

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 No. IPR2018-00344
U.S. Pat. No. 7,047,196

PATENT OWNER'S RESPONSE

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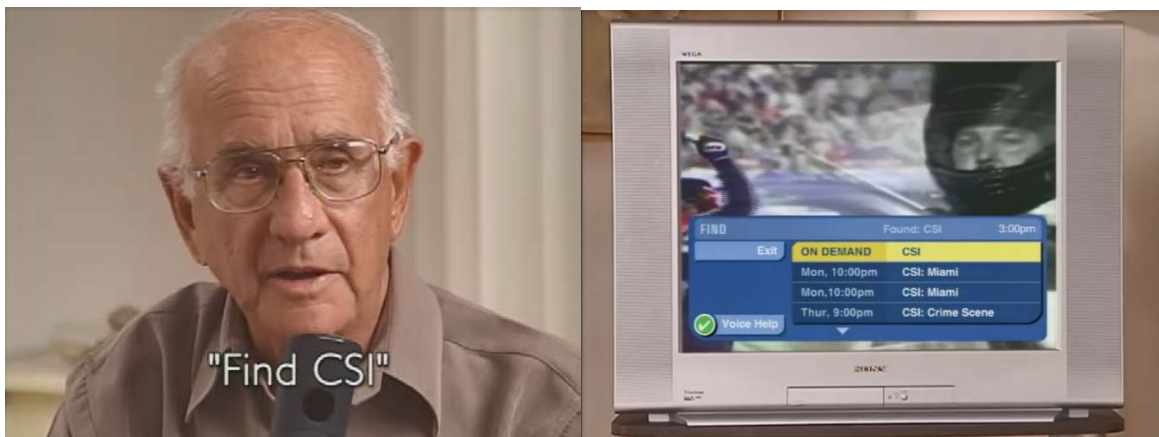
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I. Introduction

In the early 2000s, Promptu pioneered the field of voice recognition processing in a cable television network. The AgileTV solution developed by Promptu at that time, and deployed in Comcast's cable network, would be immediately familiar to anybody today who has used the myriad modern-day, voice-activated remote controls such as the one Comcast released in 2015 with its X1 System. The below screenshots are from a How-To video (Ex. 2026) distributed in the 2004-05 time period with the Comcast deployment, educating users on how to use Promptu's voice-activated remote in the AgileTV system:



Ex. 2026.

Promptu developed the AgileTV solution, which included a voice-enabled television remote control to receive a speech command from a user and to send the speech command to a set-top box, which in turn sent the speech command to a wireline node in a network supporting at least one of cable television delivery and video delivery. The wireline node processed the speech command and created a speech content response.

Promptu demonstrated the AgileTV system to Comcast, which, by mid-2003, requested that Promptu deploy it into portions of Comcast's cable television network. Comcast licensed Promptu's technology and Promptu successfully deployed and tested the AgileTV system in the Comcast cable network, deploying it in hundreds of households. In 2004, Comcast's CEO publicly praised the distributed voice recognition technology provided in the AgileTV solution. After deploying the AgileTV system within Comcast's cable network, an internal Comcast presentation identified Promptu as being the only company to "focus[] on [voice recognition] over cable" and as having "more knowledge than anyone else." Ex. 2031 at 27. Indeed, at that time, nobody was incorporating voice recognition technology into cable television networks, and Promptu's closest competitor required a user to make a telephone call to request digital content from the cable network.

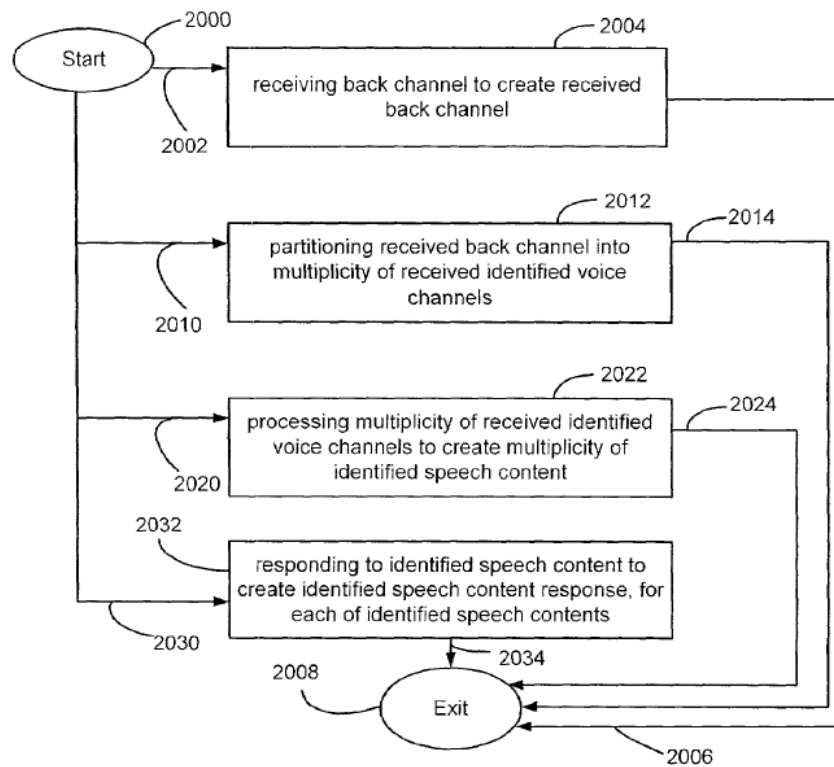
Despite the success of the field trials of the AgileTV solution and widespread industry praise, Comcast elected instead to develop its own voice recognition solution. Nearly a decade after the field trials of AgileTV's technology, Comcast first released a strikingly-similar voice recognition solution in 2015 as part of its X1 System. Facing allegations of infringing the patents it once held a license to, Comcast now contends for the first time that "the '196 Patent was not new or inventive as of its earliest effective filing date in June 2000." Paper 1 ("Pet.") at 1. Comcast's modern-day argument that the claimed invention was neither new nor inventive should be viewed with skepticism, as "the litigation argument that an innovation is really quite ordinary carries diminished weight when offered by those who had tried and failed to solve the same problem, and then promptly adopted the solution that they are now denigrating." *Heidelberger Druckmaschinen AG v. Hantscho Commercial Prods., Inc.*, 21 F.3d 1068, 1072 (Fed. Cir. 1994).

But even putting aside the substantial evidence of secondary considerations of nonobviousness that exist in this case, Comcast's petition attempts to stretch art over the claims by improperly incorporating material from its expert declaration and addressing elements in a piecemeal fashion that ignores the antecedent bases of claim terms or entirely reads words out of the claims. The Board should reject Comcast's approach and hold all challenged claims patentable.

II. Nature of the Invention Claimed in the '196 Patent

The '196 patent discloses novel and nonobvious methods and systems for speech recognition in a network. Ex. 1001 at Abstract. Unlike existing speech recognition methods and systems, the '196 patent teaches a method that uses a back channel containing a multiplicity of identified speech channels for speech recognition at a wireline node in a network supporting video or cable television delivery. *Id.* at 22:8-12. In an exemplary embodiment, 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 22:12-14. The network supports video and/or cable television delivery to the user sites. *Id.* at 22:8-15.

Figure 10 depicts a flowchart of one of the patent's disclosed methods:



Id. at Fig. 10, 7:42-47.

III. Claim Construction

The petition proposes claim constructions for each of the following terms: “wireline node,” “back channel,” and “partitioning said received back channel into a multiplicity of [said] received identified speech channels.” While Promptu does not agree with these constructions, many of which are disputed in the corresponding litigation,¹ the Board need not construe them here because the

¹ Ex. 2036-2039.

petition fails to carry its burden of establishing that the claims are unpatentable even under Petitioner's own proposed claim constructions.

IV. The petition's failure to establish that Murdock is prior art dooms all of the Murdock grounds.

Petitioner asserts that Murdock is prior art under 35 U.S.C. § 102(e) only based on the filing date of its provisional application. Pet. 10. As recognized by Petitioner, there are two requirements for establishing that the filing date of a provisional application may be used to challenge a patent. First, the provisional application must "provide[] sufficient support for *at least one claim* in the child [patent]." Pet. 10 (quoting *Ex Parte Mann*, 2016 WL 7487271, at *5-6 (PTAB Dec. 21, 2016) (emphasis in original)). And second, "the provisional application must *also* provide support for the subject matter relied upon' to establish that the challenged patent is unpatentable." Pet. 10 (quoting *Ex Parte Mann*, 2016 WL 7484271, at *5 (emphasis in original)).

Rather than showing how the provisional application did either of these things, the petition provided only the following statements:

- "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. ¶¶ 99-113." Pet. 10.

- “Petitioner’s expert witness confirms that the Murdock provisional application meets this requirement, too. Schmandt Decl. ¶¶ 135-293 (showing that the provisional application discloses the challenged claims and also showing that the provisional application discloses the same subject matter).” Pet. 10.

As recognized by the Board, this barebones analysis is insufficient to support Petitioner’s contention that Murdock is entitled to the filing date of the Murdock Provisional. Inst. Dec. 26. Petitioner’s attempt to incorporate more than 150 paragraphs of essential analysis from the declaration into the petition, particularly when the petition was only twenty words under the word limit, is improper for several reasons. First, 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). Under the rules, *the petition* must contain a “full statement of the reasons for the relief requested, including a detailed explanation of the significance of the evidence.” 37 C.F.R. § 42.22(a)(2). *The petition* also must identify how the construed claim is unpatentable under the statutory grounds asserted. 37 C.F.R. § 104(b)(4).

Second, as recognized by the Board, the incorporation violates the Board’s rules prohibiting arguments made in a supporting document from being

incorporated by reference into a petition. Inst. Dec. 26 (citing 37 C.F.R. § 42.6(a)(3)). For this reason, the Board indicated that it will “disregard all the material improperly incorporated by reference for this issue, which is paragraphs 99 to 113 and 135 to 293 of the Schmandt Declaration.” Inst. Dec. 26. Thus, the petition is “left with only 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.” *Id.* Lacking any factual support or analysis to establish Murdock as prior art, Petitioner’s bare conclusions necessarily fail to prove that the claims are unpatentable based on the Murdock grounds. And it would be improper for the Board to consider any new arguments or evidence from Petitioner at this late date in the proceedings. 5 U.S.C.A. § 554(b)(3).

V. The Julia grounds fare no better than the Murdock grounds because the petition fails to prove Julia combined with the teaching of Nazarathy or Quigley renders any of the claims obvious.

A. The petition’s errors for independent claims 1 and 27

1. Claim 1

The petition fails to establish that claim 1 of the ’196 patent is unpatentable as obvious under 35 U.S.C. § 103 based on “Julia Combined with the Teaching of Nazarathy or Quigley” (*see* Pet. 43-48) for two primary reasons.

First, the petition completely ignores several claim elements. It is a basic canon that, to establish obviousness of a claim, the claim must be considered as a whole. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1548 (Fed. Cir. 1983). But instead of complying with that requirement, the petition glosses over several elements of the claim.

Second, the petition inconsistently interprets other claim elements—interpreting an element one way in one part of the claim, and another way for other parts of the same claim. Accordingly, it would be legal error to find that Petitioner has met its burden of establishing that claim 1 is unpatentable.

Claim 1 contains a preamble and four limitations that build off of it:

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

receiving said back channel to create a received back channel;

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

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

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

Ex. 1001 at 50:62-51:10. Reviewing the petition's analysis for the *receiving*, *partitioning*, and *processing* limitations reveals how the petition changed the meaning of the claim elements in the limitations to map the cited art to the claim. Because the analysis ignores the meaning of the claim elements when considered as a whole, it cannot establish that the claim is obvious.

a. *receiving said back channel to create a received back channel*

The receiving element of claim 1 requires two parts: “***receiving***” a first element (“*said back channel*”) “***to create***” a second element (“*a received back channel*”). The petition's two paragraphs discussing the receiving element, however, never address how any of the references, Julia, Nazarathy, or Quigley, creates a received back channel.

In the first paragraph, the petition makes several assertions about what Julia discloses but never explains their pertinence. None discuss using a back channel to create something:

In Julia, the viewer issue voice command using “voice input device 102,” which transmits the voice command to “communications box 104.” The communications box transmits the voice command signal over “network 106” to “remote server or servers 108.” Julia states that network 106 “is a two-way electronic communications network and may be embodied in electronic communication infrastructure including coaxial (cable television) lines” Julia also explains that “multiple users” each having their own input device can issue voice commands for processing by the central server.

Pet. 44 (citing Ex. 1012 at 3:39-54, 3:54-55, 4:31-35, 6:12-26).

The second paragraph fares no better—beginning with a false premise and ending with a logical leap from a general disclosure of an upstream path to an assertion that a POSITA recognizes that a received back channel is created. This paragraph begins with the bald assertion repeated throughout the petition—Julia discloses a voice control system that can be implemented in an interactive cable television network. Pet. 43. But that is not what Julia discloses. Ex. 2033, ¶ 35. Instead, Julia is directed to an online interface using spoken input, Ex. 1012 at Title, where the network, such as the Internet, can be implemented over cable lines. *Id.* at 4:31-39. Ex. 2033, ¶ 35.

Even assuming the assertions regarding Julia were correct, the second paragraph fails to explain how Julia discloses creating a received back channel or why doing so would have been obvious. The second paragraph includes three assertions about what the prior art discloses: (1) Julia discloses a back channel, (2) Nazarathy discloses a back channel, (3) Quigley discloses a back channel. Then, it provides a conclusory statement—“Thus, a person of ordinary skill in the art would recognize that remote server 108 receives the ‘back channel to create a received back channel,’ as recited in claim 1”—citing only Schmandt’s declaration. Pet. 45 (citing Ex. 1019 ¶¶ 311-312). But to “satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

Nor can Petitioner rely on the purported knowledge of a POSITA in combination with Julia to meet the “create a received back channel” claim limitation, because such knowledge cannot form the basis of an IPR ground under 35 U.S.C. § 311(b). As the Board recognized in its Office Patent Trial Practice Guide, August 2018 Update (“Trial Practice Guide”)² (*see* 83 Fed. Reg. 39,989 (Aug. 13, 2018)), at page 5:

² Available at: http://www.uspto.gov/sites/default/files/documents/2018_Revised_Trial_Practice_Guide.pdf.

[B]ecause an *inter partes* review may only be requested “on the basis of prior art consisting of patents or printed publications,” 35 U.S.C. § 311(b), expert testimony cannot take the place of disclosure from patents or printed publications. In other words, expert testimony may explain “patents and printed publications,” but [it] is not a substitute for disclosure in a prior art reference itself.

But even if it could, Schmandt's declaration does not support that statement. Schmandt does not even discuss the Nazarathy and Quigley references. Ex. 1019 ¶¶ 311-312. Instead, Schmandt reaches his conclusion by applying an inconsistent application of the term “back channel.” Schmandt abandons the petition's assertion that the words “back channel” mean an “upstream communication *channel* delivering signals from multiple user sites to a central wireline node,” Pet. 7-8 (emphasis added), and instead maps “a received back channel” to “the *data* coming in from the multiple network users from via network 106,” Ex. 1019 ¶ 311 (emphasis added). Neither Comcast nor Schmandt explains why “*back channel*” means one thing when the claim recites just “*back channel*” (i.e., a type of upstream channel) but something else when the claim recites “*received back channel*” (i.e., a type of data). This contradicts the basic principle of claim construction that “words in a claim should be interpreted consistently throughout the same claim.” 1 Annotated Patent Digest (Matthews) § 4:25.25 (citing *Digital*

Biometrics, Inc. v. Identix, Inc., 149 F.3d 1335, 1345 (Fed. Cir. 1998);
Phonometrics, Inc. v. N. Telecom Inc., 133 F.3d 1459, 1464 (Fed. Cir. 1998)).

Accordingly, the Board should find that Comcast failed to carry its burden of establishing this element was obvious.

b. *partitioning said received back channel into a multiplicity of received identified speech channels*

When the petition discusses the “*partitioning*” limitation, it ignores the antecedent basis of “said *received back channel*.” *Wi-Lan, Inc. v. Apple, Inc.*, 811 F.3d 455, 462 (Fed. Cir. 2016) (“Subsequent use of the definite articles ‘the’ or ‘said’ in a claim refers back to the same term recited earlier in the claim.”). Instead, it addresses the claim element as if it recited “partitioning said *back channel*” rather than “partitioning said *received back channel*,” which was created by receiving “said *back channel*.”

The petition addresses the claim element as if it recited “partitioning said back channel.” As explained above, Petitioner interpreted “back channel” as a type of upstream channel. Pet. 44 (“the ‘back channel’ (i.e., ‘upstream communication channel delivering signals from multiple user sites to a central wireline node’)”). For the partitioning limitation, the petition only maps the claimed “*partitioning*” to Nazarathy and Quigley and asserts that they disclose “partitioning an upstream channel.” Pet. 46-47. The petition does not contend that either Nazarathy or

Quigley disclose partitioning data, as their mapping of “received back channel” would require.

To the extent Comcast contends that both “*said back channel*” and “*said received back channel*” are the same thing, i.e. the upstream communication channel, several problems arise. **First**, relying on partitioning the upstream signal contradicts Schmandt’s only mapping for “*said received back channel*” in the “*receiving*” element, which is that “*said received back channel*” is “the data coming in from the multiple network users from via network 106.” *Supra* at V.A.1.a. **Second**, if “*said back channel*” and “*said received back channel*” are the same thing, “*to create a received back channel*” would be read out of the claims. That is improper. *Exxon Chem. Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1557 (Fed. Cir. 1995) (A court “must give meaning to all the words in [the] claims.”); *see also Pause Tech., LLC v. TiVo, Inc.*, 419 F.3d 1326, 1334 (Fed. Cir. 2005) (“In construing claims, however, we must give each claim term the respect that it is due.”); 1 Annotated Patent Digest (Matthews) § 4:23 (“when different words are used in the same claim, especially within the same clause of a claim, a rebuttable presumption applies that a different meaning was intended, and therefore, a different meaning should be applied to the different words.”) (citing *Z4 Techs., Inc. v. Microsoft Corp.*, 507 F.3d 1340, 1348 (Fed. Cir. 2007)). **Third**, a POSITA would not understand these to be the same thing. Ex. 2033, ¶ 40.

It also makes no sense to apply the cited teaching of Nazarathy and Quigley to Schmandt's "*said received back channel*." *Id.* at ¶ 41. The petition relies on concepts of applying time division multiplexing or wavelength division multiplexing to a signal. Pet. 46. But Schmandt maps "*said received back channel*" to data, not a signal. Ex. 1019 ¶¶ 311, 312. The petition, however, offers no explanation of how or why signal processing techniques would be applied to data received by remote server 108 of Julia. *See Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1066 (Fed. Cir. 2016) (cautioning that "the Board 'must still be careful not to allow hindsight reconstruction of references . . . without any explanation as to *how* or *why* the references would be combined to produce the claimed invention.'" (emphases in original)).

Finally, the petition's analysis again omits part of the claim language. This claim element requires "*a multiplicity of received identified speech channels*," which is never even mentioned in the petition's analysis. This is because there is no correlation between the signal level operations in Nazarathy and Quigley and "dividing the received back channel into multiple portions that are each identified with speech commands originating from system users," as Comcast construes those claims. Pet. 8-9. For example, in Nazarathy, the multiplexing Comcast points to multiplexes "e.g., four RF sections each collecting returns from 500 homes . . ." not "into multiple portions that are each identified with speech commands

originating from system users.” Ex. 1013 at 12:26-33. Similarly, Comcast asserts that Quigley discloses assigning each cable modem a portion (i.e., time slot) of the upstream channel in which it can transmit data. Pet. 46. But Quigley does not teach that each time slot is “identified with speech commands originating from system users,” as required to meet Comcast’s construction. Ex. 2033, ¶ 42.

Accordingly, the Board should find that Comcast failed to carry its burden of establishing this element was obvious.

c. *processing said multiplicity of said received identified speech channels to create a multiplicity of identified speech content*

For the “processing” step, the petition again makes an unsupported logical leap. The petition had previously taken the position that a channel is a signal (Pet. 46), but this section conflates a signal with data, inconsistently interpreting the claim limitations requiring processing signals under Petitioner’s own constructions. In the petition, the only discussion of the processing element is as follows:

Julia explains 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 construct an appropriate query or request for navigation of remote data source 110” Julia at 3:61-65. The “voice data received from the user is interpreted in order to understand the user’s request for information.” *Id.* at 7:5-7. Thus, Julia discloses “processing said multiplicity of

said received identified speech channels” (i.e., voice command signals) “to create a multiplicity of identified speech content” (i.e., each user’s specific command), as recited in the claim. Schmandt Decl. ¶¶ 322-328.

Pet. 47. In that paragraph, the petition, attempting to stay consistent with its assertions that a channel is a signal, jumps from a discussion of processing voice data to asserting that Julia thus discloses voice command signals without explaining why processing data teaches or discloses processing signals. Petitioner cites only Schmandt for support. *Id.* But Schmandt does not support that assertion. Ex. 1019 ¶ 322. Rather than agreeing that speech channels are signals, as Petitioner argues, Schmandt instead maps the “identified speech channels” to “the voice input data from the various users.” *Id.* Accordingly, the petition’s assertion is not only conclusory but also unsupported, which fails to carry the burden of establishing obviousness. *See In re Magnum Oil Tools*, 829 F.3d at 1380 (to “satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements.”).

2. Claim 27

The petition fails to establish that claim 27 is unpatentable for not only the same reasons as claim 1 but also because the petition attempts to read out many of the structural relationships recited in the claim.

a. The relationship between claim 1 and claim 27.

Given the overlap in claim language between claims 1 and 27, the petition fails to establish that claim 27 is unpatentable for at least the same reasons as claim

1. Independent claim 27 recites the following:

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

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

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

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

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

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

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

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

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

Ex. 1001 at 55:9-35. For each of the bolded elements, the petition relies upon a reference back to its discussion of claim 1. Pet. 54-55. Accordingly, the petition fails to carry its burden for establishing these elements are unpatentable for at least the same reasons discussed above. The petition, furthermore, ignores several other elements of the claim.

b. Julia does not disclose *a speech recognition system coupled to a wireline node*

The petition ignores that the first element of claim 27 requires “*a speech recognition system coupled to a wireline node.*” Instead, the petition only asserts that “[i]n Julia, speech recognition processing is performed by remote server 108, which constitutes ‘a wireline node’ in the network.” Pet. 53. Schmandt’s testimony on this topic should be disregarded because he does not know what “coupled to”

means and based his opinion on it meaning “anything.” Ex. 2034 at 26:22-29:9.

While the petition makes no attempt to explain its position, to the extent Comcast is trying to map both the speech recognition system and wireline node to remote server 108³, that is an improper interpretation of the claim language because a proper interpretation “must give meaning to all the words in [the] claims.” *Exxon Chem. Patents*, 64 F.3d at 1557; *see also Pause Tech.*, 419 F.3d at 1334 (“In construing claims, however, we must give each claim term the respect that it is due.”); 1 Annotated Patent Digest (Matthews) § 4:23 (“when different words are used in the same claim, especially within the same clause of a claim, a rebuttable presumption applies that a different meaning was intended, and therefore, a different meaning should be applied to the different words.”) (citing *Z4 Techs.*, 507 F.3d at 1348).

3. The petition's stated motivations to combine Julia with Nazarathy or Quigley, are facially deficient.

Petitioner's combinations of references are facially deficient because the petition fails to articulate a motivation to combine the features of the prior art to yield the claimed invention. The entirety of the petition's discussion of a

³ For example, the claim requires that the speech recognition system comprises a back channel receiver, which Comcast asserts is taught because “remote server 108 receives a back channel.” Pet. 54.

motivation to combine Julia with Nazarathy or Quigley falls within mere three paragraphs. Pet. 60-61.

Of these three paragraphs, two simply allege that the references fall within the same technical field and that they would have been considered by a POSITA. *Id.* The third paragraph is therefore the *sole attempted explanation* of why a POSITA would have been motivated to combine all of the various challenged features of the claims based on the teachings of the different references. This is woefully deficient.

Petitioner argues that a POSITA would have “recognized the benefits of combining Julia with the teachings of Nazarathy and Quigley,” yet merely identifies generalized purported benefits without linking them to the features of the challenged claims. *Id.* at 61. For instance, Petitioner alleges that the Julia network would somehow “reap the benefits” of Nazarathy or Quigley, with no accompanying factual support whatsoever for its conclusory assertions. *Id.* Petitioner then abruptly changes course, arguing in the very next sentence that a POSITA would modify Nazarathy or Quigley based on the teachings of Julia, a combination not articulated in any of its grounds, to “improve the user interface for those systems.” *Id.* These purported benefits likewise lack any factual basis, in addition to failing to support Petitioner’s proposed modification of Julia based on Nazarathy or Quigley. Ex. 2033, ¶ 50.

At best, Petitioner argues that a POSITA *could have* combined Julia with Nazarathy or Quigley, not that one *would have* combined them. Petitioner thus fails to meet its burden of establishing a credible motivation to combine. *See Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (“[O]bviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention.” (emphases in original)); *In re NuVasive, Inc.*, 842 F.3d 1376, 1382 (Fed. Cir. 2016) (“[T]he PTAB must articulate a *reason why* a PHOSITA would combine the prior art references.” (emphasis in original)).

In addition, the generalized manner in which Petitioner describes the combinations of Julia with Nazarathy or Quigley fails to explain *how* a POSITA would make those combinations with a reasonable expectation of success, and Petitioner fails to articulate a credible explanation of how its combination of references solves a problem in either of its primary references. *Pers. Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 993-94 (Fed. Cir. 2017) (reversing obviousness determination because the Board “nowhere clearly explained, or cited evidence showing, *how* the combination of the two references was supposed to work” (emphasis in original)).

As a result, Petitioner cannot meet its burden of showing that any of the claims would have been obvious based on Julia in light of Nazarathy or Quigley.

B. The petition's errors for dependent claims 5, 6, 13, 31, 32, and 39.

1. Claim 5

Claim 5 depends from claim 2 and further recites “creat[ing] a financial consequence identified as to said user site,” and “billing said user site based upon said financial consequence.” Ex. 1001 at 51:55-63. Petitioner fails to provide a factual basis in the petition capable of supporting any of its challenges to this claim.

For all of the Julia grounds, Petitioner relies on Julia itself for the claimed “creat[ing] a financial consequence identified as to said user site.” Pet. 62-63. Although Petitioner mentions within its discussion of the “billing” step that “Julia can be combined with either Banker or Gordon,” *id.* at 63, Petitioner never articulates any modification to Julia that would result in the claimed “creat[ing],” much less why or how such modification would have been made. Instead, Petitioner appears to premise any combination of Banker or Gordon with Julia on Julia already disclosing the “creat[ing]” step. *Id.* at 67 (Petitioner asserting in its “Motivation to Combine” section that “[t]he user interfaces disclosed in Banker and Gordon also minimize the chances of accidental or unauthorized purchase.”). Petitioner's premise fails, dooming all of its Julia grounds for claim 5.

Julia does not disclose “creat[ing] a financial consequence identified as to said user site.” Petitioner points to Julia's “Diva Systems video-on-demand

system” for this limitation, citing its expert for the proposition that “[a] person of ordinary skill in the art knows that the Diva System provided pay-per-view functionality.” *Id.* at 62 (citing Ex. 1019 ¶ 345). Petitioner errs in multiple ways.

First, Petitioner cannot equate “video-on-demand” with “pay-per-view” because they are not the same thing. For example, Netflix subscribers can watch as many videos on-demand as they please; they do not need to pay per view.

Second, Petitioner cannot rely on its expert's assertion that the Diva System provided pay-per-view functionality to make up for Julia's lack of disclosure in this regard because there is no hard evidence that the Diva System actually did so. With no such evidence backing Petitioner's expert's testimony, it should be given no weight. 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”); *Rohm & Haas Co. v. Brotech Corp.*, 127 F.3d 1089, 1092 (Fed. Cir. 1997) (explaining that nothing in the Federal Rules of Evidence or Federal Circuit jurisprudence requires the fact finder to credit unsupported assertions of an expert witness).

Nor could Petitioner rely on the purported knowledge of a POSITA in combination with Julia to meet the “pay-per-view” functionality, because such knowledge cannot form the basis of an IPR ground under 35 U.S.C. § 311(b). *See also* Trial Practice Guide at 5 (“[E]xpert testimony may explain ‘patents and

printed publications,' but [it] is not a substitute for disclosure in a prior art reference itself.”). Nothing in Julia discloses pay-per-view functionality.

Because Petitioner fails to provide a factual basis in the petition capable of supporting its arguments for why Julia discloses “creat[ing] a financial consequence identified as to said user site,” and because Petitioner premises all of its Julia grounds on Julia containing such disclosure, the petition fails to establish that claim 5 is unpatentable. And it would be improper for the Board to consider any new arguments or evidence from Petitioner at this late date in the proceedings. *See, e.g.*, 5 U.S.C. § 554.

2. Claim 6

Claim 6 depends from claim 2 and, similar to claim 5, further recites “creat[ing] a financial consequence identified with said user site,” and “billing said user site based upon said financial commitment.” Ex. 1001 at 51:64-52:8. Petitioner fails to provide a factual basis in the petition capable of supporting any of its challenges to this claim. Instead, Petitioner refers back to its claim 5 arguments and makes the same errors. Pet. 64. Accordingly, the petition fails to establish that claim 6 is unpatentable.

3. Claim 13

Claim 13 recites elements that the petition fails to address. Claim 13 recites “processing said received speech channels from said user site based **upon natural**

language for said user site to create said speech content identified as to said user site.” Ex. 1001 at 52:61-64 (emphasis added). In contrast, claim 12 recites “responding to said speech content identified as to said user site **based upon natural language** to create a speech content response of said speech content identified as to said user site.” *Id.* at 52:52-55 (emphasis added). Thus, these claims differ because claim 13 includes an additional requirement that the natural language is specific to a user site. But the petition never addresses this additional requirement. Instead, it copies the claim 12 analysis with just the claim number and claim text updated. Pet. 52-53. Accordingly, the petition fails to establish that claim 13 is unpatentable.

4. Claims 31 and 32

Petitioner relies on its claim 5 and claim 6 arguments for claims 31 and 32. *Id.* at 66. Petitioner's arguments for claims 31 and 32 thus fail for the same reasons as its arguments for claims 5 and 6. Accordingly, the petition fails to establish that claims 31 and 32 are unpatentable.

5. Claim 39

Petitioner relies on its claim 13 arguments for claim 39. *Id.* at 57. Petitioner's arguments for claim 39 thus fail for the same reasons as its arguments for claims 13. Accordingly, the petition fails to establish that claim 39 is unpatentable.

VI. Secondary Considerations Further Demonstrate Nonobviousness of the Challenged Claims of the '196 Patent

Objective indicia of nonobviousness play an important role in the obviousness analysis and “may often be the most probative and cogent evidence in the record.” *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1328 (Fed. Cir. 2016) (quoting *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538 (Fed. Cir. 1983)). “These factors are commonly known as secondary considerations or objective indicia of non-obviousness . . . [and] include: commercial success enjoyed by devices practicing the patented invention, industry praise for the patented invention, copying by others, and the existence of a long-felt but unsatisfied need for the invention.” *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1052 (Fed. Cir. 2016) (en banc), *cert. denied*, 138 S. Ct. 420 (2017). Objective considerations “can protect against the prejudice of hindsight bias, which often overlooks that ‘[t]he genius of invention is often a combination of known elements which in hindsight seems preordained.’” *Cheese Sys., Inc. v. Tetra Pak Cheese & Powder Sys., Inc.*, 725 F.3d 1341, 1353 (Fed. Cir. 2013) (alteration in original) (citation omitted). Secondary considerations must be considered in every case where present, including in IPRs. *Apple*, 839 F.3d at 1048; *see also Truswal Sys. Corp. v. Hydro-Air Eng'g, Inc.*, 813 F.2d 1207, 1212 (Fed. Cir. 1987) (“That evidence is ‘secondary’ in time does not mean that it is secondary in importance”).

In this case, several objective indicia based on the success and acclaim of an AgileTV system embodying the invention of the '196 patent provide compelling additional evidence that the challenged claims were nonobvious. The assignee of the '196 patent, AgileTV,⁴ created a voice-enabled search and navigation solution for the cable industry that was large-scale, distributed, and scalable, and intended to accommodate millions of cable subscribers and digital-content choices. Ex. 2032 ¶ 8. A user could speak a speech commands for content into a voice-enabled remote control, which transmitted the command to the user's set-top box. *Id.* ¶ 9. The set-top boxes in the AgileTV solution were connected through the cable television network to a wireline node, where the user's speech command could be processed to create a speech content response. *Id.*

A. Nexus Between the Objective Indicia and the Merits of the Claimed Invention

For objective evidence to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention. *Stratoflex*, 713 F.2d at 1539. "A prima facie case of nexus is generally made out when the patentee shows both that there is commercial success, and that the thing (product or method) that is commercially successful is the invention disclosed and claimed in the patent." *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851

⁴ AgileTV changed its name to Promptu in 2006. Ex. 2032 ¶ 3.

F.2d 1387, 1392 (Fed. Cir. 1988). Nexus may be shown in one of two ways:

(1) directly, by showing that the objective evidence was due to the merits of the claimed invention; or (2) relying on the presumption of nexus “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.’” *WBIP*, 829 F.3d at 1329-31 (“*WBIP* was entitled to the presumption of nexus for its objective evidence of non-obviousness because it established that the specific products . . . are embodiments of the invention in the asserted claims”). In this case, both are met.

1. The presumption of nexus applies because the objective indicia evidence applies to the AgileTV system that embodies the claimed invention.

As explained in *WBIP*, where a specific product, such as the AgileTV system, embodies the invention disclosed and claimed in the patent, there is a presumption of a nexus for objective indicia related to that product and the claimed invention. *Id.* at 1331. The same presumption applies here, as the AgileTV system embodied the invention disclosed and claimed in the '196 patent.

The '196 patent describes embodiments of the AgileTV system. Ex. 2032 ¶¶ 8-12, 13-16. For example, the '196 patent's provisional application describes the AgileTV solution at the time of the '196 patent including, for example, technical descriptions of the AgileTV Voice Recognition Engine (Ex. 2006 at 11), the Agile

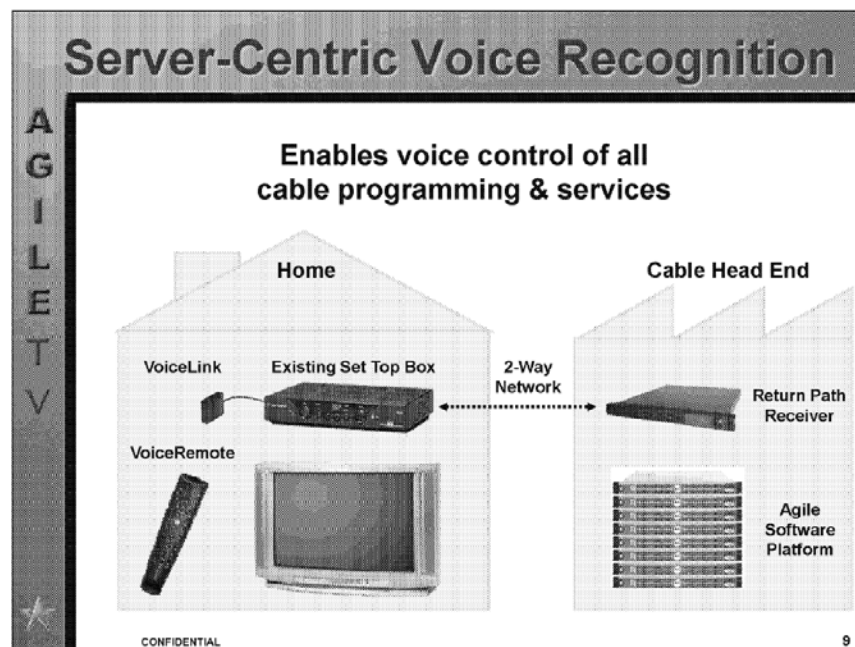
Voice Processing Unit (AVPU), the AgileTV set-top appliance (Ex. 2006 at 11), the VoiceLink (Ex. 2006 at 14), and the AgileTV Speech Recognition System Architecture (Ex. 2006 at 29). The specification of the '196 patent further describes the AgileTV solution at the time of the '196 patent, including the AgileTV Speech Processor, the AgileTV Voice Processing Unit (AVPU), and a similar depiction of the system architecture. *See, e.g.*, Ex. 1001 at 11:62-65, 12:50-56; Fig. 3.

2. Direct evidence of nexus exists between the objective indicia and the claimed invention.

The '196 patent claims are directed to methods and systems for speech recognition in a network. Ex. 1001 at Abstract. Unlike existing speech recognition methods and systems, the '196 patent teaches a method that uses a back channel containing a multiplicity of identified speech channels for speech recognition at a wireline node in a network supporting video or cable television delivery. *Id.* at 22:8-12. In an exemplary embodiment, 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 22:12-14. The network supports video and/or cable television delivery to the user sites. *Id.* at 22:8-15. In accordance with the claimed invention, for example, a cable television delivery network receives a back channel, partitions the received back channel into a multiplicity of received identified speech

channels, processes the received identified speech channels to create a multiplicity of identified speech content, and creates a unique identified speech content response for each identified speech content.

As discussed below, 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. The figure below represents the architecture of the AgileTV system at the time of the '196 patent.



Ex. 2003 at 9; *see also* Ex. 2032 ¶¶ 9-10.

By 2003, AgileTV implemented the above-described architecture to partition a received back channel to a multiplicity of received identified speech channels, process those to create a multiplicity of identified speech content, and responding

to the multiplicity of identified speech content to create a unique identified speech content response for each identified speech content. Ex. 2032 ¶ 15; Ex. 2007 at 8; Ex. 2008 at 1, 3.

The 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. The implementation of the claimed invention in the AgileTV system addressed a need in the art by using voice recognition technology to improve how users could find and view desired television programming on a cable network. Ex. 2032 ¶¶ 6-8; *see also* Ex. 2001.

B. Objective Evidence of Nonobviousness

Objective indicia that the AgileTV system embodying the claimed invention satisfied a long-felt but unmet need, received substantial industry praise, was perceived as commercially valuable, and was successfully licensed and deployed by Comcast all support that the claimed invention was nonobvious.

1. There 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.

“Evidence of a long felt but unresolved need tends to show non-obviousness because it is reasonable to infer that the need would have not persisted had the solution been obvious.” *WBIP*, 829 F.3d at 1332.

The AgileTV system satisfied a long-felt but unmet need for using voice recognition in cable systems. Ex. 2032 ¶¶ 6-8. Previous tools for navigating the large amounts of content in cable systems were unwieldy and impractical. *Id.* ¶ 6. Before AgileTV's solution, moreover, no one had addressed voice recognition in cable systems "from a comprehensive, system-wide perspective: from microphone, through transport and to the server-side [voice] recognition engine." *Id.* ¶¶ 6-8; Ex. 2002 at 3; *see also* Ex. 2001. In other words, 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 '196 patent. AgileTV's closest competitor at that time, Integra5, demonstrated a product requiring an out-of-band telephone call to request digital content from the cable television network. Ex. 2032 ¶ 7. Integra5's solution was not successful. *Id.* Other solutions at the time ran solely on a set-top box, without a voice-activated remote control, and did not perform any operations at the headend. Ex. 2040.

The AgileTV system satisfied this need and was successfully implemented, for example, in demonstrations and field trials in Comcast's cable network system and for other potential customers. Ex. 2032 ¶¶ 9-12. Indeed, as of 2005 it was reported that AgileTV was "the first company to bring voice-activated remotes and program guide[s] to market." Ex. 2040.

2. The AgileTV system was widely praised within the industry because it provided advantages that previously were unavailable.

“Evidence that the industry praised a claimed invention or a product which embodies the patent claims weighs against an assertion that the same claim would have been obvious.” *WBIP*, 829 F.3d at 1334.

As a result of gaining exposure through demonstrations and deployments, the AgileTV solution was widely praised within the cable industry because it provided advantages that previously were unavailable. Ex. 2032 ¶¶ 17-25. For example, by 2005 the AgileTV solution won a “Most Innovative Solution Award” from Speech Technology Magazine. Ex. 2009 at 3. This award highlighted several of the advantages of the AgileTV solution, including its ability to search and scan through hundreds of cable channels and thousands of hours of “On Demand” content using simple, intuitive speech commands. Ex. 2009 at 3. The award also praised AgileTV’s distributed speech recognition technology for being able to scale to hundreds of thousands of voice-enabled customers. Ex. 2009 at 3.

AgileTV also received praise for its solution in public media. For example, AgileTV’s former CEO (Paul Cook) and CTO (Harry Printz) were invited to the Kudlow & Cramer show on CNBC in 2004 to talk about the AgileTV solution and to demonstrate the technology. Ex. 2032 ¶ 23; Ex. 2018; Ex. 2019.

A study of Comcast by the Buckingham Research Group in May 2005 similarly praised the advantages of the AgileTV solution in Comcast's cable system. Ex. 2032 ¶ 24; Ex. 2020 at 7. Consistent with this praise, AgileTV's user studies and focus groups found user acceptance of the AgileTV system exceeded expectations. Ex. 2032 ¶ 25; Ex. 2010 at 6. AgileTV's studies indicated that users found that compelling features of the AgileTV service included its voice scanning, voice seeking, and ease of use and convenience of its voice navigation. Ex. 2010 at 4.

Accordingly, the 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 '196 patent.

3. Comcast praised the AgileTV solution

"Industry participants, especially competitors, are not likely to praise an obvious advance over the known art." *WBIP*, 829 F.3d at 1334.

Comcast, in particular, praised the AgileTV solution. By mid-2003, for example, Comcast requested AgileTV to deploy its voice recognition solution into portions of Comcast's cable network. Ex. 2032 ¶ 19. Comcast repeatedly requested AgileTV to demonstrate its solution for Comcast's management and even Senators. *Id.* ¶¶ 19-21; Ex. 2011; Ex. 2012; Ex. 2013; Ex. 2014. By 2003, Comcast's interest

in AgileTV's system was so high that it invited AgileTV to deploy its system in a company-wide strategy meeting in February 2004, after which Comcast expressed an intent to invest in AgileTV and deploy the AgileTV solution for Comcast's 21 million subscribers. Ex. 2032 ¶ 21; Ex. 2015. Comcast's CEO publicly praised the AgileTV solution, calling it one of his favorite new pieces of technology. Ex. 2032 ¶ 22; Ex. 2016; Ex. 2017.

Like the other industry praise of the AgileTV system, Comcast's praise of the system was directly based 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 '196 patent.

4. The AgileTV solution successfully raised millions in funding

“Demonstrating that an invention has commercial value, that it is commercially successful, weighs in favor of its non-obviousness.” *WBIP*, 829 F.3d at 1337. “The evidence of unexpected commercial success that may thus be most relevant is evidence about the difficulty of obtaining funding for a research project.” Michael Abramowicz & John F. Duffy, *The Inducement Standard of Patentability*, 120 Yale L.J. 1590, 1676 (2011).

In addition to the above-noted praise, the significant commercial value of the AgileTV system was reflected in AgileTV's ability to raise millions of dollars of investment, in the period immediately following the dot-com crash, based on its

voice recognition solution. Ex. 2032 ¶ 26; Ex. 2002 at 3; Ex. 2003 at 34; Ex. 2021 at 1-2.

The successful valuation of AgileTV was a direct result of the success of its AgileTV system for providing voice recognition processing to multiple users in a cable television network, including Comcast's network, using an architecture including the claimed invention.

5. Comcast previously licensed the AgileTV patents, which included the application that led to the '196 patent

The fact that licenses to the patented invention were taken also provides substantial evidence of nonobviousness. *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1368 (Fed. Cir. 2004); *Arkie Lures, Inc. v. Gene Larew Tackle, Inc.*, 119 F.3d 953, 957 (Fed. Cir. 1997).

Further evidence of nonobvious is the fact that Comcast itself previously licensed the AgileTV solution, including rights to what is now the '196 Patent. Ex. 2032 ¶ 27. Comcast entered into a "License and Development Agreement" (Ex. 2022) and a "Marketing Trial Agreement for Voice Activated Television Control Service" (Ex. 2023) with AgileTV. The License and Development Agreement granted Comcast a nonexclusive license to the AgileTV Patents, which included the patent application ("AGLE0001") that led to the '196 patent, for the limited purposes of (i) Comcast's internal use, (ii) any trials of Comcast Products to

employees or other nonpaying Comcast Subscribers, and (iii) trials of Comcast Products to paying Comcast Subscribers. Ex. 2022 at Section 1(c) (“Initial License Rights”). AgileTV also granted Comcast the option to license additional patent rights beyond the scope and duration of the field trials. *Id.* at Sections 1(a), 1(b).

After Comcast and AgileTV entered the agreements above, the AgileTV solution was successfully deployed and tested in the Comcast system. Ex. 2032 ¶¶ 28-32; Ex. 2024; Ex. 2025. The AgileTV solution was deployed in hundreds of households. Ex. 2032 ¶ 31. Each household received a box that included a voice-activated remote, the Promptu receiver, an installation DVD, quick start guide, user's guide, and voice reference card. *Id.* ¶ 32; Ex. 2026; Ex. 2027; Ex. 2028; Ex. 2029.

6. Comcast copied the claimed invention

“The fact that a competitor copied technology suggests it would not have been obvious.” *WBIP*, 829 F.3d at 1336. “[T]he litigation argument that an innovation is really quite ordinary carries diminished weight when offered by those who had tried and failed to solve the same problem, and then promptly adopted the solution that they are now denigrating.” *Heidelberger*, 21 F.3d at 1072.

Despite the success of these field trials, Comcast did not exercise its option to take a longer-term license under the License and Development Agreement, instead marketing its own voice recognition product. Ex. 2032 ¶ 33. 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. *See id.*

¶34; Ex. 2026. Patent Owner has asserted a lawsuit in federal district court based, in part, on a complaint that Comcast's current products infringe AgileTV's patented technology that Comcast previously licensed and deployed in its cable network. Ex. 2032 ¶ 35. Comcast's X1 System practices the invention claimed in the '196 patent. Ex. 1017 at 38-81.

C. Comcast's Litigation-Driven Position That the '196 Patent Was an Obvious Advance over the Prior Art Is Belied by Objective Evidence Contemporaneous in Time with the Invention

Comcast does not present any theories in this case premised on anticipation. Rather, Comcast contends that the invention claimed in the '196 patent would have been obvious to one of skill in the art. But the objective record refutes this.

Each of the above factors, individually and especially when combined, presents the clear picture that, at the time of the invention, the system claimed in the '196 patent was far from an obvious advance over the prior art. Comcast itself, after studying the AgileTV solution, reached the conclusion that Promptu "has more knowledge than anyone else" regarding voice recognition over cable and that Promptu was the only one providing voice recognition over a cable network. Ex. 2031 at 27. Comcast and its CEO publicly praised the invention claimed in the '196 patent. After deploying the AgileTV system within its own cable network and

deciding to develop its voice recognition solution, it took Comcast nearly a decade to do so. Comcast's subjective belief in this proceeding that the challenged claims are allegedly obvious is driven by its current litigation strategy. Comcast told a vastly different story in the early 2000s—at the time of the invention. The objective indicia of nonobviousness, contemporaneous in time with the invention disclosed in the '196 patent, reveal that the claimed invention was championed as nonobvious not just by Promptu, the public, and the cable industry, but also by Comcast itself.

VII. Conclusion

For the aforementioned reasons, Petitioner fails to meet its burden of establishing that the claims are unpatentable.

Respectfully submitted,

Dated: September 27, 2018

By: /Joshua L. Goldberg/
Joshua L. Goldberg, Reg. No. 59,369

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), I, Joshua L. Goldberg, certify that
PATENT OWNER'S RESPONSE contains 8,581 words, excluding those
portions identified in 37 C.F.R. § 42.24(a), as measured by the word-processing
system used to prepare this paper.

Dated: September 27, 2018

By: /Joshua L. Goldberg/
Joshua L. Goldberg, Reg. No. 59,369

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), I certify that on September 27, 2018, a copy of **PATENT OWNER'S RESPONSE** was served upon the below-listed counsel by electronic mail:

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