

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

PROMPTU SYSTEMS CORPORATION

Plaintiff,

v.

COMCAST CORPORATION and COMCAST
CABLE COMMUNICATIONS, LLC

Defendants.

CIVIL ACTION

2:16-cv-06516-JS

PLAINTIFF'S RESPONSE CLAIM CONSTRUCTION BRIEF

CARR AND FERRELL LLP

BY: /s/ Scott R. Mosko

CARR AND FERRELL LLP
Scott R. Mosko (*pro hac vice*)
Robert J. Yorio (*pro hac vice*)
120 Constitution Drive
Menlo Park, CA 94025
Phone: 650.812.3400

WHITE AND WILLIAMS LLP
David H. Marion
Natalie N. Molz
1650 Market Street | One Liberty Place,
Suite 1800 |
Philadelphia, PA 19103-7395
Phone: 215.864.6870

*Attorneys for Plaintiff
Promptu Systems Corporation*

Dated: April 17, 2018

TABLE OF CONTENTS

SUMMARY	1
ARGUMENT	1
A. head-end unit.....	1
1. Comcast Does Not Apply the Proper Legal Standard for Claim Construction	1
2. The Term “Head-End Unit” Is Not Synonymous with the Term “Head End”	2
3. Promptu’s Proposed Construction Is Supported by the Intrinsic Record	4
4. Comcast’s Proposed Construction Is Based on a Misinterpretation of the Claim Language and Is Divorced from the Intrinsic Record	6
B. central/centralized processing station	9
1. Comcast Misconstrues the Claims	9
2. Comcast Misconstrues the Specification and Improperly Imports Limitations	10
C. voice recognition.....	11
D. back channel.....	12
1. As Used in the ’196 Patent, “Back Channel” Refers to Data, Not a Path	12
2. “User Sites” is the Term Used in the Claims and Not “Set-Top Boxes”	14
E. wireline node.....	14
F. multiplicity of received identified speech channels.....	15
1. “Identified Speech Channel” Means Stream of Communications Identified As Originating From Specific User Sites	15
2. Comcast’s Construction Leads to Inconsistency Among Claims	17
G. speech recognition engine.....	18
1. Promptu’s Proposed Construction Is Proper and Tied to the Intrinsic Record.....	18
2. Comcast Improperly Imports Functions from the Specification.....	19
3. “Central Location” Should Not be Included in the Proper Construction.....	19
H. network path.....	20

TABLE OF AUTHORITIES

Cases

<i>David Netzer Consulting Eng’r LLC v. Shell Oil Co.</i> 824 F.3d 989, 994 (Fed. Cir. 2016)	14
<i>InterDigital Commc’ns, LLC v. ITC</i> 690 F.3d 1318, 1324 (Fed. Cir. 2012)	1
<i>JVW Enters., Inc. v. Interact Accessories, Inc.</i> 424 F.3d 1324, 1335 (Fed. Cir. 2005)	passim
<i>Phillips v. AWH Corp.</i> 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc)	1, 2, 8, 14
<i>Thorner v. Sony Computer Entm’t Am., LLC</i> 669 F.3d 1362, 1365 (Fed. Cir. 2012)	14

TABLE OF EXHIBITS

NO.	EXHIBIT
1	Supplemental Declaration of Michael Shamos, Ph.D. In Support of Plaintiff's Response Claim Construction Brief
2	Deposition Transcript Excerpts of Michael Shamos, Ph.D., April 5, 2018.
3	Deposition Transcript Excerpts of Victor Michael Bove, Jr., Ph.D., April 4, 2018.
4	Petition for <i>Inter Partes</i> Review (Paper 1), IPR2018-00344.

SUMMARY

In its opening brief, Comcast continues its efforts to inappropriately construe the disputed claim terms outside the context of the patents at issue. In addition, and contrary to Federal Circuit precedent, Comcast attempts to import limitations from the specification where no express lexicography or disclaimer is present. As demonstrated below, Promptu’s proposed constructions correctly identify how one of ordinary skill in the art at the time of the invention would have interpreted each term in light of the claims, specification, and prosecution history. Promptu’s constructions should be adopted.

ARGUMENT

A. head-end unit

1. Comcast Does Not Apply the Proper Legal Standard for Claim Construction

Regarding the phrase “head-end unit,” Comcast encourages the Court to (1) ignore how the term is used in the claims, and (2) disregard the intrinsic record, in favor of what Comcast refers to as its “commonly understood meaning.” Defendants’ Opening Claim-Construction Brief (Dkt. No. 104) (“Comcast Br.”), 7. This is not the law. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). In support of its position, Comcast relies upon irrelevant case law that addresses construction in the context in which an inventor acts as his own lexicographer. *InterDigital Commc’ns, LLC v. ITC*, 690 F.3d 1318, 1324 (Fed. Cir. 2012). The lexicographer line of cases does not hold that limitations may be imported from outside the intrinsic record, but instead that the specification and prosecution history do not narrow a term when the patentee does not act as its own lexicographer and no disclaimer is present.¹ *Id.* The Court in *InterDigital*

¹ Aside from a vague recollection of Comcast’s expert, the parties do not offer any evidence that the term “head-end unit” (as opposed to head-end) was a term of art at the time of the invention. Promptu Expert Deposition of Dr. Michael I. Shamos (“Shamos Depo.”), (Ex. 2) 99:20-100:9; Comcast Expert Deposition of Dr. V. Michael Bove (“Bove Depo.”) (Ex. 3) 24:8-27:20. True and correct copies of Exhibits 1-4 listed herein are attached hereto.

Commc'ns went on to conclude that the specification and prosecution history in that case did not narrow the term “code.” Because this is not a lexicographer case, that case law is inapplicable.

Rather, the proper claim construction is determined from the viewpoint of those skilled in the art *in the context of the entire patent, including the specification*. *Phillips*, 415 F.3d at 1313. The context in which the claim language “head-end unit” is found and the appropriate references to this phrase in the specification support Promptu’s construction, not Comcast’s. In fact, Comcast ignores the portions of the specification directly addressing this phrase, while instead referring to other, irrelevant passages.² Moreover, Comcast relies on extrinsic evidence that is at odds with the intrinsic record. Comcast’s proposed construction must be rejected.

2. The Term “Head-End Unit” Is Not Synonymous with the Term “Head End”

Comcast’s construction is mistakenly premised on the notion that the ’538 Patent uses the claim term “head-end unit” and the term “head end” synonymously³. It does not. As shown below, the specification separately addresses “head-end” and “head-end unit,” establishing that these are conceptually different terms. Nothing in the intrinsic record requires that the claimed “head-end unit” encompass the entirety of what Comcast refers to as a “traditional head-end,” which is the basis for Comcast’s proposed construction. Indeed, the specification is specifically at odds with such an interpretation. For example, Fig. 1 refers to a “head-end receiver 150” separately from “head-end unit 160,” but neither party disputes that the “head-end receiver” is also a part of the head end. Bove Depo., 49:25-52:9; Shamos Decl. (Dkt. No. 106-1), ¶ 32.

Rather, a head-end unit is a unit of a head end. Shamos Decl., ¶ 32; Shamos Supp. Decl. (Ex. 1), ¶ 6; Bove Depo., 35:3-7 (“the head-end unit is a unit that is part of the head-end”). A head

² The prosecution history cited by Comcast supports Promptu’s proposed construction, as explained in Plaintiff’s Opening Claim Construction Brief (Dkt. No. 106) (“Promptu Br.”) at 5.

³ Comcast’s expert was *right* when he testified that these terms are not used interchangeably, but later changed his tune after a break in the deposition. Bove Depo., 74:1-11. His original admission makes clear that even Comcast does not believe these terms mean the same thing.

end includes various units that perform various functions. Shamos Supp. Decl., ¶¶ 9-10; *see* Shamos Depo., 64:21-65:6. These units generally include everything that is needed for the cable company to provide its services to subscribers over cable. Shamos Supp. Decl., ¶ 7; Shamos Depo., 24:4-12, 78:13-19, 100:10-18. The first word of Comcast’s proposed construction establishes these terms are different: “*the* central unit in a cable-TV network . . .” implies that there is only one head-end unit and furthermore that it must be such a “central” unit. But, the claims and specification are not so limiting. Claim 2 recites “transmitting a signal representing said voice command via cable television link to *a* remotely located cable head-end unit.” Likewise, the specification describes that a “voice command is then transmitted to *a* cable head-end unit for voice and word recognition processing.” ’538 Patent, Abstract.

The term “head end” appears independent of “unit” at three portions of the ’538 specification: Fig. 2, 2:38-40, and 5:42-45. Comcast and its expert do not cite to these portions. *See* Comcast Br., 7-8; Bove Decl., ¶¶ 37-40; Joint Claim Construction Chart (Dkt. No. 99-1), 2. Further, those portions of the specification distinguish “head end” from “head-end unit,” which are not described as necessarily performing the same functions. For example, the first specification reference presents an alternative embodiment in which “the set-top box just passes on the command and the head end performs or carries out the command,” a function which is *not* attributed to “head-end unit”. ’538 Patent, 2:38-40. In fact, the specification never refers to the “head-end unit” as performing or carrying out a command.

Moreover, Fig. 2 supports the view that the head end encompasses components of a cable system that are remote from the television controller or receiver. Shamos Supp. Decl., ¶ 12. Fig. 2 illustrates a remote control, generally including blocks 210-214 and 220-225, for transmitting voice commands to a receiver 120 or set-top box 130. ’538 Patent, 4:24-36. These components

correspond to remote control 110, receiver 120, and set-top box 130 in Fig. 1. *Id.*, 3:25-45. As further depicted, the set-top box 130 transmits voice commands to at least a node 140, head-end receiver 150, and head-end unit 160, which collectively are represented in Fig. 2 simply as the “head end” in block 460. *Id.*, 4:7-10, 4:24-26. While block 460 is referred to at portions of the specification as “head-end unit 460,” it is clear from comparing Figs. 1 and 2 that the block labeled 460 shown in Fig. 2 comprises more than the head-end unit because the set-top box 130 transmits signals to at least node 140. *See Shamos Depo.*, 84:3-86:4. Furthermore, on at least one other occasion, the patentee describes one component which is a part of another component with the same reference number. For example, “central processing station” and “head-end unit” are both referred to as block 160. ’538 Patent, 4:7-10, 4:17-23. The specification makes clear, however, that in at least one embodiment the “central processing station [is] located at a cable television head-end unit,” and thus the terms are distinct. *Id.*, 2:29-32. Additionally, the specification describes an alternative embodiment of Figs. 2 and 5 which are consistent in having the receiver transmit analog speech to the head end. *Id.*, 5:42-45; *see Shamos Depo.*, 86:17-87:2.

Finally, Fig. 1 clearly demonstrates the architecture of the invention, and shows the distinction between a head-end and head-end unit. Comcast makes much of a single error in the specification which mistakenly refers to block 460 as a head-end unit, but when the balance of the specification is considered, as referenced above, this specification reference was no more than a casual mistake. *Shamos Supp. Decl.*, ¶ 15. Therefore, the ’538 Patent distinguishes between “head end” and “head-end unit.”

3. Promptu’s Proposed Construction Is Supported by the Intrinsic Record

Comcast’s criticisms of Promptu’s proposed construction are rooted in a fundamental misunderstanding of the distinction between “head-end unit” and “head end.” *Shamos Supp. Decl.*, ¶ 8. For example, Comcast asserts that “Promptu’s construction would also encompass other

components that no one of skill in the art would understand to be a *head-end*, such as a junction box on a utility pole.” Comcast Br., 8 (emphasis added). Promptu’s construction is for the claim term “head-end unit” – components such as node 140 or head-end receiver 150 would not individually be considered a “head-end”. Such components would be considered units that are *part* of the head-end.⁴ Shamos Supp. Decl., ¶¶ 11, 15; Shamos Decl., ¶¶ 32-33; Shamos Depo., 42:5-7; *see* ’538 Patent, Figs. 1-2. At deposition, Comcast’s expert testified that the “head-end” is the nexus of the network between subscribers and where audio and video information resides. Bove Depo., 75:5-20, 75:24-76:6 (“Q. Why use the word ‘central’? Why can’t it be, that nexus be anywhere in the network between subscribers and where the audio and video information resides?” “A. Well, wherever that nexus is, we would call that the head-end.”). This nexus, if such a nexus exists at all, must necessarily consist of the cable system components that are remote from the subscriber television controller or receiver.

The intrinsic evidence describes the head-end unit in terms of its proximity to the television controller or receiver. Claim 1, for example, recites “said cable set-top box transmitting a signal representing said voice command via cable television link to a *remotely located* head-end unit.” *See* Bove Depo., 46:22-47:12 (“it’s remotely located, which tells us it’s distinct from the subscriber premises, or at least the subscriber’s set-top box.”). Moreover, the specification explains that “[a] problem with the prior art voice recognition systems is that they require a sophisticated voice recognition system in close proximity to the user, requiring individual units which is quite costly.” ’538 Patent, 1:59-62. To solve the problem, the summary of the invention section explains that “[a] method and apparatus is disclosed for remotely processing voice commands for

⁴ To the extent that Comcast points out that nodes are not referred to as a “head-end nodes,” *see* Shamos Depo., 41:25-42:1, and concludes that they therefore not a part of the head end – the ’196 Patent notably refers to head end nodes on several occasions. *See* ’196 Patent, 34:17-30, 50:42-48.

controlling a television.” *Id.*, 2:21-22. Indeed, Figs. 1 and 2 accurately reflect the proper boundaries of the “head end,” for which the “head-end unit” is a part. Therefore, Promptu’s construction does not, as Comcast states, “improperly sweep[] in components that would never be considered part of a head-end,” but instead properly construes the term “head-end unit” based on the claims and specification.

4. Comcast’s Proposed Construction Is Based on a Misinterpretation of the Claim Language and Is Divorced from the Intrinsic Record

Comcast’s argument rests on the contention that, because the patentee did not act as its own lexicographer by providing a definition, the term “head-end unit” should be interpreted as one skilled in the art at the time of the invention would have understood as the term “head end,” without regard to the ’538 Patent. This is not only improper, but it also ignores the claim term at issue and the description of that term in both the specification and prosecution history. Furthermore, each item of extrinsic evidence cited by Comcast either supports Promptu’s construction or is directly at odds with the specification.

Comcast arbitrarily selects two possible functions of what a head-end unit might perform and incorporates them into its proposed construction. Several problems exist with this approach. First, as indicated in Promptu’s Opening Brief, the claim language itself details the “functions” a head-end unit might perform. *See, e.g.* the fifth and sixth limitations in Claim 2 of the ’538 Patent. Given these express statements of what a head-end unit does, Comcast’s proposed further limiting language to what a head-end might do is improper. Under Comcast’s interpretation, the head-end unit must be a “central unit” and it must “process[] and deliver[] cable-TV signals to subscribers.” Neither the claim language nor the specification supports these additional limitations. Comcast is unable to point to any portion of the claims, specification, or prosecution history which requires the claimed “head-end unit” to provide multiple services by processing and delivering cable-TV

signals in addition to functions associated with voice recognition. *See* Shamos Depo., 72:23-73:6.

Indeed, the only limit to a head-end unit in the specification is that it must be remote from the television controller or receiver. '538 Patent, Abstract, 2:22-23, Claims 1, 2, 18, and 19. The patent contemplates that a myriad of head-end units exist in a cable TV system. While one or more of these existing head-end units will undoubtedly process and or deliver signals, as Comcast wants the phrase to be defined, there is no requirement that each "head-end unit" be saddled with the limitation that it must perform the functions of processing and delivering signals, in addition to whatever else it does. *See* Shamos Depo., 64:21-65:6. There is also clearly no basis for a "head-end unit" to be construed as a "central unit," or one that requires delivery of anything to "subscribers."

Realizing that its intrinsic evidence is inadequate, Comcast attempts to rely upon a Promptu document entitled "The AgileTV Solution" for narrowing the "conventional understanding" of the term "head end". Comcast Br., 8; Decl. of Leo L. Lam ISO Defendants' Opening Claim-Construction Brief (Dkt. No. 104-2) ("Lam Decl."), Ex. 4. Notably, Comcast's own expert did not find this document helpful. Bove Depo., 41:17-42:4. It simply describes "placing a powerful, proprietary processor at the 'headend' of the cable TV system where typically 20,000 to 100,000 subscribers or more are served over hybrid fiber coax plant." Lam Decl. Ex. 4, 2. Even in this context, "headend" is referring to the components needed for whichever services are provided to the subscribers. Shamos Depo., 96:2-97:12. This is not only consistent with, but also supports, the interpretation that the head end includes the components of a cable system that are remote from the television controller or receiver.

Furthermore, Comcast incorrectly insists that the proper construction of "head-end unit" includes "*the central unit* in a cable TV network," which is at odds with intrinsic evidence.

Shamos Supp. Decl., ¶ 13. Notably, Comcast does not provide any rationale as to why the construction should include the word “central.” Comcast Br., 7-8. Indeed, none of its dictionary citations includes “central.” *Id.*; Shamos Supp. Decl., ¶ 16. Likewise, Comcast’s expert provides no reasoning as to why “central” should be included or what “central” even means. Bove Decl., ¶ 38. When asked to explain the term “central,” Comcast’s expert replied that “you can think of it as a place where a whole lot of connections come together. It’s not a distributed entity. It’s a sort of nexus for various connections.” Bove Depo., 75:5-8; *see* Shamos Supp. Decl., ¶ 14. If all Comcast means by “central” is that the head end is a “nexus for various connections,” a clearer construction would describe where that nexus is – remote from the television controller or receiver. *See* Bove Depo., 75:24-76:6; *see also* Bove Depo., 162:1-12 (describing “central location” as being “connected to a multiplicity of user sites”). Even to the extent that Comcast’s proposed construction for “head-end unit” is actually a construction of the term “head end,” nothing in the ’538 Patent suggests or implies that the head end is “central”.

The ’538 Patent specification shows that the system has a front end, which includes of the customer premises equipment (*e.g.* remote control components, receiver 120, set-top-box 130), and a head end, which are all shown as being remote from the receiver or set-top box. ’538 Patent, Fig. 2; Shamos Supp. Decl., ¶ 7. Separate and apart from the argument the parties have over which portions of Fig. 1 would be included within the non-claim term “head end,” the specification clearly does not make a distinction between different components upstream from the head-end receiver, so long as they are remote from the customer premises. Shamos Depo., 60:15-20. In so far as the extrinsic evidence Comcast relies upon contradicts the specification, it should be heavily discounted in favor of the intrinsic evidence. *Phillips*, 415 F.3d at 1318. Comcast’s interpretation is illogical and completely removed from the disclosure of the specification. Thus, Comcast’s

proposed construction must be rejected.

B. central/centralized processing station

1. Comcast Misconstrues the Claims

Comcast does not dispute that the centralized processing station receives voice commands and transmits command functions. Comcast insists, however, that the “centralized processing station” “performs voice recognition” and “generates and returns instructions,” which is contrary to the claims and specification. Shamos Supp. Decl., ¶¶ 19-24.

In contrast to Comcast’s description of the claims, Comcast Br. at 9, Claim 34 recites:

“a centralized processing station configured to receive and process second output from a multitude of television set top boxes by *applying* voice recognition to the second output to identify user-intended voice commands, to *derive* set-top-box-compatible instructions to carry out the identified voice commands, and returning signals representing the instructions to respective top boxes via the cable television link;”

Comcast does not provide any rationale for changing the term “apply” to “perform,” or the term “derive” to “generate.” Comcast’s expert opined that the terms are equivalent “[b]ecause the input is the same, and the consequence is the same,” but this is wholly inadequate to equate “applying” to “performing.” Bove Depo., 93:19-94:6; *see also id.*, 97:3-11 (“I’m sorry, I misspoke. It’s ‘providing’ and ‘applying’ [that] are used in an analogous way.”). Indeed, generally the input and consequence of Promptu’s and Comcast’s proposed constructions are the same – voice commands are received and command functions/instructions are transmitted, but they are clearly not equivalent constructions. Shamos Supp. Decl., ¶¶ 20-21.

As Promptu’s expert explains, “one way [the centralized processing station] can apply voice recognition to the second output is, it can send it to another computer that performs the voice recognition and then sends the answer back to the centralized processing station.” Shamos Depo., 119:25-120:4. The specification supports this interpretation, and makes clear that the centralized processing station need only be the portion of a cable television system that processes commands

by receiving voice commands and transmitting command functions. '538 Patent, 2:29-37; Shamos Decl., ¶¶ 40-41; Shamos Depo., 118:7-119:12; Promptu Br., 7-8. Thus, there is no support or rationale for replacing “apply” with “perform,” or importing such a misinterpreted limitation from the claims into its construction as Comcast has done.

Furthermore, neither Comcast nor its expert provides any rationale for changing the term “derive” to “generate.” Comcast Br., 9; Bove Decl., ¶¶ 41-45. As Promptu’s expert explains, “it’s possible that it doesn’t actually generate the commands. The commands could be listed, for example, in a database table and they’re simply retrieved and not generated on demand. On the other hand, retrieving them from the database table would be deriving them.” Shamos Depo., 129:11-21; *see* Shamos Supp. Decl., ¶ 23. As is the case with the term “applying,” there is no support or rationale to substitute in alternative words for the term “derive.”

2. Comcast Misconstrues the Specification and Improperly Imports Limitations

“Centralized processing station” and “head-end unit” are not interchangeable. Shamos Supp. Decl., ¶¶ 17-18. The specification describes that a “voice command is then transmitted, for example, to a central processing station located at a cable television head-end unit.” '538 Patent, 2:29-32. Thus the '538 Patent describes one exemplary embodiment in which the “central processing station” is not interchangeable with “head-end unit,” but instead is located at a head-end unit. *See* Bove Depo., 89:13-20 (“Q. And it doesn’t say it’s the same as a head-end unit?” “A. No. It could be an element of it.”). If the terms truly are interchangeable, they should have the same construction. Neither party’s constructions support this contention. While Comcast’s importation of “at a cable-TV head-end unit” into the claim language is not necessarily inconsistent with the specification, it is improper to import limitations into the claims from examples appearing only in a patent’s written description, absent evidence showing the patentee was acting as its own lexicographer or disavowed the full scope of the claim term. *See JWV*

Enters., Inc. v. Interact Accessories, Inc., 424 F.3d 1324, 1335 (Fed. Cir. 2005).

Moreover, Comcast’s argument that Promptu’s construction reads “station” out of the claim term is meritless. Experts for both parties agree that there is no issue over using various terms, such as “entity,” “apparatus,” “unit,” etc. to describe “station”. Bove Depo., 86:23-87:16 (“the point is that it is a thing”). Moreover, Comcast’s own extrinsic evidence contradicts its assertion that “‘station’ refers to a discrete device.” *See* Lam Decl. Ex. 11 and Ex. 12; Bove Depo., 106:8-107:18 (“So I think of all of these, the closest would be 2 [A facility where several components of a system are located].”). As Dr. Bove conceded, and those skilled in the art would understand, the central processing station need not be confined to a single device. Shamos Decl., ¶ 41; Shamos Supp. Decl., ¶ 25.

C. voice recognition

Comcast’s argument that the portion of Promptu’s construction that reads, “for the purpose of receiving commands and data input from the speaker,” could be “read to suggest that the ‘voice recognition’ requires only identifying whose voice is speaking” is meritless. This circular argument is based solely on the interpretation that a computer cannot determine commands without converting spoken words into computer text. Comcast Br., 10-11; Bove Decl., ¶ 48. That is not true, and even Comcast’s expert agrees that, for at least some commands, it is possible to understand spoken words without such a conversion. Bove Depo., 119:24-120:23; 126:19-127:11; *see* Shamos Decl., ¶¶ 48-49; Shamos Depo., 150:9-152:20.

Comcast misinterprets aspects of the specification in arriving at its proposed construction by assuming the described “word recognition” requires the conversion of spoken words into

computer text. Comcast Br., 10.⁵ This is wrong. Nothing in the intrinsic record describes voice recognition or word recognition as involving conversion into “text.” Shamos Decl., ¶¶ 46-49; Shamos Supp. Decl., ¶¶ 26-28; Shamos Depo., 150:9-152:20; Promptu Br., 10-12. The word “text” does not appear anywhere in the ’538 Patent.

When asked whether voice recognition must involve conversion of spoken words to text, Comcast’s expert opined that “it at least involves converting to a data representation that can be used [] to generate these set-top-box-compatible command functions.” Bove Depo., 127:12-21; *see id.*, 128:13-129:4 (“Hypothetically I suppose one could build a speech recognition system that stored something that a human wouldn’t be able to read as text but would perform in the way required.”). “Computer text” is clearly not required, even according to Comcast’s expert.

D. back channel

1. As Used in the ’196 Patent, “Back Channel” Refers to Data, Not a Path

While the parties agree that “back” refers to the “upstream” direction, Comcast’s proposed interpretation that “back channel” refers to the “upstream data path” is contrary to the claims and its own expert’s opinion. Bove Depo., 134:22-23 (“No, I don’t equate channels with data paths.”); *see* Comcast Br., 12 (“the upstream data path, *i.e.*, the ‘back channel.’”). As used in the claims, “back channel” refers to a stream of communications being transmitted and received, and does not refer either to the medium carrying the transmission, or the modulation method used to carry the data (frequencies or time slots). ’196 Patent, Claim 1 (“receiving said back channel to create a received back channel; partitioning said received back channel into a multiplicity of received identified speech channels;”); Shamos Decl., ¶¶ 52-53; Shamos Supp. Decl., ¶¶ 29-32. In

⁵ Comcast inappropriately asserts that the preambles of claims 2 and 19 are limiting. Comcast Br., fn 4. Comcast does not properly apply the legal standard, and it is not relevant to the construction of any of the disputed claim terms herein.

deposition, Comcast's expert agreed that data, not the medium, is received. Bove Depo., 144:13-22 ("is it possible for a time slot to be received in a cable TV system, such as the ones described in this patent?" "A. Well, the chunk of – the *information* transmitted in that chunk of time is what's received.") (emphasis added); *see also id.*, 145:13-21 ("Q. That's right. Because time slots cannot be received. [] Right? A. Right. But that's made clear by the way [Comcast's] proposed construction is written, that the time slot is for transmitting signals. The time slot is not the thing transmitted."). If the time slot is not transmitted, then it cannot be "received." Shamos Supp. Decl., ¶ 30.

Moreover, the specification differentiates between channels and bands of frequencies in multiple places. '196 Patent, 22:12-14; 30:29-30; Shamos Decl., ¶¶ 51, 54; Promptu Br., 11-12. For example, the specification states that "[d]ownstream control data transmission typically occurs *in a* separate frequency band from the upstream channels." '196 Patent, 3:42-43; Shamos Decl., ¶ 51; Shamos Supp. Decl., ¶ 31; *see* Shamos Depo., 155:8-21 ("Q. Doesn't that tell one of ordinary skill in the art that the upstream channels are *in a* particular frequency band?" "A. Well, they may be, but they aren't a frequency band.") (emphasis added).

Comcast also incorrectly implies that "back channel" refers to "a portion of the medium designed to carry some type of transmission, regardless of whether data is actually being transmitted." Comcast Br., 13. If data is not being transmitted, then there would be nothing to receive and partition. *See* Shamos Depo., 156:1-157:2. This is made clear by looking at Comcast's construction for "partitioning" in its Petition for *Inter Partes* Review (Paper 1), IPR2018-00344 (Ex. 4). In its Petition, Comcast describes "multiplexing and demultiplexing" as a well-known technique for "partitioning" a channel. *Id.*, 9 ("Multiplexing means to combine several communication *signals* together for transmission to a central node, and demultiplexing means to

decompose that *combined signal* into portions identified with each transmitting user location (i.e., ‘partitioning’).”) (emphasis added). Here, Comcast inconsistently asserts that the “back channel” is not the signal, but the medium “for transmitting signals.”

Comcast’s proposed construction is apparently an amalgam of definitions from several dictionaries it cites, all of which are at odds with and untethered from the claims and specification. Such inapt dictionary definitions should be severely discounted. *Phillips*, 415 F.3d at 1318.

2. “User Sites” is the Term Used in the Claims and Not “Set-Top Boxes”

Neither party suggested a proposed construction for “user sites,” which is a term found in several claims in the ’196 Patent. The preamble of Claim 1 recites, “A method of using a back channel containing a multiplicity of identified speech channels from a multiplicity of user sites.” In contrast, the terms “set-top boxes” or “STBs” are not found in any ’196 claim. While there is an association between the terms “set-top box” and “user site,” *i.e.*, the set-top box is located at a user site, they are not equivalent. *See Bove Depo.*, 142:7-20. While the specification provides several examples of the back channel being received from multiple user site STBs, these are exemplary and not definitional. Promptu’s proposed construction is the correct one.

E. wireline node

Comcast does not directly dispute Promptu’s proposed construction, but incorrectly asserts that the patentee acted as its own lexicographer. Comcast Br., 13-14. Comcast cites to *David Netzer Consulting Eng’r LLC v. Shell Oil Co.*, 824 F.3d 989, 994 (Fed. Cir. 2016), which holds that lexicography must be “clear and unmistakable” and be “repeatedly and consistently” used in a particular way. *See also Thorner v. Sony Computer Entm’t Am., LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (“To act as its own lexicographer, a patentee must ‘clearly set forth a definition of the disputed claim term’ other than its plain and ordinary meaning.”).

There is no such lexicography here. “Centralized wireline node” is not the disputed term. While the phrase “centralized wireline node” is not used elsewhere in the specification, there is no “clear and unmistakable” lexicography provided for the shorter phrase, “wireline node.” If anything, the patentee may have been distinguishing “centralized wireline node” from the more general phrase “wireline node.” *See* Shamos Supp. Decl., ¶ 33; Shamos Depo., 210:17-23. Furthermore, by proposing a definition of “centralized wireline node” for “wireline node,” Comcast is inherently and improperly importing the meaning of “centralized” from an embodiment of the specification into the claim term. *See JVW Enters., Inc.*, 424 F.3d at 1335. Comcast’s construction does not elucidate the meaning of “wireline,” but merely repeats the word in the construction. In addition, Comcast misconstrues the description of “a wireline node of a network supporting cable television and/or video delivery,” which explains that the wireline node is a part of a network that supports cable television. ’196 Patent, 1:27-29; *see* Bove Depo., 148:11-149:17. As such, the term “wireline node” should not be limited to providing video or cable television.⁶

F. multiplicity of received identified speech channels

1. “Identified Speech Channel” Means Stream of Communications Identified As Originating From Specific User Sites

Comcast overlooks several portions of the claims and specification which provide meaningful insight into the phrase “identified speech channel.” *See* Comcast Br., 15. The claims describe the multiplicity of received identified speech channels as being from a multiplicity of user sites. ’196 Patent, Claim 1. The specification uses the term “identified” and “identifies” in terms of originating from a specific user site. For example, the specification states that “[a]ddress information identifies the user site at which the speaking occurs.” *Id.*, 10:31-32; *see also id.*, 15:1-

⁶ Comcast’s expert agrees that there is no substantive difference between “wire” and “wireline physical transport.” Bove Depo., 147:2-8. To avoid using “wireline” in the construction of the term “wireline node,” Promptu’s construction should be preferred.

4 (“Once a complete spoken request has been received, the speech input processor may use the sample’s source address identifying a user site to target the speech data to a specific speech processing processor”), 22:13-15, 22:64-65 (“At least one, and possibly all, of the identified speech channels may have an associated user site”), 25:59-62, 30:4-8. The embodiment disclosed in the ’196 Patent at columns 13-15 describes that speech streams are identified by “the user site from which the speech sample is received” according to address information appended to speech packets. *Id.*, 14:12-32; Shamos Supp. Decl., ¶¶ 36-38. It is improper claim construction to exclude this embodiment from the claims as Comcast’s proposed construction does.

Comcast overlooks this critical aspect of the ’196 Patent, and instead turns to U.S. App. No. 09/664,874 to try to improperly import limitations into the claims. *See* Lam Decl., Ex. 13 (the “’874 Application”). The ’874 Application, however, never refers to identifying speech channels, let alone “identified speech channels” or even “speech channels”. While the ’874 Application describes one exemplary way of information delivery by assigning “transmission channels,” the ’196 Patent refers to the term “speech channels” differently. Shamos Depo., 162:22-163:10. The ’874 Application references “transmission channel” as the mode of transport, which is consistent with the ’196 Patent’s usage of the same term. *Compare* ’874 Application, 2 (“without regard to whether or not the channel is already in use”) *with* ’196 Patent, 3:25-32 (“without regard to whether or not the transmission channel is already in use.”). In stark contrast, the ’196 Patent unmistakably describes “speech channels” as data. Shamos Decl., ¶ 63. For example, the specification describes “directly mapping the speech channels to the processor,” which refers to mapping data. Shamos Depo., 244:1-21; Shamos Supp. Decl., ¶ 38. One cannot map a time slot to a processor. *Id.* Regardless, importing embodiments from the ’874 Application into the claims is improper. *JVW Enters., Inc.*, 424 F.3d at 1335.

Comcast's proposed interpretation of "channel" is inconsistent with the claims and specification. *See* Section D.1 *supra*; Shamos Supp. Decl., ¶¶ 35-38. In at least one embodiment in the specification, speech content is created by processing streams of speech packets. '196 Patent, 14:12-32, 15:1-24; *see id.*, Claim 1 (processing step). There is no description, however, of processing a band of frequencies or designated time slots to create speech content. Furthermore, the '196 Patent describes that "[i]n cable systems, several downstream data channels that send channel and synchronization information are often transmitted in a previously reserved band of frequencies." '196 Patent, 2:39-41. Substituting Comcast's construction would yield "several downstream data [bands of frequencies or designated time slots for transmitting signals] . . . are often transmitted in a previously reserved band of frequencies." This is nonsensical.

Contrary to Comcast's position, treating "speech channels" as "streams of communications" is consistent with the claims' usage of "processing the multiplicity of said received identified speech channels to create a multiplicity of identified speech content." This is also precisely how the term is used in the specification which describes "process[ing] a speech sample by the speech processor into speech content." '196 Patent, 15:16-17. The speech sample is clearly data representative of speech.

2. Comcast's Construction Leads to Inconsistency Among Claims

Comcast agrees that "these speech channels are received by the 'speech processing system,' which itself is located at or coupled to a wireline node in all of the asserted claims," yet inconsistently insists that the received identified speech channels are nevertheless received at a wireline node. While the speech processing system is at a wireline node in claim 1, it is remote from and coupled to a wireline node in claim 14, which recites "wherein said speech recognition system is provided [to] said multiplicity of received identified speech channels." To avoid any

confusion by what is receiving the identified speech channels across claims, Promptu's proposed construction is preferred. Moreover, Comcast again improperly imports limitations from the specification which do not describe what the speech channels are, but instead describe where the speech channels are received. '196 Patent, 22:8-14; Shamos Supp. Decl., ¶ 34; *JVW Enters., Inc.*, 424 F.3d at 1335. Also, "user sites" should be preferred to "set-top box". See Section D.2 *supra*.

G. speech recognition engine

1. Promptu's Proposed Construction Is Proper and Tied to the Intrinsic Record

Comcast appears to argue that Promptu's construction does not include "voice-to-text translation" or some form of "conversion of voice to text." Comcast Br., 18-19. As discussed above in connection with "voice recognition," no conversion to text is required or even mentioned in the specification, so it is improper claim construction to add in that limitation. Shamos Supp. Decl., ¶ 41. Such a requirement is divorced from the claims and specification, and certainly removed from the understanding of "speech recognition" by those skilled in the art, who refer to "speech recognition" as determining or identifying what was said. Lam Decl., Ex. 18 (Response to Office Action dated April 26, 2005) ("In this regard, Applicant uses the term 'speech recognition' to denote identification of what is being said."); Bove Depo., 172:19-173:24 ("It's essentially [] word recognition or recognition of one or more words from a spoken utterance."); Shamos Depo., 229:5-10. Nonetheless, Comcast's construction similarly does not require conversion of voice to text, but instead recites, at least in part: "processes speech packets to create speech content and to formulate the response to the speech content". Thus this is a moot point.

Likewise, Comcast disputes the term "semantic information" in Promptu's proposed construction, but this also follows the interpretation that "speech recognition" refers to understanding what was said. For example, the specification describes that a grammar may be used that is "a structure often containing the words which are most likely to be spoken, the order in

which these words may appear, and *the meaning of various sequences of words.*” ’326 Patent, 15:6-15. “Meaning” implies the use of semantics. Shamos Supp. Decl., ¶ 40. While the phrase “semantic information” does not literally appear in the specification, a jury would readily understand that this refers to the meaning of what was said.

2. Comcast Improperly Imports Functions from the Specification

Comcast improperly attempts to import the limitation that “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” into the claims. Comcast Br., 17. To find express lexicography, the patentee must clearly and unmistakably offer a definition – here, the quoted portion is not a definition, and is certainly is not defining a “speech recognition engine” with regard to these functions. Shamos Decl., ¶¶ 71-72; Shamos Supp. Decl., ¶ 42. This again is improper importation of limitations from the specification into the claims. *JVW Enters., Inc.*, 424 F.3d at 1335.

This is particularly improper because the plain meaning of “speech recognition engine” is evident from the claims themselves. Claim 12 recites, in part, “at said speech recognition engine, *recognizing said speech information . . .*” (emphasis added). The parties’ experts generally agree that those skilled in the art would understand “speech recognition engine” to be an engine that recognizes speech. Shamos Decl., ¶ 72; Bove Depo., 165:10-24, 173:7-24.

3. “Central Location” Should Not be Included in the Proper Construction

Comcast urges the Court to import from the specification the limitation of a “central location” that is out of context and therefore confusing and improper. Shamos Supp. Decl., ¶ 39. Comcast cites to the ’326 Patent at 5:7-9, which is a part of a larger description in the specification at 5:7-14 that describes a plurality of embodiments (emphasis added):

“The invention comprises a multi-user control system for audio visual devices that incorporates a speech recognition system that is centrally located in or near a wireline node,

and which may include a Cable Television (CATV) Headend. The speech recognition system *may also be* centrally located in or near a server farm[,] a web-site hosting facility, or a network gateway. In *these* embodiments of the invention . . .”

While Comcast is clearly attempting to import a location into the construction of “speech recognition engine,” it is not clear where that location is because the specification lists several alternative embodiments for that location. Comcast’s construction is vague as to which “central location” it refers to, or if it refers to all the disclosed locations or some subset of them. Moreover, the specification does not describe the features as being attributed to the invention as a whole, such as would constitute a disavowal of claim scope. Rather, the patentees were simply describing multiple embodiments, as is customary in patent claims drafting. ’326 Patent, 5:14. The ’326 Patent similarly describes such embodiments as being optional limitations. *Id.*, 18:16-22 (“speech processor system may be centrally located . . .” and “speech recognition system may be centrally located . . .”). The claims do not recite where the “speech recognition engine” is located, thus it is improper to import such limitations from the specification or elsewhere without an unambiguous disclaimer. Shamos Decl., ¶ 70; Promptu Br., 18-19.

H. network path

Comcast does not provide any rationale for including the phrase “the telecommunication signal follows” in its construction. Comcast Br., 19-20. This phrase pulled from Newton’s Telecom Dictionary is particularly at odds with the specification and can properly be disregarded under *Phillips*. The specification describes data as being routed from a source to destination, not “telecommunication signals,” which may not necessarily be the same telecommunication signal at each point along the network path. Shamos Decl., ¶¶ 74-76; Shamos Supp. Decl., ¶ 43; Shamos Depo., 236:25-238:10; Promptu Br., 19-20. Promptu proposes an alternative construction as a compromise between the competing constructions for “network path”: “The physical route through which data is transmitted from source to destination.” *See* Shamos Depo., 239:11-19.

Dated: April 17, 2018

Respectfully Submitted,

CARR AND FERRELL LLP

BY: /s/ Scott R. Mosko
CARR AND FERRELL, LLP
Scott R. Mosko (pro hac vice)
Robert J. Yorio (pro hac vice)
120 Constitution Drive
Menlo Park, CA 94025
650.812.3400

WHITE AND WILLIAMS LLP
David H. Marion
Natalie N. Molz
1650 Market Street | One Liberty Place,
Suite 1800
Philadelphia, PA 19103-7395
215.864.6870

*Attorneys for Plaintiff Promptu Systems
Corporation*

CERTIFICATE OF SERVICE

The undersigned attorney certifies that on April 17, 2018, a true and correct copy of Plaintiff's Response Claim Construction Brief and Exhibits 1-4 are served upon the Defendants' counsel by filing the same via the Court's ECF system:

Stephen J. Kastenberg
Marc S. Segal
John W. Scott
BALLARD SPAHR LLP
1735 Market Street, 51st Floor
Philadelphia, PA 19103-7599

kastenberg@ballardspahr.com
scottj@ballardspahr.com
segalm@ballardspahr.com

Brian L. Ferrall
Leo L. Lam
Matthias Kamber
KEKER & VAN NEST LLP
633 Battery Street
San Francisco, CA 94111-1809

bferrall@kvn.com
llam@kvn.com
mkamber@kvn.com
Promptu-KVN@kvn.com

/s/ Scott R. Mosko

Scott R. Mosko
CARR FERRELL LLP
120 Constitution Drive
Menlo Park, CA 94025
650.812.3400

*Attorney for Plaintiff Promptu Systems
Corporation*