mental steps. *See* Pet. 40 (citing *Elec. Power*, 830 F.3d at 1353 (“[W]e have treated analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category.”)); Pet. SMG Br. 3–4 (asserting the claims recite a mental process).

The Specification does not discuss specifically what an “unrecognized state” encompasses, but it implies that the system stores recognized commands for comparison to a user’s commands (which, in one embodiment, the remote control digitizes before sending). *See, e.g.*, Ex. 1001, 15:42–16:31, 19:27–60; 24:1–59. If the disclosed system does not recognize a user’s speech command initially (i.e., an unrecognized command), it may perform steps, in one embodiment, to ascertain the user’s intent. *See id.* at 19:27–60. Petitioner’s arguments show that “natural language” constitutes at least one form of an unrecognized state, consistent with the Specification. *See id.*; Pet. 46 (“The ’326 Patent itself admits that prior art systems could recognize speech in ‘an unrecognized state’ (claims 5 and 15) ‘based upon natural language’ (claims 11 and 21), and the patent does not purport to disclose any new technique or approach for doing so.” (citing Ex. 1029 ¶¶ 93, 99, 176, 182)).

Patent Owner responds “the same claimed concepts also support the finding that the claims are not directed to ‘placing an order and having something delivered,’ as the Petition asserts (Pet. 2), under *Alice* step 1.” PO Resp. 13. Addressing the Guidance, Pa-

tent Owner argues that the claims do not recite an abstract idea. According to Patent Owner, the independent claims of the '326 patent “do not recite any judicial exception” and “do not recite any abstract idea from the *Guidance*.” PO SMG Br. 2. Patent Owner asserts “the claims do not recite placing an order for delivery.” *Id.* at 3. Also, Patent Owner contends “dependent claim 4 proves that the claims can be used for other things like video searching.” *Id.* Patent Owner also argues “the functionality of the ‘speech recognition engine,’ and how that engine receives and transmits information from and to the user sites along ‘network paths,’ has nothing to do with any abstract idea or other judicial exception.” *Id.*

Patent Owner’s arguments do not undermine Petitioner’s showing. Patent Owner’s argument that “the claims do not recite placing an order for delivery” present a literal argument about what the claims “recite” that does not explain whether and how Petitioner mischaracterizes claim 1, or any claim, as a whole. *See* PO SMG Br. 2. Regarding claim 4, it merely recites a type of information, “video search information,” a mental construct, and the claim does not specify how to use the search information. Based on the foregoing discussion, Petitioner persuasively shows that specific claims recite steps directed to a fundamental economic practice including commercial or contractual interactions and a mental process.

The thrust of Patent Owner’s remaining arguments relate to the analysis under Step 2A, prong 2, addressed in the next section. *See supra* notes 11, 12. In summary, Petitioner persuasively shows the challenged claims recite a method of organizing human activity such as a fundamental economic commercial or

contractual practice that includes effecting the delivering a product (information) based on a spoken request for the product. Petitioner persuasively shows that the limitations recited in all of the challenged claims, “receiving speech information” and “recognizing said speech information” further recite a mental process of hearing and processing speech that humans have been performing forever. Petitioner also persuasively shows the recited “effecting information delivery” step recites a fundamental economic practice, similar to delivering products in a catalog or delivering or renting video information. *See* Pet. 38 (citing *Dish Network Corp. v. Customedia Techs., L.L.C.*, Case CBM2017-00031, Paper 10 at 18–19 (PTAB July 18, 2017)). Petitioner also shows that none of the challenged claims alter the basic abstract character of the claims. Pet. 41–42 (addressing claims 2–11, 13–21 citing Ex. 1029 ¶¶ 158–168).

Petitioner summarizes that claim 1 “as a whole is ‘clearly focused on the combination of those abstract-idea processes.’” *Id.* at 40–41 (quoting *Elec. Power*, 830 F.3d at 1353 (indicating “a process of gathering and analyzing information of a specified content, then displaying the results” under circumstances including “no inventive technology for performing those functions” may be “directed to an abstract idea”)). According to our reviewing court, as Petitioner contends, combining several abstract ideas does not render the combination any less abstract. *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) (“Adding one abstract idea . . . to another abstract idea . . . does not render the claim non-abstract.”); *see also FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093–94 (Fed. Cir. 2016) (patent-ineligible claims directed to a combination of abstract ideas).

Also, summarizing the recitations involved in different levels of abstraction does not undermine Petitioner's showing. *Apple, Inc. v. Ameranth Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016) ("An abstract idea can generally be described at different levels of abstraction.").

As indicated above, Patent Owner's arguments directed to the first device, the second device, the speech recognition engine, and other recitations in the dependent claims, relate to the second prong of the inquiry, i.e., "additional elements," discussed in the next two sections. *See* Guidance, 84 Fed. Reg. at 55 n.24.

3. USPTO Guidance Step 2A, Prong 2 Integration of the Abstract Ideas into a Practical Application

The challenged claims recite limitations beyond the judicial exception-i.e., "additional elements." Guidance, 84 Fed. Reg. 54. As Petitioner shows and as discussed herein, these additional elements do not integrate the recited judicial exception into a practical application. *See id.* at 55 nn.25 & 27–32 (citing MPEP §§ 2106.05(a)–(c), (e)–(h)). Under the Guidance, the "additional elements" may integrate the judicial exception when they reflect an improvement to technology or a technical field singly or as a combination. *See id.* at 55.

Petitioner argues that the challenged claims do not recite limitations integrating the abstract idea into a practical application. Petitioner explains "the challenged claims do not improve any technology or solve any technical problem; they instead use generic computer technology (i.e., devices, network paths, and [a] speech recognition engine) to implement the abstract idea of ordering information for delivery." Pet.

SMG Br. 5–6. According to Petitioner, “[t]hat this abstract process is automated using conventional networked ‘devices’ and a computerized ‘speech recognition engine’ does not remove it from the realm of abstract ideas.” Pet. 41 (citing *Alice*, 573 U.S. at 222–26; *Dish Network*, CBM2017-00031, Paper 10 at 18–19); *accord id.* at 40 (citing *Elec. Power*, 830 F.3d at 1353). Petitioner contends that the “first network path” and “second network path” recite “components . . . at a high level of generality and are merely invoked as tools to perform’ the transmitting part of the abstract idea.” Pet. SMG Br. 6 (citing USPTO Subject Matter Eligibility Exam 42).

Addressing the dependent claims, Petitioner summarizes as follows: “The limitations of the dependent challenged claims similarly recite (or incorporate) conventional, generic components or steps that are not inventive and do not change the abstract nature of the claims.” Pet. 45–46 (citing Ex. 1029 ¶¶ 90–93, 173–176, 182). As an example, addressing claims 2–4 and 14–14, Petitioner contends “[r]equiring that the first device and second device ‘are different devices’ (claims 3 and 13), that the ‘network paths are different’ (claims 2 and 12), or that the requested information is ‘video information’ (claims 4 and 14) does not add any technical innovation to the underlying abstract idea.” *Id.* at 46.

As determined above, individual steps and the claims as a whole focus on the abstract idea of a fundamental economic process and mental step. The claims recite transmitting a spoken order for information, processing the order using generic speech recognition software, and delivering the information using generic devices and network paths. *See id.* at 37 (“These basic steps for placing an order to request

delivery of a product or service have existed for many decades (at least).”) & n.8 (quoting the Specification). As stated above, the inquiry here under the Guidance involves analyzing the recited claim steps for “any additional elements . . . beyond the judicial exceptions” to determine if “those additional elements individually and in combination . . . integrate the exception into a practical application.” Guidance, 84 Fed. Reg. at 54–55.

As noted above under prong 1 of Step 2A, Patent Owner argues “the functionality of the ‘speech recognition engine,’ and how that engine receives and transmits information from and to the user sites along ‘network paths,’ has nothing to do with any abstract idea or other judicial exception.” PO SMG Br. 4. Patent Owner contends “[t]he claims here recite a specific implementation of remote speech recognition by receiving a spoken command at a wireless device to effect information delivery to a different device.” PO SMG Br. 5. Regarding the “first device” and “second device” recited in claims 1 and 12, Patent Owner contends that “while not expressly required until dependent claims 6 and 16, the first device may be a remote control (i.e., a device ‘used for input and output for control purposes’), and the different [second] device may be a television and set[-]top box.” *See id.*

Further, Patent Owner contends

[t]he claims even further limit that specific implementation of speech recognition to one specific solution using two network paths: (1) a first path to transfer the received speech information to a speech recognition engine, and (2) a second path to deliver information to the second device. *See* POR at 3–5; Ex. 1001, 50:23–44. This combination of claim elements

recites a practical application of any judicial exception Comcast may assert. Indeed, this combination of elements, tied to a practical application, makes the claims more than a mere “drafting effort designed to monopolize the judicial exception.” *Guidance* at 54.

Id. at 5–6.

As Patent Owner recognizes, “Step 2A specifically excludes consideration of whether the additional elements represent well-understood, routine, conventional activity; that analysis occurs in Step 2B.” *Id.* at 4. Nevertheless, Patent Owner’s arguments do not undermine Petitioner’s showing.

As Patent Owner states, the claimed first device may include a remote control device, and the claimed second device may include a television set-top box. PO SMG 5–6. These claimed additional devices represent generic devices, as does the speech recognition engine as construed above. *See* Section I.E. Also, and as explained further below, with a microphone on a first network path and a set-top box in the second network path, Petitioner shows the first and second network paths represent generic network paths connecting generic devices to a generic speech recognition device. *See* Ex. 1001, Figs. 1 and 2 (showing generic cable networks with set-top boxes); *supra* Section 1.A (describing microphones as part of a network path); *infra* Section IV (addressing the breadth of the claims under recapture). With respect to different network paths as claims 2 and 12 require, the Specification admits “[d]ownstream control data transmission typically occurs in a separate frequency band from the upstream channels.” Ex. 1001, 3:46–47. The claims here do not

recite different frequency bands, indicating the generic nature of the same or different network paths (depending on the claim).

In addition, the Specification explains networks typically use the same or different fibers and cables with multiplexing schemes to manage upstream and downstream transmission:

Typically, HFC networks employ an optical fiber from a central office, or Headend, to a neighborhood node. The fiber has forward and reverse transmission capability, which can alternatively be accommodated on separate fibers. Wavelength Division Multiplexing (WDM) can be used to implement both on a single fiber. At the node, coaxial cable connects the users through a shared frequency division multiplexing (FDM) scheme with contention resolution protocols used to manage upstream data flows.

Ex. 1001, 3:48–56. The generic network paths in the challenged claims fail to specify optic cables, coaxial cables, or multiplexing schemes.

None of the challenged claims require any improvement over a conventional or generic speech recognition engine, as construed above. *See supra* Section I.E. And no claims require an improvement over a conventional or generic first device, a second device, a first network path, or a second network path. *See* Pet. 45–46; *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257–58 (Fed. Cir. 2014) (discussing an improvement to hyperlink protocol), cited in Guidance, 84 Fed. Reg. at 55 n.25; *see also* MPEP § 2106.05(a).

Challenged independent claims 1 and 12 recite “transferring said speech information from said first wireless device *via a first network path* to a speech recognition engine; and at said speech recognition engine, recognizing said speech information and effecting information delivery to a second device *via a second network path*.”¹² (Emphasis modified to reissue challenged claims 1 and 12). As indicated above and in light of the Specification, this recitation shows a generic first device connected to a speech recognition engine over a first network path, with a generic second device connected to the speech recognition over a second network device.¹³

Again, these network paths, although different, represent generic paths, with the first path including a wireless portion, but with no other requirement or specificity, for example, the carrier frequency, the bandwidth, the modulation scheme, the multiplexing scheme, or even whether or not the claims require a physical cable path or optical path. The claims also do not require or preclude the paths from overlapping

¹² Claim 2 depends from claim 1, and like independent claim 12, adds “wherein said first network path and said second network path are different.”

¹³ Even though the claimed concept includes speech recognition (i.e., “a speech recognition engine”), “claims are not saved from abstraction merely because they recite components more specific than a generic computer.” See *BSG Tech. v. BuySeasons, Inc.*, 899 F.3d 1281, 1286 (Fed. Cir. 2018) (citing *In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 612–13 (“holding claims were directed to an abstract idea despite the claims’ recitation of telephone units and servers”); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (“holding claims were directed to an abstract idea despite the claims’ recitation of a scanner”)).

to some extent. *See* PO Resp. 5 (annotating hypothetical red and blue network paths in Figure 3 of the '326 patent as partially overlapping through what the Specification describes as through “a high speed physical transport 1400” in one embodiment (Ex. 1001, 7:16–17)); *supra* Section I.A (finding the Specification does not require the entirety of the paths to be different, noting for example, “each subscriber” sends signals to “the Headend via *either the same fiber used for the downstream video carriers, or a separate fiber.*” (citing Ex. 1001, 3:25–28 (emphasis added))).

Patent Owner also argues as follows:

The claims also recite additional features that the patent identifies as inventive and/or improving the technology. For example, claims 4, 6, 12, 14, and 16 further capture the concept of providing speech recognition in a video or cable television network, which the patent discloses as inventive. Ex. 1001, 4:53–59. Claims 7–11 and 17–21 further capture the concept of determining a user device, which the patent discloses as inventive and advantageous. *Id.* at 6:55–60; 10:20–38, 14:18–23. And claims 10 and 20 further capture to concept of identifying the user based on speech, which the patent discloses as inventive and advantageous. *Id.* at 4:56–62; 5:1–6; 18:30–35.

PO Resp. 13.

Patent Owner’s arguments do not undermine Petitioner’s showing. The argument that “claims 4, 6, 12, 14, and 16 further capture the concept of providing speech recognition in a video or cable television network, which the patent discloses as inventive,” merely

shows that the disclosure contemplates a speech recognition engine with video and cable. The claims do not recite or require any improvement in video, cable, or a speech recognition engine. Video information simply constitutes a generic type of information transmitted for years over television. The claims do not specify if the information includes analog or digital information. Also, none of the claims specifically recite cable, contrary to Patent Owner's arguments. For example, claim 6 recites "wherein said information delivery is to said second device which comprise a television and STB." This claim at most recites generic equipment that theoretically could be used in a generic cable system, without requiring an improvement in television or TV technology. At best, the "additional element does no more than generally link the use of a judicial exception to a particular technological environment or field of use," i.e., cable television. See Guidance, 84 Fed. Reg. 55.

The argument that "[c]laims 7–11 and 17–21 further capture the concept of determining a user device, which the patent discloses as inventive and advantageous" also does not undermine Petitioner's showing. PO Resp. 13. The '326 patent Specification states "[t]here is no present system *providing voice recognition to a collection of users* over a cable television network. There is no present system providing user identification based upon *that voice recognition over a network that supports cable television and/or video delivery*." Ex. 1001, 4:54–59 (emphases added). Although the '326 patent describes "providing voice recognition to a collection of users over a cable television network" as lacking in prior art systems, claims 7–11 and 17–21 do not require "providing voice recognition to a collection of users," let alone voice recognition of a user

in a cable television system. Rather, these claims essentially only require recognizing (by voice recognition or otherwise) a user at a single user site.

Furthermore, under Petitioner’s abstract idea analysis, given the breadth of claims 7–11 and 17–21, recognizing a frequent customer and associating the user with something else like a generic device amounts to merely recognizing a sole customer. Even if the claims somehow require recognizing more than one customer and associating a device with that customer, people have been recognizing others based on speech for a long time. The claims do not improve upon any computer functionality. The additional elements of the challenged claims individually and as a combination do not integrate the exception into a practical application, mainly because they rely on conventional or generic components and network configurations. The additional elements do not improve upon the functioning the conventional or generic speech recognition engine and network paths, as recited in the challenged claims.

In summary, Petitioner shows that the additional elements recited in the challenged claims do not integrate the recited judicial exception into a practical application.

4. *Alice-Mayo*, Second Step, Guidance, Step 2B, Inventive Concept

The second step of the *Alice* inquiry, a tribunal must “scrutinize the claim elements more microscopically” for additional elements that might be understood to “transform the nature of the claim” into a patent-eligible application of an abstract idea. *Elec. Power*, 830 F.3d at 1353–54. In other words, the in-

quiry involves whether the claims include an “inventive concept,” i.e., an element or combination of elements sufficient to ensure that the patent in practice amounts to significantly more than a patent on the abstract idea itself. *Alice*, 573 U.S. at 220–22. The relevant inquiry includes whether “additional substantive limitations . . . narrow, confine, or otherwise tie down the claim so that, in practical terms, it does not cover the full abstract idea itself.” *Accenture Glob. Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1341, 1345 (Fed. Cir. 2013) (internal quotations and citation omitted).

Similar to the second step of *Alice-Mayo*, under the Guidance, to determine whether a claim provides an inventive concept, the additional elements are considered—individually and in combination—to determine whether they (1) add a specific limitation beyond the judicial exception other than something “well-understood, routine, conventional” in the field or (2) simply append well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. Guidance, 84 Fed. Reg. at 56.

“For the role of a computer in a computer-implemented invention to be deemed meaningful in the context of this analysis, it must involve more than performance of ‘well-understood, routine, [and] conventional activities previously known to the industry.’” *Content Extraction*, 776 F.3d at 1347–48 (quoting *Alice*, 573 U.S. at 225). “To save a patent at [*Alice*] step two, an inventive concept must be evident in the claims.” *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017).

Scrutinizing the recited method claims, for the reasons explained above, Petitioner contends that the

claimed elements, viewed individually and as an ordered combination, do not transform the nature of the claims into patent-eligible application of an abstract idea. *See* Pet. 43–46. As determined above in the previous section, Petitioner explains that claims 1 and 12 are directed to an abstract idea and require no more than generic, conventional computer technology—e.g., a generic “first device,” which may include a conventional wireless telephone or microphone, a generic “second device,” which may include a generic or conventional television or STB, and a generic or conventional speech recognition engine, with each performing conventional functions as disclosed and claimed. *See* Pet. 22–24 (citing Ex. 1029 ¶¶ 54–58, 118–121), 43–46 (citing Ex. 1029 ¶¶ 90–99, 170–182); Ex. 1029 ¶¶ 52–58 (citing articles and disclosures attached as Exhibits evidencing known voice recognition technology); Ex. 1020 (May 1995 article disclosing a remote control with a microphone providing natural voice-control technology to control a digital set-top with menus via control at a headend); Ex. 1021, 285, 287 (August 1995 IBM Technical Disclosure Bulletin disclosing “methods for using speech recognition to select or modify images, sound, and data transmitted on a cable television system” using a microphone or wireless telephone). Petitioner also shows that the challenged dependent claims embrace the use of prior art conventional technology that fail to alter the nature of the claims because they fail to add any technological improvement. *See* Pet. 45–46.

As indicated above, Petitioner contends challenged independent claim 12 focuses on the abstract idea of using speech recognition to process a transmitted order to deliver information using different ordering and delivery paths. *See id.* Petitioner also explains that the challenged dependent claims focus on

the abstract idea of using speech recognition to process a transmitted order to deliver information, using different ordering and delivery paths with respect to claims 2, 3, 4, and 12–21; billing a user with respect to claims 8, 9, 18, and 19; requiring a financial commitment with respect to claims 9 and 19; providing certain types of information (e.g., video, images, audio) with respect to claims 4 and 14; and recognizing the user or user device via speech recognition with respect to claims 5, 7, 10, 11, 15, 17, 20, and 21. *See id.* at 42–43. Similar to limitations recited in claim 12, claims 6, 13, and 16 require different devices or types of generic devices that fail to alter the basic abstract idea underlying claims 1 and 12. *See id.* at 41, 43.

In addition, Petitioner contends the challenged claims involve automation using conventional networked devices and a conventional speech recognition device, which does not remove the challenged claims from the realm of abstract ideas. *See* Pet. 35–36, 38–43; *Alice*, 573 U.S. at 217–221; *Elec. Power.*, 830 F.3d at 1354 (noting “the two stages [of *Alice*] involve overlapping scrutiny of the content of the claims”). As summarized in *Elec. Power.*, “the focus of the claims is not on . . . an improvement in computers as tools, but on certain independently abstract ideas that use computers as tools.” 830 F.3d at 1354.

Patent Owner asserts as follows:

First, the claims recite how the implementation was designed to support multiple users in an information delivery network. POR at 2–7. Second, the claimed implementation was not routine or conventional. The conventional wireless device effecting the delivery of information to a different device was a standard remote control that sent information to a user’s

television or set top box, and the ability to control information delivery by speaking into a remote or other wireless device (for sending speech information to a remote speech processing engine) has only recently entered widespread use. But the '326 patent claims priority back to the year 2000: 15 years before Comcast released its X1 system. Comcast improperly conflates obviousness with its analysis of what was routine/conventional.

PO SMG Br. 7.

Patent Owner also argues that the claims recite an inventive concept under step 2 of *Alice*: “The two-network-path method for providing speech directed information delivery using a remote system recited by the ordered combination of the claim elements in claims 1 and 12 of the '326 patent, which the patent and its provisional assert is an inventive concept, makes the claims patent eligible.” PO Resp. 13. Patent Owner also analogizes its claims as similar to those involved in *BASCOM* and involving “claims being eligible under *Alice* step two.” *Id.* (citing *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349 (Fed. Cir. 2016); *Enfish*, 822 F.3d at 1337).

Patent Owner’s arguments do not undermine Petitioner’s showing that the claims recite conventional well-understood routine devices, for the reasons discussed above. The arguments assume the claims require “a remote speech processing engine,” and they do not. *See supra* Sections I.A, I.E; *infra* Section IV. As noted at several instances in this Final Written Decision, the first substantive sentence of the '326 patent states “[*t*]his invention relates to voice recognition performed near a wireline node of a network supporting

cable television and/or video delivery.” Ex. 1001, 1:38–40 (emphasis added). The Specification contemplates local or remote processing near a wireline node.

Also, the claims do not require supporting multiple users, but even if they do, the record shows that conventional cable systems supported multiple users. *See* Ex. 1029 ¶¶ 52–58, 169–182 (testifying about conventional technology, including conventional television networks); Ex. 1021 (IBMTDB); *supra* Section I.E (claim construction describing IBMTDB (Ex. 1021) as disclosing conventional cable television with a remote speech recognition engine).

Although Patent Owner agrees that standard remote controls or set-top boxes represent conventional devices (PO SMG Br. 7), Patent Owner also agrees the claims read on or include those devices. *See id.* at 5 (“[W]hile not expressly required until dependent claims 6 and 16, the first device may be a remote control (i.e., a device ‘used for input and output for control purposes’”), and the different [second] device may be a television and set[-]top box”). Even though the ’326 patent claims priority to the year 2000, as explained above, Petitioner shows persuasively that the claims embrace standard and generic cable technology, microphones, speech recognition engines, and set-top boxes, all well-understood, routine, and conventional, existing at the time of the invention. *See* Pet. 22–24 (citing Ex. 1029 ¶¶ 54–58, 118–121), 43–46 (citing Ex. 1029 ¶¶ 90–99, 170–182); Ex. 1029 ¶¶ 52–58 (citing articles and disclosures attached as Exhibits evidencing known voice recognition technology); Ex. 1020 (May 1995 article disclosing a remote control with a microphone providing natural voice-control technology to control a digital set-top with menus via control at a headend); Ex. 1021, 285, 287 (August 1995 IBM

Technical Disclosure Bulletin disclosing “methods for using [a remote] speech recognition to select or modify images, sound, and data transmitted on a cable television system” using a microphone or wireless telephone); *supra* Section I.E.

Addressing Patent Owner’s argument based on *BASCOM*, Petitioner distinguishes it on several fronts, as follows:

According to [*BASCOM*], “[t]he inventive concept described and claimed in the [challenged] patent is the installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user.” 827 F.3d at 1350. Here, the challenged claims of the ’326 Patent do not recite any limitation comparable to the [*BASCOM*] claims’ explicit requirement of “installation of a filtering tool at a specific location” that is “remote from the end-users.” *Cf.* ’326 Patent at claims 1, 12. Nor has Patent Owner attempted to amend the claims to impose such limitations.

[*BASCOM*] also found that the patent at issue there claimed “a technology-based solution . . . to filter content on the Internet that overcomes existing problems with [prior art] Internet filtering systems.” 827 F.3d at 1351. Unlike the patent in [*BASCOM*], there is no discussion in the ’326 Patent of any particular problems with prior art methods that would be solved by transmitting information to and from a speech recognition engine via first and second network paths. Lipoff Decl. ¶¶ 122–124. While Patent Owner refers to a “two-network path solution,” it does not identify any

particular problem overcome by this purported solution.

Reply 8.

As Petitioner argues, the claims here do not require any specific location for the generic speech recognition engine. Moreover, even if somehow something limits a speech recognition to be located remotely, as discuss above, that feature already existed as a conventional cable feature in the prior art. *See, e.g.*, Ex. 1020 (May 1995 article disclosing a remote control with a microphone providing natural voice-control technology to control a digital set-top with menus via control at a headend); Ex. 1021, 285, 287 (August 1995 IBM Technical Disclosure Bulletin disclosing “methods for using [a remote] speech recognition to select or modify images, sound, and data transmitted on a cable television system” using a microphone or wireless telephone); *supra* Section I.E. Unlike the claims in *BASCOM*, the claims do not require “customizable [speech recognition] features specific to each user.”

Finally, as Petitioner argues, unlike in *BASCOM*, the '326 patent does not refer to a two-network path solution as overcoming any problem. It does not even refer to a two-network path, other than describing prior art cables or configurations, and referring to such known generic “forward and backward paths” as “loops herein.” *See, e.g.*, Ex. 1001, 3:26–27, 3:47–58, 4:25–30; *supra* Sections IA, I.E.1. As also discussed above, the '326 patent describes server arrays of processors for speech recognition to handle a multiplicity of back channels, using one channel for each user, which appears to be part of any solution described, but not claimed. *See supra* Sections I.A, I.E.1; Ex. 1001, claim 1 (bracketed portion, indicating deleted matter

from the '523 patent claims, formerly reciting “partitioning a received back channel containing a multiplicity of speech channels from a multiplicity of user devices into a multiplicity of received identified speech channels”).

Patent Owner also refers to disclosed embodiments and litigation remarks by Petitioner as showing what “the '326 claims are based on.” *See* PO SMG Br. 7 (citing Ex. 2010, 15). However, Patent Owner characterizes “[t]hese bespoke components” as those components “upon which the claims are based.” *Id.* Nevertheless, the claims do not require the disclosed components, even if based on some disclosed components for written description or other purposes. In any event, as Petitioner persuasively shows “with the exception of generic computer-implemented steps, there is nothing in the claims themselves that forecloses them from being performed by a human, mentally or with pen and paper.” *Intellectual Ventures I v. Symantec*, 838 F.3d 1307, 1318 (Fed. Cir. 2016); Reply 6–7 (quoting same).

5. Conclusion–Non-Statutory Subject Matter

Based on the foregoing discussion and a review of the record, Petitioner shows by a preponderance of evidence that challenged claims 1– 21 recite abstract concepts and do not recite patent-eligible subject matter. *See Alice*, 573 U.S. at 224–25.

IV. 35 U.S.C. § 251

A. 35 U.S.C. § 251—*Principles of Law*

Section 251 permits a patentee to seek a reissue of a patent where, “through error,” the patentee originally claimed “less than he had a right to claim.” *In re Mostafazadeh*, 643 F.3d 1353, 1358 (Fed. Cir. 2011). However, “[t]he recapture rule bars a patentee from

recapturing subject matter, through reissue, that the patentee intentionally surrendered during the original prosecution in order to overcome prior art and obtain a valid patent.” *In re Youman*, 679 F.3d 1335, 1343 (Fed. Cir. 2012) (citing *In re Mostafazadeh*, 643 F.3d at 1358).

The recapture rule involves a three-step process to determine (1) whether and in what aspect, the reissue claims are broader than the patent claims; (2) the reissue claims’ broader aspects relate to surrendered subject matter; and (3) the reissue claims materially narrow the claims relative to the claims prior to the surrender such that full or substantial recapture of the subject matter surrendered during prosecution is avoided. *See Youman*, 679 F.3d at 1343–47; *Mostafazadeh*, 643 F.3d at 1358–59 (citing *In re Clement*, 131 F.3d 1464, 1468–70 (Fed. Cir. 1997)).

Under the second step, “to determine what the applicants surrendered, we look to the change of scope between the original and patented claim . . . and the accompanying arguments applicants made during the original prosecution.” *Youman*, 679 F.3d at 1344 (“We have consistently held that when a patentee narrows the original claim in an effort to overcome a prior art rejection and makes arguments in support, the patentee surrenders the subject matter broader than the patented claim.”).

Under the third step,

the court must “determine whether the surrendered subject matter has crept into the reissue claim.” [*Clement*, 131 F.3d at 1469.] In discussing this third step, it is important to distinguish among the original claims (i.e., the claims before the surrender), the patented

claims (i.e., the claims allowed after surrender), and the reissue claims. Violation of the rule against recapture may be avoided under this final step of the analysis if the reissue claims “materially narrow” the claims relative to the original claims such that full or substantial recapture of the subject matter surrendered during prosecution is avoided.

Mostafazadeh, 643 F.3d at 1358.

In summary, under the third step, the material narrowing must relate to the surrendered subject matter to avoid recapture. *Id.*; *Youman*, 679 F.3d at 1347–48.¹⁴

B. Section 251 Challenge

Petitioner contends under the first step that during the reissue proceeding, Patent Owner broadened the issued claims of the '523 patent. Essentially, Petitioner contends that Patent Owner removed limitations recited in the '523 patent claims directed at least to receiving and processing speech from “a multiplicity of user devices.” *See* Pet. 28–29. Section I.A *supra* reveals the broadening changes to claim 1. Reissued claim 11, which depends from claim 1, and independent 12, depicted below with changes to the originally issued claims, reveal materially the same broadening changes as claim 1:

11. [An apparatus for speech recognition in a network] *The method of claim 1, further comprising the steps of providing:*

¹⁴ Here, no party asserts that the present situation involves “overlooked aspects.” *See Youman*, 679 F.3d at 1347 (citing *Mostafazadeh*, 643 F.3d at 1360).

[a speech recognition system coupled to said network for receiving a back channel from a multiplicity of user devices;

a back channel receiver for receiving said back channel;

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

a processor for processing said multiplicity of said received identified speech channels to create] *responding to* recognized speech [for each of said received] identified [speech channels; and responding] *as to* said [recognized speech] *first device based upon natural language* to create a [unique] response [for transmission to each of] *uniquely identified with* said user device[s].

12. [The apparatus of claim 11, said processing] *A method for speech directed information delivery* comprising [means for]:

[determining a user associated with a user device from said received identified speech channel;

determining said associated user from said recognized speech;

determining said associated user from said recognized speech and a speaker identification library;

determining said associated user from said recognized speech and a speech recognition library; and

determining said associated user from an identification within said speech channel]

receiving speech information at a first device, wherein said first device is a wireless device;

transferring said speech information in an unrecognized state from said first device via a first network path to a speech recognition engine; and

at said speech recognition engine, recognizing said speech information and effecting information delivery to a second device via a second network path, wherein said second device is capable of displaying electronically coded and propagated moving or still images and playing electronically coded and propagated audio; wherein said first network path and said second network paths are different.

Ex. 1001, 52:12–54.

Based on the foregoing, and a review of the record, Petitioner shows persuasively that the challenged claims recite broader aspects by eliminating at least these following steps: “partitioning a received back channel containing a multiplicity of speech channels from a multiplicity of user devices into a multiplicity of received identified speech” (issued claim 1) and “a speech recognition engine coupled to said network for receiving a back channel from a multiplicity of user devices” (issued independent claim 11 and claim 12 dependent therefrom). Patent Owner agrees that the reissue claims are broader than the claims of the original patent under the first recapture step. PO Resp. 23 (Patent Owner “admits, as did its prosecuting attorney when seeking reissue, that the ’326 Patent claims are broader in scope than the Original Patent claims” under “[s]tep one of the recapture analysis”); Reply 23 (noting Patent Owner does not dispute the reissue claims meet the first recapture step).

Under the second step, a tribunal must determine if “the broader aspects relate to the surrendered subject matter.” *Mostafazadeh*, 643 F.3d at 1358. Petitioner contends Patent Owner surrendered the “the subject matter of a single user configuration” during prosecution. *See* Pet. 30–31 (citing Ex. 1029 ¶132). In other words, Petitioner contends that Patent Owner distinguished the prior art by relying on multiple user devices as recited in the claims during prosecution of the ’523 patent. *See id.* Patent Owner then added broader features during reissue that only require a single user configured in a network (e.g., “receiving speech information at a first device” in independent claims 1 and 12). *See id.* These broader features aspects relate to the surrendered “subject matter of a single user configuration.” *See id.* Patent Owner, on the other hand, for a number of reasons, contends it did not surrender “any subject matter.” PO Resp. 24.

Typically, “[t]o determine whether an applicant surrendered particular subject matter, we look to the prosecution history for arguments and changes to the claims made in an effort to overcome a prior art rejection.” *Mostafazadeh*, 643 F.3d at 1360 (citing *Clement*, 131 F.3d at 1468). During prosecution, Patent Owner inserted language from the preamble into the body of claim 1 of the ’523 patent. Patent Owner does not dispute that it amended claim 1 to clarify that it requires the underlined portion of “partitioning a received back channel containing a multiplicity of speech channels from a multiplicity of user devices into a multiplicity of received identified speech channels,” but contends claim 1 already expressly recited the element in the preamble. *See* PO Resp. 24–25. Even in the absence of any amendments, a tribunal must investigate “arguments . . . made in an effort to overcome a prior art rejection.” *See Hester Indus., Inc.*

v. Stein, Inc., 142 F.3d 1472, 1480 (Fed. Cir. 1998) (quoting *Clement*, 131 F.3d at 1469 (emphasis by *Hester*) (“This statement in *Clement* indicates that a surrender can occur by way of arguments or claim changes made during the prosecution of the original patent application.”).

In particular, quoting the prosecution history of the ’523 patent (Ex. 1004), Petitioner contends

the applicants amended claim 1 to clarify that it requires “partitioning a received back channel containing a multiplicity of speech channels from a multiplicity of user devices into a multiplicity of received identified speech channels.” [Ex. 1004] (Original Patent File History), 1337 (added language underlined). They then argued that “Houser has nothing to do with partitioning a received back channel containing a multiplicity of speech channels from a multiplicity of user devices into a multiplicity of received identified speech channels.” *Id.* at 1343; *see also id.* at 1343–44 (“[B]ecause Houser’s teachings are concerned necessarily with the speech recognition processing being performed on the subscriber’s terminal unit, Houser’s teachings [are] totally irrelevant to the claimed features of Claim 1.”); 1344 (distinguishing claim 7 and arguing “there is no notion in Houser whatsoever about the speech recognition system being accessible to a multiplicity of user devices, when the processing occurs on the subscriber’s terminal unit.”). Based on the applicant’s amendments and arguments, the examiner allowed the claims of the original ’523 Patent.

Pet. 30–31 (citing Ex. 1029 ¶ 133).

As Petitioner contends, during prosecution, “[t]o overcome the examiner’s rejection based on Houser, the applicants amended claim 1 to clarify that it requires “partitioning a received back channel containing a multiplicity of speech channels from a multiplicity of user devices into a multiplicity of received identified speech channels.” *See* Pet. 31 (quoting Ex. 1004, 1337). During prosecution, Patent Owner also argued that independent claims 7 and 11, containing materially similar limitations, overcame the prior art for materially the same reasons as claim 1. *See* Ex. 1004, 1337–45.

Patent Owner contends the preamble of claim 1 of the ’523 patent before the clarifying amendment already contained the phrase “containing a multiplicity of speech channels from a multiplicity of user devices,” so Patent Owner contends it “did not add this element to secure allowance of the claims—the examiner believed original claim 1 included this element and that Houser disclosed it.” PO Resp. 26. Contrary to this argument, nothing indicates the Examiner “believed original claim 1 included this element.” In any event, the parties agree that the amendment clarified claim 1. *See* PO Resp. 26 (“Thus, ‘[i]t should be appreciated that Claim 1 was amended for clarification purposes only’” (quoting Ex. 1004, 1341)); Pet. 30–31 (quoted above). Also, as Petitioner explains, “[t]he amendment also confirms that the applicants did not believe the examiner understood the preamble to be limiting. If they had, there would have been no reason to make the ‘clarifying’ amendment.” Reply 14 (noting the Examiner “did not provide any citation to Houser following the preamble,” asserting this “reflect[s] that the examiner did not read the preamble as a limitation Houser had to disclose to anticipate”); *see* Ex. 1004, 1305–06 (showing no citation to Houser after

the preamble and in contrast, citations after all the other claim limitations).

Other than inserting the preamble phrase of “containing a multiplicity of speech channels from a multiplicity of user devices” into the body of claim 1 during prosecution, the claims did not change appreciably during prosecution of the ’523 patent. *See* Ex. 1004, 1337–40 (prosecution history showing changes to claims). Accordingly, with the exception as to the preamble noted, the claims as issued in the ’523 patent serve as the reference point for analysis of recapture here. Inspection of reissued claim 1 (*supra* Section I.D) reveals that Patent Owner removed the entire partitioning portion, including underlined claim limitation added during prosecution of the ’523 patent application as a clarification to overcome the prior art (i.e., “containing a multiplicity of speech channels from a multiplicity of user devices”). *See* Ex. 1004, 1337; Ex. 1001, 50:34–44 (claim 1). Similarly, inspection of the other reissue claims challenged here reveals Patent Owner removed materially similar limitations that it argued overcame the prior art with respect to claims 7 and 11 during prosecution of the ’523 patent. *See* Ex. 1004, 1337–45; Ex. 1001, 51:24–43 (claim 7), 52:12–28 (claim 11). The broader single user speech channels and devices of the reissue claims per these removed “multiplicity of speech channel” and “multiplicity of user devices” delimitations relate to the surrendered subject matter of what we refer to here, for short-hand purposes, as a single user or single user site limitation.

To clarify the analysis, the surrendered single user site limitation refers to reading the challenged claims to cover a single user site in the network of the

method for speech directed information. During prosecution of the '523 patent, as discussed further below, Patent Owner argued the prior art did not cover multiple user sites in the network of the method for speech directed information, as discussed further below. *See* Ex. 1004, 1342–43.

Patent Owner argues it did not surrender anything because Patent Owner did not clearly “admit” Houser discloses a claim element, and it did not “clearly and unmistakably” surrender anything to overcome Houser. PO Resp. 30–34. Patent Owner similarly argues Houser does not anticipate the claims, so no recapture occurred. *See* Sur-Reply 17–18. Patent Owner also contends “[i]f anything was surrendered, it was speech recognition processing at a terminal unit (or ‘local speech processing’) which was repeatedly admitted as having been both disclosed in Houser and outside the scope of the plain language of the claims.” PO Resp. 34. Patent Owner also argued it “did not surrender specific type of back channel, or a specific type of partitioning, as [Petitioner] argues [Pet. 30], because [Patent Owner] never argued that Houser disclosed receiving *any* back channel or performed *any* partitioning.” *Id.* at 35.

Under the second step, “[t]he recapture rule is triggered only where the reissue claims are broader than the patented claims because the surrendered subject matter has been reclaimed in whole or substantial part (i.e., an added limitation has been eliminated or revised).” *Mostafazadeh*, 643 F.3d at 1360. Here, Patent Owner eliminated limitations that Patent Owner argued distinguished Houser, namely, the limitation of “a received back channel containing a multiplicity of speech channels from a multiplicity of

user devices” as recited in claim 1 and similar limitations in issued claim 7 of the ’523 patent.

To overcome Houser with respect to claim 1 during prosecution of the ’523 patent application, Patent Owner focused on the *multiple user* limitations, as Patent Owner’s prosecution arguments reproduced below show:

[B]ecause Houser’s teachings are concerned necessarily with the speech recognition processing being performed on the subscriber’s terminal unit, Houser’s teachings is [sic] totally irrelevant to the claimed features of Claim 1. For example, *Houser has nothing to do with partitioning a received back channel containing a multiplicity of speech channels from a multiplicity of user devices into a multiplicity of received identified speech channels.* Because Houser is completely silent on such claimed feature, Houser simply could not enable Claim 1.

Ex. 1004, 1342–43 (emphases added). This passage shows that Patent Owner argued a distinction over Houser based on the limitation of “partitioning a received back channel containing a multiplicity of speech channels from a multiplicity of user devices,” as recited in issued claim 1 of the ’523 patent.

With respect to issued claim 7 of the ’523 patent, during prosecution, Patent Owner argued a similar distinction, after noting the similarities between claims 1 and 7:

Claim 7 recites features which are similar to claim 1. Based on a similar rationale, Houser does not disclose, teach or suggest the subject matter of claim 7. For example, Claim

7 recites “providing said speech recognition system at a back channel accessible *by a multiplicity of user devices coupled to said network.*” Houser teaches speech recognition processing at the subscriber’s terminal unit and is completely silent about a speech recognition system . . . accessible by a multiplicity of user devices coupled to said network. As shown above, there is no notion in Houser whatsoever about the speech recognition system being accessible to a multiplicity of user devices, when the processing occurs on the subscriber’s terminal unit.

Ex. 1004, 1344 (emphasis added). Patent Owner’s arguments show it argued a distinction over Houser based on the limitation of “providing said speech recognition system at a back channel accessible by a multiplicity of user devices coupled to said network,” as recited in claim 7. *Id.* After reciting that limitation, Patent Owner argued “Houser . . . is completely silent about a speech recognition system . . . *accessible by a multiplicity of user devices coupled to said network.*” *Id.* (emphasis added). Patent Owner advanced the same “rationale” for independent claim 11, which contained a similar limitation, as it did for claims 1–6. *Id.* at 1339, 1334.

As indicated above (Section I.E.1 (Claim Construction)), the prosecution history arguments by Patent Owner about a “speech recognition system” as recited in ’523 patent claim 7 correlates to what Patent Owner urges here must be included in the claim construction of a “speech recognition engine.” *See* PO Resp. 40 (“Moreover, the reissue claims require a ‘speech recognition engine’ that is accessible to a multiplicity of user devices.”). Therefore, Patent Owner

seeks to recapture by claim construction what it surrendered during prosecution of the '523 patent, and the prosecution history verifies that Patent Owner understood the claimed speech recognition system (and a speech recognition engine) did not require being “accessible to a multiplicity of user devices”—because claims 1 and 7 of the '523 patent specifically included that requirement.

By focusing on the lack of a plurality of speech channels and user devices in Houser to distinguish the claims, the record shows that Patent Owner clearly conceded that Houser discloses a single user site in a network—i.e., *regardless* of the location of the speech recognition engine.¹⁵ The prosecution arguments Patent Owner advanced with respect to claim 7 (quoted above) bolster the finding here, as does the amendment made during prosecution to ensure the language from the preamble of claim 1 about a “multiplicity” also appeared in the body of the claim. *See* Reply 13–17 (noting Patent Owner made the same argument for claim 7). As an example, as quoted above, to distinguish claim 7 (which Patent Owner asserted as allowable for similar reasons to claim 1), Patent Owner argued “Houser teaches speech recognition processing at the subscriber’s terminal unit and is completely silent about a speech recognition system

¹⁵ As noted above in Section I.E.2 (Claim Construction), Patent Owner now argues Houser’s local speech processor could have processed input from multiple users located at the site. *See* PO Sur-Reply 14 n.4. Patent Owner did not make this argument (or concession) during prosecution, so it does not bear on what Patent Owner surrendered during prosecution. In addition, the argument obscures the issue concerned with reading the challenged claims on a surrendered single site connected in a network (i.e., regardless of the number of users at that single site).

. . . accessible by a multiplicity of user devices coupled to said network.” Ex. 1004, 1344.

This argument refers to “speech recognition processing at the subscriber’s terminal unit” only to show *why* such a unit does not teach or suggest “a speech recognition system . . . accessible by a multiplicity of user devices coupled to said network.” *Id.* In other words, Patent Owner disclaimed clearly and unequivocally a single user site network configuration by emphasizing “Houser . . . is completely silent about a speech recognition system . . . accessible by a multiplicity of user devices coupled to said network.” *Id.*

The arguments advanced with respect to claim 1 during prosecution support this understanding. Patent Owner argued “*because* Houser’s teachings are concerned necessarily with the speech recognition processing being performed on the subscriber’s terminal unit, Houser’s teachings is [sic] totally irrelevant to the claimed features of Claim 1.” Ex. 1004, 1342–43 (emphasis added). Immediately after this “because” statement, Patent Owner argued “[f]or example, Houser has nothing to do with *partitioning a received back channel containing a multiplicity of speech channels from a multiplicity of user devices into a multiplicity of received identified speech channels*. Because Houser is completely silent on such claimed feature, Houser simply could not enable Claim 1.” *Id.* As seen, immediately after specifying Houser’s “silen[ce] on such claimed feature” including “a multiplicity of user devices,” Patent Owner argued “Houser simply could not enable Claim 1.” *Id.* at 1343. Hence, similar to the argument Patent Owner advanced for allowance of claim 7, the location based argument in the “because” statement Patent Owner advanced for al-

lowance of claim 1 merely served to preface an evidentiary basis as to why Houser has “nothing to do with . . . a multiplicity of user devices [and] simply could not enable Claim 1.” *Id.* (emphasis added).

According to *Hester*, “[t]here is no unfairness in binding the patentee to *deliberate assertions made in order to obtain allowance of the original patent claims over the prior art.*” *Hester*, 142 F.3d at 1481 (emphasis added). Although Patent Owner stresses “[t]here was no surrender of claim scope by argument because [Patent Owner] never admitted that Houser disclosed any claim element” (PO Resp. 32), *Hester* shows that Patent Owner’s “deliberate assertions . . . to obtain allowance” over Houser constitute a disclaimer under the recapture rule. *See Hester*, 142 F.3d at 1481.

Regarding the location (i.e., “at the subscriber’s terminal unit”), Patent Owner contends “[i]f anything was surrendered, it was speech recognition processing at a terminal unit (or ‘local speech processing’) *which was repeatedly admitted as having been both disclosed in Houser and outside the scope of the plain language of the claims.*” PO Resp. 34 (emphasis added). Patent Owner does not hedge in its Sur-Reply (i.e., does not repeat “[i]f anything was surrendered”). Rather, Patent Owner argues “[r]eading [Patent Owner’s] five-page remarks to the examiner’s Office Action in their entirety . . . shows Houser was distinguished because it describes performing speech recognition locally, at the user’s terminal device, not at a remote speech recognition engine, as claimed.” PO Sur-Reply 13 (citing Ex. 1004, 1341– 45).

This line of argument does not help Patent Owner. Even if Patent Owner surrendered clearly and unequivocally a local user site configuration that includes a speech recognition engine, that surrender does not

mean that Patent Owner failed to surrender the single user network configuration by arguing clearly and unequivocally that “Houser . . . is completely silent about a speech recognition system . . . accessible by a multiplicity of user devices coupled to said network.” Ex. 1004, 1344. Patent Owner clearly surrendered a single user network configuration based on that argument and others.

Despite admitting “Houser was distinguished because it describes performing speech recognition locally” (PO Sur-Reply 13), Patent Owner also argues it “could not surrender what it never claimed to possess,” contending that it did not “admit” anything about “local” speech processing, rather it “simply acknowledged that the ’326 Patent does not perform speech recognition at a terminal unit” (*id.* at 14–15). Patent Owner attempts to support this argument with the following disclosure in the Specification: “[The invention] is unique in that the speech command which originates at the user site, often the home of the subscriber, is sent upstream via the return path (often five to 40 MHz) in the cable system to a central speech recognition and identification engine.” *Id.* at 15 (citing Ex. 1001, 5:18–22) (bracketed information supplied by Patent Owner). But Patent Owner’s supplied bracketed information does not accurately tell the story, because the full quote begins with “[t]his system” instead of “[t]he invention,” and “[t]his system” refers back to the previous sentence, which begins with “*these embodiments* of the invention.” Ex. 1001, 5:14–22 (emphasis added). Moreover, as we determine above (*supra* Sections I.A., I.E), the Specification contemplates a speech recognition engine connected near any node, including a local node. Furthermore, the Examiner deemed the ’523 patent claims to cover a single local site network configuration by reading

the claims on Houser, as Patent Owner acknowledges. *See* Ex. 1004, 1305–09; PO Sur-Reply 13–14. As indicated above in several places, the first substantive sentence of the '326 patent states “[t]his invention relates to voice recognition *performed near a wireline node* of a network supporting cable television and/or video delivery.” Ex. 1001, 1:38–40 (emphases added); *supra* Sections I.A, I.E.1. In other words, “this invention” includes a speech recognition engine connected near any node according to the Specification, contrary to Patent Owner’s argument that it did not “possess” that feature. *See* PO Sur-Reply 15.

Patent Owner also argues that Petitioner did not assert in the related '342 IPR that Houser anticipates the reissue claims, so this shows no recapture occurs here. *See* PO Sur-Reply 17–18. But regardless of whether Houser anticipates or renders obvious the claims, Patent Owner disclaimed subject matter via “deliberate assertions” to overcome Houser. *See Hester*, 142 F.3d at 1481. Patent Owner does not provide a precedential case citation or any citation supporting the argument that the recapture rule also requires a separate finding or trial to show that the reissued claims anticipate the prior art that Patent Owner distinguished during prosecution. Such a requirement facially renders the recapture rule useless as a separate tool of invalidity under equity principles.

In any event, to the extent a separate finding of invalidity might be relevant in the recapture issue here, in the '342 IPR, the Board determined in a final written decision that Petitioner showed Houser rendered claims 1–7 and 12–17 of the '326 patent claims obvious. *See* '342 IPR, Paper 54 at 73. The '342 IPR final written decision also implies Houser discloses each claim element, finding obviousness over Houser

alone, without discussing any modifications to Houser.¹⁶ Also, Petitioner contends that asserting obviousness does not mean Houser fails to anticipate. *See* Reply 21 n.8. And as Patent Owner notes, Petitioner “responds that it ‘does contend that Houser anticipates the claims of the ’326 Patent as explicitly stated in its invalidity contentions in the related litigation.’” PO Sur-Reply 17–18 (quoting Reply 21 n.8).

In addition, *Mostafazadeh* states, as quoted above, that a patentee triggers “[t]he recapture rule . . . only where the reissue claims are broader than the patented claims because the surrendered subject matter has been reclaimed in whole or substantial part (i.e., an added limitation has been eliminated or revised).” *Mostafazadeh*, 643 F.3d at 1360. Here, the reissue claims reclaim broader aspects of the single user network configuration after Patent Owner eliminated requirements for multiple speech channels and user devices that Patent Owner argued distinguish over Houser, and Houser fairly teaches the single user configuration now claimed in the reissue claims, as the final written decision in the ’342 FWD indicates. *See* ’342 IPR, Paper 54 at 39–60.

Furthermore, *Hester* indicates that a patent owner cannot avoid recapture simply by avoiding an anticipation rejection, especially here where Patent Owner did not confine its prosecution history arguments to a lack of anticipation. For example, Patent Owner argued Houser is “*totally irrelevant* to the

¹⁶ In the ’342 IPR FWD, the Board determined obviousness based on a finding of a remote speech recognition engine at node 517 in Houser in one embodiment (’342 IPR, Paper 54 at 22, 21–60), and the Board also found that Houser discloses a local speech recognition engine at set-top box terminal unit 16 in another embodiment (*id.* at 9). *See* Ex. 1006, Fig. 1, Fig. 15.

claimed features” and “has *nothing to do with* partitioning a received back channel containing a multiplicity of speech channels from a multiplicity of user devices into a multiplicity of received identified speech channels.” Ex. 1004, 1343 (emphasis added). Patent Owner similarly argued “nowhere does Houser *disclose or suggest* transmitting a unique response to each of said *user devices* based upon the recognized speech, which was created for each of the received identified speech *channels*, as explicitly recited in Claim 1.” *Id.* (emphases added).¹⁷

Patent Owner’s prosecution history arguments asserting what Houser fails to disclose or suggest track the prosecution arguments advanced in *Hester*. See *Hester*, 142 F.3d at 1476 (Patentee “Williams placed even greater reliance on the ‘solely with steam’ and ‘two sources of steam’ limitations in an attempt to overcome *the obviousness* rejection” and then Williams essentially repeated the arguments during an appeal to the Board, asserting “the two sources of steam interact to provide a ‘synergy’ that is *novel and nowhere suggested* in any of the cited [prior] art.” (emphases added)). *Hester* also reasons “[t]here is no unfairness in binding the patentee to *deliberate assertions made in order to obtain allowance of the original patent claims over the prior art.*” *Id.* at 1481 (emphasis added).

¹⁷ In each of the ’326 patent’s challenged reissue claims, Patent Owner eliminated references to plural “user devices.” See, e.g., Ex. 1001, claim 11 (reproduced above, with brackets indicating deleted text and italics indicating added text: “*as* to said [recognized speech] *first device based upon natural language* to create a [unique] response [for transmission to each of] *uniquely identified with* said user device[s]”).

Based on the foregoing discussion, Petitioner shows persuasively that Patent Owner surrendered claim scope of a single user network configuration to distinguish Houser during prosecution and reclaimed that single user network configuration so that the challenged claims here relate to the surrendered subject matter under the second recapture step.

Under the third step, Petitioner contends “a limitation that is added during prosecution to overcome prior art ***cannot be entirely eliminated*** on reissue because doing so would constitute recapture of the surrendered subject matter.” Pet. 32 (quoting *Mostafazadeh*, 643 F.3d at 1359) (emphasis by Petitioner). Petitioner contends the ’326 patent applicants “entirely eliminat[ed] the limitation requiring processing speech data from ‘a multiplicity of user devices,’ which was required by all of the original ’523 Patent claims.” *Id.* (citing Ex. 1029 ¶¶ 135, 146). Accordingly, under the third step, Petitioner contends “the surrendered subject matter has crept into the [challenged] reissue claim[s],” *see Clements*, 131 F.3d at 1469, amounting to a “full or substantial recapture of the subject matter surrendered during prosecution.” *Mostafazadeh*, 643 F.3d at 1358. *See* Pet. 31–34.¹⁸

¹⁸ In its Sur-Reply, Patent Owner argues “the issue is whether the speech recognition engine is local—*i.e., on—the claimed first device.*” PO Sur-Reply (citing PO Response, 37–38). This argument constrains “local” to “the claimed first device,” which includes a disclosed microphone, rather than constraining “local” to a user’s home, including a set-top box, or Houser’s terminal unit. This Sur-Reply argument appears to be a mistake by Patent Owner, because Patent Owner otherwise recognizes the claimed first device (a wireless device) may be a microphone. *See* PO SMG Br. 5–6 (“The claims here recite a specific implementation of remote speech recognition by receiving a spoken command

Patent Owner contends “even if there was some surrender, the reissued claims did not recapture what was surrendered because they expressly require remote speech processing.” PO Resp. 38. Under one argument, Patent Owner relies on its claim construction proposal that a “speech recognition engine” must be “accessible to a multiplicity of user devices.” *Id.* For the reasons explained herein and above (Section I.E (Claim Construction)), the record does not support Patent Owner’s claim construction of a “speech recognition engine,” and Patent Owner’s arguments during prosecution reveal that a “speech recognition engine” need not be “accessible to a multiplicity of user devices.” *See supra* Section I.E; PO Resp. 40; Ex. 1004, 1344.

Under a second argument, Patent Owner argues the reissue claims require a remote speech processor because the reissue claims recite “transferring said speech information . . . to a first network path to a speech recognition engine . . . and effecting information delivery to a second device via a second network path.” *See* PO Resp. 37. Patent Owner maintains “even if there was some surrender, the reissued claims did not recapture what was surrendered because *they expressly require remote speech processing.*” *Id.* at 38 (emphasis added). In a similar argument, Patent Owner contends “[t]he original and issued claims required speech recognition processing to occur at a location remote from a user device,” and “[t]he same concept remains in reissued claim 1, which requires that the speech recognition engine receive speech information from a first device via a first network path and effect information delivery to a second

at a wireless device to effect information delivery to a different device.”).

device via a second network path.” *Id.* at 39. According to Patent Owner, based on these “network path” limitations, “Houser remains excluded from the claims.” *See id.*

As indicated above, with respect to the last argument, Petitioner need not show that Houser anticipates the claims to show recapture. Patent Owner argues Houser does not anticipate as a vehicle to show “[l]ocal speech processing, to the extent that [it] is held to have been surrendered, has not crept back into the claims.” *See* PO Resp. 37. But even if we adopt Patent Owner’s theory that Patent Owner only surrendered local speech processing, local speech processing clearly has crept back into the claims, because the “network path” does not preclude local speech processing (or a single user site), contrary to Patent Owner’s arguments (*see id.* at 37–38), and according to the claim construction above (*supra* Section I.E). Also, as noted above and assuming relevance to recapture here, the Board determined Houser renders the reissue claims obvious in a final written decision in the ’342 IPR.

Moreover, as construed above, the claimed first and second network paths do not constrain the speech recognition as argued by Patent Owner. *See supra* Section E.2. Nothing in the claims requires remote speech processing. As Petitioner also explains, Patent Owner fails to provide a claim construction for a “first network path” or a “second network path” and fails to explain how a network path requires a remote “speech recognition engine.” *See* Reply 20– 21 & n.7. Of course, Petitioner bears the burden of showing unpatentability, but nothing in claim 1 or claim 12 requires a remote “speech recognition engine” based on the “network path” recitations, as Petitioner argues,

and as we construed the terms above. *See supra* Section I.E; Reply 5 (“[T]he patent does not use the term ‘network path’ (except in the claims) and never refers to a ‘two-network-path’ solution to any purported problem.”).

As Petitioner persuasively argues,

Patent Owner never proposes a construction of the term “network path” to support its argument, and indeed did not include such a limitation in the agreed construction in the related district court action (i.e., “physical route through which data is transmitted from [a] source to [a] destination”). Ex. 1034 at 20. The claims broadly recite a speech recognition engine communicating with devices via network paths, which could be in a local or home network, a cable television network, or any other network. The claims do not impose any particular limitation on the location of the speech recognition engine (remote or local), and it would be inappropriate for the Board to rewrite the claims to add such a limitation now.

Reply 20–21 (internal and external footnote omitted).¹⁹

Petitioner persuasively shows that Patent Owner entirely eliminated the noted multiple user device and channel limitations during the reissue proceeding

¹⁹ In omitted footnote 7 of the Reply, Petitioner contends “Patent Owner argued that the Board should adopt this proposed construction of ‘network path’ in the pending IPR proceedings challenging the ‘326 Patent.” Reply 21 n.7 (citing ‘342 IPR, Paper 22 at 11; ‘343 IPR, Paper 24 at 11).

that Patent Owner argued overcome the prior art during prosecution. Accordingly, nothing in those eliminated steps exist for Patent Owner to narrow to avoid recapture per the third step. *See Mostafazadeh*, 643 F.3d at 1361 (“[T]he recapture rule is violated when a limitation added during prosecution is eliminated entirely, even if other narrowing limitations are added to the claim. If the added limitation is modified but not eliminated, the claims must be materially narrowed relative to the surrendered subject matter such that the surrendered subject matter is not entirely or substantially recaptured.”); *Youman*, 679 F.3d at 1345 (“where the patentee eliminates the added limitation in its entirety . . . it is clear that the surrendered subject matter has been recaptured”).

Petitioner also contends that the reissue claims do not involve “overlooked” aspects, which include “patentably distinct (1) inventions; (2) embodiments; or (3) species not originally claimed—not mere incidental features of the originally-claimed invention.” Pet. 33 n.7 (citing *Mostafazadeh*, 643 F.3d at 1360). Petitioner shows persuasively that the claims recite broad generic aspects of the disclosed invention, instead of patentably distinct inventions, embodiments, or species relative to the originally issued claims. Patent Owner does not address this point.

Based on the foregoing discussion, Petitioner shows by a preponderance of evidence that claims 1–21 impermissibly recapture surrendered subject matter.

V. 35 U.S.C. § 112, ¶ 2

Citing *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2123 (2014) and *In re Packard*, 751 F.3d 1307, 1313 (Fed. Cir. 2014), Petitioner contends

claims 11 and 21 are indefinite. *See* Pet. 46–49. Claim 11 recites “[t]he method of claim 1, further comprising the steps of providing: responding to recognized speech identified as to said first device based upon natural language to create a response uniquely identified with *said user device*.” Ex. 1001, 52:12–28 (bracketed information and emphasis omitted, emphasis added). Claim 21 similarly recites “[t]he method of claim 12, further comprising the steps of: responding to recognized speech identified as to said first device based upon natural language to create a response uniquely identified with *said user device*.” *Id.* at 53:47–50 (emphasis omitted).

Petitioner contends “said user device” lacks antecedent basis, rendering claims 11 and 21 indefinite. As Petitioner contends, claim 11 refers back to claim 1, and neither claim recites a “user device.” Pet. 47. Rather, claim 1 recites a “first device” and a “second device.” *Id.* Similarly, claim 21 refers back to claim 12, and neither claim recites a “user device.” *Id.* at 48–49. Rather, claim 12 recites a “first device” and a “second device.” *See id.* at 48 (arguing “claim 21 suffers from the same defect” as claim 11).

Therefore, according to Petitioner, “said user device” may refer to the “first device” or the “second device,” or it may introduce a separate device (i.e., a user device). *See id.* at 48. According to Petitioner, “[t]here is no basis in the claim language, [S]pecification, or prosecution history for a person of ordinary skill in the art to resolve the ambiguity created by this defect.” *Id.* at 47–48 (citing Ex. 1029 ¶¶ 188–191). Petitioner concludes “the meaning of the claim language is unclear and also fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Id.* at 48 (citing Ex. 1029 ¶ 193).

Patent Owner contends under *Nautilus*, “a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” PO Resp. 47–48 (quoting *Nautilus*, 572 U.S. at 901). Patent Owner contends *Nautilus* applies to issued patents, and under this standard, the claims are not indefinite. *See id.*

According to Patent Owner, the term “said user device,” despite lacking an antecedent basis, clearly refers to “a user device.” PO Resp. 50. Yet on the same page, Patent Owner states “it is clear . . . that ‘said user device’ refers to the ‘first device’ and ‘second device,’” as recited in claims 1 and 12. *Id.* So Patent Owner does not state unequivocally whether “said user device” refers to “a user device,” the “first device,” or the “second device” of claim 1. Petitioner points to this inconsistent position. Reply 23–24 (“Patent Owner further confirms that the antecedent basis is not ‘clear’ by arguing elsewhere in its response that the term ‘said user device’ does not mean the ‘first device’ and ‘second device’ but instead means ‘a user device,’ which is different and broader than its first proposed construction.”). In its Sur-Reply, Patent Owner does not contend the term includes “a [separate] user device” and instead argues “one of skill in the art would understand ‘said user device’ in dependent claims 11 and 21 refers to either of the two user devices (a ‘first device’ or ‘a second device’) recited in independent claims 1 and 12, respectively.” PO Sur-Reply 24.

In any event, Petitioner shows that “said user device” may refer to the “first device” or the “second device,” or it may introduce a separate device (i.e., a user

device). *See* Pet. 48. Even if *Nautilus* applies, Petitioner shows that claims 11 and 21 are indefinite, because they “fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” PO Resp. 47–48 (quoting *Nautilus*, 572 U.S. at 901).²⁰ One of skill in the art would not have “reasonable certainty” of whether a method for speech directed information delivery infringes claims 11 and 21 by using only a first device and a second device on the one hand, or whether on the other hand, the method infringes only by using a first device, a second device, and a third “user device.” In addition, even if “said user device” only refers back to either the first device or the second device as Patent Owner argues, one of skill in the art would not be reasonably certain of which one to identify to avoid infringement per the phrase “uniquely identified with said user device,” as recited in claims 11 and 21.

Based on the foregoing discussion and review of the record, Petitioner persuasively shows that claims 11 and 21 are indefinite under *Nautilus* and *Packard*.

VI. CONSTITUTIONAL CHALLENGES

Patent Owner contends this CBM proceeding “violates both the Takings and Due Process clauses of the Constitution by its retroactive application to patents whose disclosures published before the AIA was enacted.” PO Resp. 55. As Petitioner points out, however, the ’326 patent issued after the CBM proceedings became effective, so this CBM proceeding does

²⁰ Patent Owner’s arguments assume *Nautilus* applies a stricter standard than *Packard*. *See id.* Regardless, Petitioner shows that the claims lack clarity under *Packard* for the same reasons that the claims lack reasonable certainty under *Nautilus*.

not constitute a retroactive application with respect to the '326 patent. Reply 25 (“[T]he AIA’s CBM procedure was implemented in September 2012 and therefore *was in place* when the '326 Patent issued in June 2013.”).

Even for retroactive applications of the AIA, our reviewing court recently held “the retroactive application of IPR proceedings to pre-AIA patents is not an unconstitutional taking under the Fifth Amendment.” *Celgene Corp. v. Peter*, 931 F.3d 1342 (Fed. Cir. 2019). Then, after *Peter*, in a situation similar to the timing involved here, our reviewing court determined “[w]e need not reach the merits of the issue, . . . because the [challenged] patent issued . . . almost three years *after* passage of the AIA and almost two years after the first IPR proceedings began.” *Anthrex, Inc. v. Smith & Nephew, Inc.*, No. 2018-1584, 2019 WL 3938271, at *8 (Fed. Cir. Aug. 21, 2019) (also noting “even if Arthrex’s patent had issued prior to the passage of the AIA, our court recently rejected arguments similar to Arthrex’s in *Celgene Corp. v. Peter*[], 931 F.3d 1342 (Fed. Cir. 2019)”).

VII. CONCLUSION²¹

In summary:

Ground	Basis	Claims	Claims Shown Unpatentable	Claims Not shown Unpatentable
Abstract	§ 101	1–21	1–21	None
Recapture	§ 251	1-21	1–21	None
Indefiniteness	§ 112, ¶ 2	11 and 21	11 and 21	None
Overall Outcome			1–21	None

VIII. ORDER

In consideration of the foregoing, it is hereby

ORDERED that claims 1–21 of the '326 patent are unpatentable; and

FURTHER ORDERED that because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

²¹ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this Decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16654 (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).

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APPENDIX F

CONSTITUTIONAL PROVISION INVOLVED**U.S. Const. art. II, § 2**

Section 2. The President shall be Commander in Chief of the Army and Navy of the United States, and of the Militia of the several States, when called into the actual Service of the United States; he may require the Opinion, in writing, of the principal Officer in each of the executive Departments, upon any Subject relating to the Duties of their respective Offices, and he shall have Power to Grant Reprieves and Pardons for Offences against the United States, except in Cases of Impeachment.

He shall have Power, by and with the Advice and Consent of the Senate, to make Treaties, provided two thirds of the Senators present concur; and he shall nominate, and by and with the Advice and Consent of the Senate, shall appoint Ambassadors, other public Ministers and Consuls, Judges of the supreme Court, and all other Officers of the United States, whose Appointments are not herein otherwise provided for, and which shall be established by Law: but the Congress may by Law vest the Appointment of such inferior Officers, as they think proper, in the President alone, in the Courts of Law, or in the Heads of Departments.

The President shall have Power to fill up all Vacancies that may happen during the Recess of the Senate, by granting Commissions which shall expire at the End of their next Session.