

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

PROMPTU SYSTEMS CORPORATION,
Plaintiff-Appellant

v.

**COMCAST CORPORATION, COMCAST CABLE
COMMUNICATIONS, LLC,**
Defendants-Appellees

2022-1939

Appeal from the United States District Court for the
Eastern District of Pennsylvania in No. 2:16-cv-06516-JS,
Chief Judge Juan R. Sanchez.

Decided: February 16, 2024

J. MICHAEL JAKES, Finnegan, Henderson, Farabow,
Garrett & Dunner, LLP, Washington, DC, argued for plain-
tiff-appellant. Also represented by CHRISTOPHER
BLACKFORD; BENJAMIN SCHLESINGER, Atlanta, GA; JACOB
ADAM SCHROEDER, Palo Alto, CA.

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Washington, DC, argued for defendants-appellees. Also
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Before MOORE, *Chief Judge*, PROST and TARANTO, *Circuit Judges*.

TARANTO, *Circuit Judge*.

In December 2016, Promptu Systems Corp. filed a complaint against Comcast Corp. in the Eastern District of Pennsylvania alleging that Comcast had infringed Promptu-owned U.S. Patent Nos. 7,047,196 and 7,260,538 and also asserting infringement of U.S. Reissued Patent No. RE44,326 and certain state-law bases for relief. In June 2022, before completion of discovery or any summary-judgment proceedings, but after the district court adopted claim constructions that largely followed Comcast’s proposals, Promptu and Comcast jointly stipulated to the with-prejudice dismissal of Promptu’s ’326 patent-infringement claim and state-law claims. Based on the set of claim constructions adopted by the district court, Promptu also stipulated to and moved for entry of a final judgment of no infringement by Comcast of the ’196 and ’538 patents. The district court granted Promptu’s request and entered final judgment.

Promptu appeals the judgment, challenging several of the underlying claim constructions. We conclude that the district court incorrectly construed certain claim terms. We therefore vacate the judgment and remand for further proceedings.

I

A

The ’196 patent begins its Summary of the Invention by stating that “[a]n embodiment of the invention provides speech recognition services to a collection of users over a network that supports cable television and/or video delivery.” ’196 patent, col. 5, lines 3–5. The patent identifies two relevant problems not solved in the prior art. First, sophisticated speech-recognition technology “requires state

of the art processing software and hundreds of megabytes of RAM to support” it, which, the patent implies, prior-art set-top cable boxes typically could not provide. *Id.*, col. 1, lines 54–56; *see also id.*, col. 1, lines 30–62. Second, performing speech recognition at a centralized processing site, instead of on a user’s set-top box, requires the efficient upstream transmission (“from subscriber to cable plant”), using “limited bandwidth,” of speech commands and content from many users simultaneously, which, the patent says, prior-art cable systems typically could not provide. *Id.*, col. 2, lines 63–65; *see also id.*, col. 2, line 60, through col. 3, line 41. The patent specifically notes that, in one prior-art system cited as an example, upstream transmission “is quite inefficient due to the number of collisions which ensue, e.g. simultaneous transmissions from different set-top boxes which interfere with one another,” which “leads to typical channel utilization on the order of just 30%.” *Id.*, col. 3, lines 33–38.

The patent addresses the first problem through “a speech recognition system that is centrally located in or near a wireline node” or is “centrally located in or near a server farm,” “a web-site hosting facility,” or “a network gateway”—*i.e.*, through performing speech recognition at a powerful remote computer, instead of at a local set-top box. *Id.*, col. 5, lines 11–17. This “speech recognition and identification engine . . . is capable of processing thousands of speech commands simultaneously” and thus serving many users. *Id.*, col. 5, lines 27–29. The patent addresses the second problem by using “a back channel containing a multiplicity of identified speech channels” where the “back channel is from a multiplicity of user sites.” *Id.*, col. 22, lines 8–15; *id.*, fig.10. Regarding how to achieve that many-in-one arrangement, the patent states that one method of doing so “may” be through the partitioning scheme—using both frequency and time-slot assignment—set out in U.S. Patent Application No. 09/664,874 (incorporated by reference in the ’196 patent). *See id.*, col. 27, lines

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48–54 ('196 patent incorporating the '874 application by reference); J.A. 6898–929 (the '874 application).¹

Claims 1 and 53 are representative of the asserted claims of the '196 patent for present purposes:

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.

'196 patent, col. 50, line 62, through col. 51, line 10 (emphasis added).

¹ Several times the patent specification gives the title of the '874 application with the number of U.S. Patent Application No. 09/679,115. *See, e.g.*, '196 patent, col. 27, lines 49–53; *id.*, col. 28, lines 1–3, 14–16, 39–42. Promptu explained that those references are to the '874 application. Promptu Opening Br. at 47 n.1. Comcast does not disagree. Comcast Opening Br. at 32–33.

53. A method of operating at least part of a *speech recognition system coupled to a wireline node* in a network, comprising the steps of:

processing a *multiplicity of 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 to each of said multiplicity of identified speech contents;

wherein said speech recognition system is provided said multiplicity of received identified speech channels based upon a received back channel at said wireline node from a multiplicity of user sites coupled to said network;

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.

Id., col. 58, lines 12–29 (emphasis added).

B

The '538 patent describes and claims related subject matter, but the '538 patent's specification is materially different from the '196 patent's specification. At a general level, the primary distinction between the '196 patent and the '538 patent is that the former relates to using remote voice-recognition systems to deliver requested (cable or video) content in response to a user's speech request, while the latter relates to using remote voice-recognition systems to control a user's television set based on a user's speech command. *See, e.g.*, '538 patent, col. 2, lines 21–39.

Claim 34 is representative for present purposes:

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34. A centralized multi-user voice operated television control system, comprising:

television remote controls configured to directly and wirelessly control television sets and additionally to receive user voice input and wirelessly transmit first output representative of the voice input to television set-top boxes;

television set top boxes configured to receive television input signals via cable television link and provide television output signals compatible with television sets, the set top boxes additionally responsive to receiving the first output from the television remote controls to transmit representative second output to a central processing station via the cable television link;

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;

where the set top boxes are further responsive to receiving the signals representing the instructions from the central processing station to execute the instructions.

Id., col. 13, lines 37–61 (emphasis added).

C

In December 2016, Promptu filed a complaint against Comcast in the Eastern District of Pennsylvania alleging, among other things, that Comcast had infringed the '196 and '538 patents. J.A. 506. That litigation was stayed (at Promptu's request, with Comcast's agreement) between July 2018 and September 2020 after Comcast filed with the Patent and Trademark Office (PTO) eight petitions seeking review of the asserted patents: six for inter partes reviews (IPRs) under 35 U.S.C. §§ 311–19, and two for covered business method (CBM) reviews under § 18 of the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284, 329–31 (2011). See J.A. 4839–48; J.A. 5144 (scheduling order noting the stay had been lifted). We have twice heard appeals from the PTO proceedings involving the '196 patent. See *Comcast Cable Communications, LLC v. Promptu Systems Corp.*, 838 F. App'x 551 (Fed. Cir. 2021); *Promptu Systems Corp. v. Comcast Cable Communications, LLC*, No. 2022-1093, 2024 WL 163326 (Fed. Cir. Jan. 16, 2024) (argued here the same day, before the same panel, as the present appeal). We have heard one appeal from the PTO proceedings involving the '538 patent. See *Comcast Cable Communications, LLC v. Promptu Systems Corp.*, 838 F. App'x 555 (Fed. Cir. 2021).

In May 2022, the district court issued claim construction orders, and in June 2022, the court issued a memorandum opinion explaining its claim constructions. The court largely adopted Comcast's proposed constructions of the claim terms in the '196 and '538 patents now at issue before us. See *Promptu Systems Corp. v. Comcast Corp.*, No. 16-cv-06516, slip op. at 1–2 (E.D. Pa. May 12, 2022), ECF No. 299 (*Claim Construction Order*); *Promptu Systems Corp. v. Comcast Corp.*, No. 16-cv-06516 (E.D. Pa. May 19, 2022), ECF No. 301 (amending *Claim Construction Order*); *Promptu Systems Corp. v. Comcast Corp.*, No. 16-cv-06516, slip op. at 4–18 (E.D. Pa. June 10, 2022), ECF No. 315 (*Memorandum Opinion*).

Thereafter, Promptu and Comcast jointly stipulated to the with-prejudice dismissal of Promptu's '326 patent-infringement claim and state-law claims. J.A. 9530. Promptu also stipulated to and moved for entry of final judgment on its '196 and '538 patent-infringement claims "as a result of non-infringement by Comcast . . . based on the Court's Claim Construction Order," stating that it aimed to seek appellate review of at least four of the underlying claim constructions. J.A. 9530. In response, on June 16, 2022, the district court dismissed Promptu's '326 patent-infringement claim and its state-law claims with prejudice, and it directed entry of final judgment for Comcast on Promptu's '196 and '538 patent-infringement claims. *See Promptu Systems Corp. v. Comcast Corp.*, No. 16-cv-06516, slip op. at 1 (E.D. Pa. June 16, 2022), ECF No. 316.

Promptu filed a timely notice of appeal from the district court's final judgment on June 21, 2022, J.A. 9449–51, within the thirty days allowed by 28 U.S.C. § 2107(a). The district court had jurisdiction under 28 U.S.C. § 1338, and we have jurisdiction under 28 U.S.C. § 1295(a)(1).

II

On appeal, Promptu challenges the district court's construction of four claim limitations: "back channel," "multiplicity of received identified speech channels," "speech recognition system coupled to a wireline node" (each from the '196 patent), and "centralized processing station" (from the '538 patent). For the "multiplicity of received identified speech channels" phrase, Promptu's challenge relates to the meaning of the "speech channels" term. For the "speech recognition system coupled to a wireline node" phrase, Promptu separately challenges the district court's construction with respect to the meanings of the "speech recognition system," "coupled to," and "wireline node" terms.

"Where, as here, a plaintiff concedes noninfringement by stipulation, we need only address the district court's

construction of the pertinent claims.” *Starhome GmbH v. AT&T Mobility LLC*, 743 F.3d 849, 854 (Fed. Cir. 2014). “We review claim construction based on intrinsic evidence de novo and review any findings of fact regarding extrinsic evidence for clear error.” *Grace Instrument Industries, LLC v. Chandler Instruments Co.*, 57 F.4th 1001, 1008 (Fed. Cir. 2023). “We generally give words of a claim their ordinary meaning in the context of the claim and the whole patent document; [and] the specification particularly, but also the prosecution history, informs the determination of claim meaning in context, including by resolving ambiguities”; but “even if the meaning is plain on the face of the claim language, the patentee can, by acting with sufficient clarity, disclaim such a plain meaning or prescribe a special definition.” *World Class Technology Corp. v. Ormco Corp.*, 769 F.3d 1120, 1123 (Fed. Cir. 2014) (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–17 (Fed. Cir. 2005) (en banc); *Thorner v. Sony Computer Entertainment America LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)); see *Personalized Media Communications, LLC v. Apple Inc.*, 952 F.3d 1336, 1339–40 (Fed. Cir. 2020). In this matter, prosecution history has played no substantial role in the parties’ contentions.

A

We first conclude that the district court erred by narrowly construing “back channel” in the ’196 patent as limited to “[a] *fixed band of frequencies or time slot(s)* for transmitting signals to a speech processing system or engine.” *Claim Construction Order*, at 2 (emphasis added).

1

Nothing in the claim language suggests the limitation to a fixed band of frequencies or time slots. “Back” undisputedly refers to the direction (upstream) opposite the direction of transmission of the programming (downstream). And whether “channel” means a path or what is flowing in the path (an issue discussed *infra*), we see nothing in the

meaning of the quite general term “channel” that limits the path to one defined by a fixed band of frequencies or time slots.

Nor does the ’196 patent’s specification require the particular path-definition technique demanded by the district court’s claim construction. The patent discusses the back channel, which contains a multiplicity of speech channels, broadly, defined by beginning at a user site (or sites) and ending at a speech processing system. *See, e.g.*, ’196 patent, col. 50, lines 62–66; *id.*, col. 22, lines 8–14. It recognizes the possibility of using different protocols or formats, including conversion between these, along different “subsections” of the path or route from user site to speech recognition system. *See, e.g., id.*, col. 9, line 48, through col. 10, line 13 & fig.3 (describing passage through a “gateway” between different kinds of networks); *id.*, col. 12, lines 57–65 (similar); *id.*, col. 10, lines 54–61 (describing how “[s]peech commands” may be “converted to digital signals” from “analog” or “preprocessed” including by “conversion to an alternative form of speech representation”). It also recognizes use of the DOCSIS cable-modem protocol, *id.*, col. 11, lines 51–59, which it is undisputed need not, though can, use fixed frequency bands or time slots. Though “formats” and “protocols” may not be synonymous with “channels,” what the discussion indicates is breadth regarding techniques for the back channel. And there is no stated narrowing to a fixed frequency band or time slots.

Moreover, the ’196 patent, through the incorporated ’874 application, describes schemes that involve signal transmission along the back channel on dynamically assigned and managed (*i.e.*, not fixed) frequency bands or time slots. *See, e.g.*, J.A. 6904–05 (describing a system where the “head-end receiver” performs “active frequency management of the upstream transmission spectrum” using “an allocation table . . . to keep track of the assignments of channels by storing a mapping between each channel and the set-top box to which the channel is assigned”); J.A.

6906–10 (same for a “headend controller” that controls the “management and assignment of time slots”); *cf.* J.A. 6904 (mentioning a transmission scheme that involves “enabling each set-top box to perform frequency hopping”). And Comcast’s expert—when addressing the ’196 patent’s description of a “Speech Packet Processor” that may “capture and prepare the upstream speech packets that are to be fed to the Speech Recognition Engine,” ’196 patent, col. 18, lines 20–23—explained that “[s]uch packets may, *or may not*, be sent upstream using defined frequency bands, or ‘channels.’” J.A. 8215 ¶ 7 (emphasis added).

Use of a fixed frequency band or time slots, in this patent, is no more than exemplary, not required. The specification certainly refers to such use in describing *embodiments*. *See, e.g.*, ’196 patent, col. 5, lines 22–26 (“This system is unique in that the speech command which originates at the user site . . . is sent upstream via the return path (often five to 40 MHz) in the cable system to a central speech recognition and identification engine.”); *id.*, col. 44, lines 37–38 (“Each NTSC television channel has approximately 6 MHz of bandwidth.”); *id.*, col. 31, lines 33–35 (“The multiplexing mechanism onto channel 1332 may perform time division multiplexing.”). But the specification does not limit the channel-defining techniques to a fixed frequency band or time slots. Similarly, the word “channel” also can be used to refer to particular frequencies or bands or time slots, as indicated by dictionaries on which Comcast relies. *See, e.g.*, J.A. 2695, 2724, 2783; Comcast Response Br. at 23 (stating that “the district court’s construction is *a* common meaning of ‘channel’ in the relevant field of art” (emphasis added)). But the dictionaries do not limit “channel” to such techniques for defining a path for signal transmission. *See, e.g.*, J.A. 6729. And the district court made no finding that no other such techniques were known to relevant artisans at the time relevant to construing this patent.

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Our case law has long recognized that particular features recited in the specification merely as aspects of embodiments, and not expressly or even implicitly identifying requirements of the invention, do not narrow a claim term that is otherwise broader in its ordinary meaning. *See, e.g., Phillips*, 415 F.3d at 1323; *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 904–09 (Fed. Cir. 2004); *Sjolund v. Musland*, 847 F.2d 1573, 1582 (Fed. Cir. 1988) (reciting the “general principle” that “limitations from the specification are not to be read into the claims”). That principle controls the claim construction of “back channel” here. The principle was important in several cases argued to us by Comcast and Promptu the same day as this one, where Comcast succeeded in defending unpatentability rulings of the Patent Trial and Appeal Board by resisting various arguments made by Promptu to limit claim terms’ scope to features of embodiments found in the specification.² Here, where infringement is at stake, it is Comcast that is seeking a narrowing to embodiment features. We find the arguments for narrowing in this case are no more justified than the ones rejected in the Board matters.

2

That conclusion suffices to reject the construction of “back channel” adopted by the district court. The parties also dispute whether “channel” in that phrase refers to a path in which a data stream flows (as Comcast says) or, instead, to the data stream that flows in the path (as Promptu says). *Compare* Comcast Response Br. at 28 (“[T]he data are not the channel.”), *with* Promptu Reply Br. at 18 (“Promptu’s construction of ‘back channel’ as a stream

² *See, e.g., Promptu Systems Corp. v. Comcast Cable Communications, LLC*, No. 2020-1253, 2024 WL 163327 (Fed. Cir. Jan. 16, 2024) (affirming decision of Board in CBM2018-00034); *Promptu*, 2024 WL 163326 (affirming decision of Board in IPR2018-00344).

conveys both concepts. A communication stream does not exist without data flowing through it, and that data necessarily follows a path from a source to a destination.” (citation omitted)). We leave this dispute to be addressed, if necessary, on remand.

For one thing, the proper resolution of the dispute is far from clear in light of the limited attention given to it here. For example, sometimes the ’196 patent specification seems to use “channel” to refer to the path. *See, e.g.*, ’196 patent, col. 3, lines 11–43 (referring to “channel utilization on the order of just 30%” due to signal interference between users; transmitting request signals “whether or not the transmission channel is already in use”; and stating that “[d]ownstream control data transmission typically occurs in a separate frequency band from the upstream channels”). On the other hand, while the patent sometimes refers to processing or receiving “signals” or a “stream” (or “channel stream”), *e.g., id.*, col. 12, lines 21, 39, 47, 57–62; *id.*, col. 42, lines 33–34, 41–49; *id.*, col. 47, line 29, the patent also frequently refers to “processing” or “receiving” a “channel,” which tends to suggest that “channel,” at least in those references, means the data stream, not the path (it being awkward to describe a path as being processed or, perhaps, received), *see, e.g., id.*, Abstract; *id.*, figs. 10, 11B, 18B; *id.*, col. 2, lines 30–31; *id.*, col. 4, lines 27, 32–33; *id.*, col. 22, lines 25–26, 31–32, 46–48; *id.*, col. 23, lines 3–14; *id.*, col. 25, lines 55–60; *id.*, col. 40, lines 4–5, 17–19, 24–31; *id.*, col. 51, lines 1–7 (claim 1). Relatedly, we described the patent’s phrase “received back channel” as the “back channel” at a later point in time, *Comcast*, 838 F. App’x at 554, and that phrase has now been given an unchallenged construction as meaning “[d]ata received via the back channel,” *Claim Construction Order*, at 2—in which the “data” term seems to use “channel” to refer to data while the “via the back channel” phrase seems to use “channel” to refer to the path.

Although “[w]hen the parties present a fundamental dispute regarding the scope of a claim term, it is the court’s duty to resolve it,” courts “are not (and should not be) required to construe *every* limitation present in a patent’s asserted claims.” *O2 Micro International Ltd. v. Beyond Innovation Technology Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008). The purpose of claim construction is to resolve “disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement” or invalidity. *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997). Accordingly, “only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.” *Vivid Technologies, Inc. v. American Science & Engineering, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

Here, it is not clear how significant this path-versus-stream dispute is as a practical matter. Promptu’s counsel stated during oral argument that, although it is crucial to decide whether a “back channel” requires fixed frequency bands or time slots, it might not be necessary to decide whether the “back channel” is a path or route or is instead the stream (alone or in combination with its path). Oral Arg. at 7:05–8:00. In these circumstances, we leave any resolution of this aspect of the parties’ dispute for the district court to consider on remand.

B

We similarly reject the district court’s construction of the “multiplicity of received identified speech channels” phrase in the ’196 patent as requiring “a *single* band of frequencies or a *designated* time slot” for each identified speech channel. *Claim Construction Order*, at 2 (emphasis added). This construction depends on the underlying construction of “channel,” which we have rejected. There is no stronger reason to limit an identified speech channel to a single frequency band or designated time slot than to limit

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the “back channel” as the rejected claim construction of that phrase does.

We also note that the district court required, in the present construction, that “each channel” is “assigned to a particular user site.” *Id.* But the ’196 patent contains dependent claims that recite the additional limitation that “at least one of said identified speech channels has an associated user site.” *See, e.g.*, ’196 patent, col. 51, lines 12–13. That associated-user-site limitation must therefore be presumed absent from the “multiplicity of received identified speech channels” phrase that provides its antecedent basis. *See Karlin Technology, Inc. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 971–72 (Fed. Cir. 1999) (“[L]imitations stated in dependent claims are not to be read into the independent claim from which they depend.”). We see no sufficient justification for requiring “each channel” to be “assigned to a particular user site.”

C

The district court construed the “speech recognition system coupled to a wireline node” phrase in the ’196 patent, in sum, as “a system whose function is speech recognition” “connected in or near” “a network node providing video or cable television delivery to multiple users using a wireline physical transport between those users at the node.” *Claim Construction Order*, at 2. That construction incorrectly construes the constituent terms “speech recognition system,” “coupled to,” and “wireline node” within the claim phrase.

1

The district court’s construction of “speech recognition system” as “a system *whose function* is speech recognition” improperly presupposes that speech recognition is the exclusive function of the speech recognition system. *Claim Construction Order*, at 2 (emphasis added). The claim term, “speech recognition system,” does not entail such

exclusivity—which Comcast itself did not urge. Further, the '196 patent's specification describes functions that a “[s]peech processor computer” may perform *other* than speech recognition, such as billing and system management. *See, e.g.*, '196 patent, col. 36, lines 24–34; *id.*, col. 41, lines 8–40.

We do not go further to find words for a proper construction to replace the one we reject. The parties have not adequately explored alternatives, and again we are not sure what aspects of the phrase need clarification for resolution of the liability issues. Additional exploration should take place on remand, to the extent necessary, of the best way to characterize the limitation of “system” effected by the use of the phrasal modifier “speech recognition.” It may be relevant that the specification indicates that the slightly longer phrase, “speech recognition processor system,” does not encompass the remote-control device, the televisions, the telephone, the optical nodes, the set-top box, the gateway, the server farm, or the server array—which are depicted as distinct elements separate from the “speech recognition processor system.” '196 patent, fig.3. Importantly, a claim construction, if needed at all, should help resolve, not add to, uncertainty in the understanding the finder of fact is to use in applying a claim term.

2

The district court's construction of “coupled to” as “connected in or near” incorrectly reads a proximity requirement (“in or near”) into the claim term at issue. *Claim Construction Order*, at 2. We have several times held variants of “coupled to” in patent claims before us to mean simply “connected to.” *See General Electric Co. v. International Trade Commission*, 685 F.3d 1034, 1045 (Fed. Cir. 2012) (“[T]he term ‘coupled with’ indicates a connection.”); *Johnson Worldwide Associates, Inc. v. Zebco Corp.*, 175 F.3d 985, 992 (Fed. Cir. 1999) (“[T]he unmodified term ‘coupled’ generically describes a connection, and does not

require a mechanical or physical coupling.”). We see no sufficient reason to add a proximity requirement here.

The ’196 patent describes, for example, a “coupling” that may involve “wireless physical transport,” ’196 patent, col. 10, lines 62–66, or a “server farm” with “communicatively coupled” servers, *id.*, col. 9, lines 59–61. The ’196 patent’s specification states that “[t]he invention comprises . . . a speech recognition system that is centrally located in or near a wireline node” but also states that the “speech recognition system may also be centrally located in or near a server farm[,] a website hosting facility, or a network gateway.” *Id.*, col. 5, lines 11–17. Setting aside that “centrally located” is not the claim term—“coupled to” is—the statement that a speech recognition system may be located “in or near” sites *other than* the wireline node further implies that proximity between the speech recognition system and the wireline node (via coupling) is not required.

We construe “coupled to” as meaning “connected to.”

The district court improperly adopted the specification’s definition of “*centralized* wireline node” when construing the claim term “wireline node.” *Memorandum Opinion*, at 13 (emphasis added); ’196 patent, col. 1, line 66, through col. 2, line 2 (“[A] centralized wireline node refers to a network node providing video or cable television delivery to multiple users using a wireline physical transport between those users at the node.”). The “centralized” modifier (used in the composite term defined in the specification) must add some meaning to or limitation on the “wireline node” being modified. The absence of the “centralized” modifier in the claims, in turn, means that the claimed “wireline node” must be broader in some way than the “centralized wireline node” defined in the specification. *See Johnson*, 175 F.3d at 989 (“[M]odifiers will not be added to broad terms standing alone.”). We see nothing troubling about a patent defining a modified term in the

specification and then using that term without modification in the claims, particularly since a single patent specification may provide support for a variety of continuation and continuation-in-part applications as claims are accepted, rejected, and amended throughout prosecution.

Promptu's proposed construction ("node connected by a wire, as opposed to a wireless connection," *Memorandum Order*, at 12) is consistent with the scope of the claim language and specification, and we adopt it here.

D

Promptu challenges two aspects of the district court's claim construction of "centralized processing station" in the '538 patent as a "device at a cable-TV network head-end unit that receives and performs voice recognition on voice commands, and generates and returns instructions to set-top boxes to carry out the commands." *Memorandum Opinion*, at 7. The first aspect challenged is the location requirement: that a "centralized processing station" must be located "at a cable-TV network head-end unit." *Id.* The second aspect challenged is the function requirement: that the "centralized processing station" itself "performs voice recognition on voice commands." *Id.* at 8–9. We affirm the latter aspect of the claim construction (the function requirement) but reverse the former aspect (the location requirement).

The district court correctly understood that the claim language, read as a whole, specifies that the "centralized processing station" (or some element of it) performs the recited speech recognition. Claim 34, for example, states that the "centralized processing station" is "configured to receive *and process*" output "*by applying* voice recognition" "to identify" voice commands and "*to derive* set-top-box-compatible instructions." '538 patent, col. 13, lines 51–58 (emphasis added). Particularly because it is the "centralized processing station" that is itself "configured to" perform the required voice-recognition actions (*i.e.*, to receive

and process output by applying voice recognition, to identify voice commands, and to derive instructions), the claims fairly specify that the “centralized processing station” performs the claimed voice recognition, rather than merely applies the results of such voice recognition performed elsewhere.

In contrast, we conclude that, when construing “centralized processing station,” the district court incorrectly required the recited “device” to be located “at a cable-TV head-end unit.” *Memorandum Opinion*, at 7. It is clear that a “head-end unit” and a “centralized processing station” are different things: the two phrases are different claim elements used in separate claims throughout the ’538 patent. *See Tandon Corp. v. U.S. International Trade Commission*, 831 F.2d 1017, 1023 (Fed. Cir. 1987) (“There is presumed to be a difference in meaning and scope when different words or phrases are used in separate claims.”). The district court did not disagree. Rather, the court concluded that these separate claim elements must be collocated.

The district court relied on the specification’s statement that “[t]he voice command is then transmitted, for example, to a central processing station located at a cable television head-end unit,” ’538 patent, col. 2, lines 29–32; *Memorandum Opinion*, at 7–8, as support for its determination that the “centralized processing station” is located by definition at the head-end unit. Additionally, the specification cites element 160 in figure 1 as labelling both “a head-end unit **160**” and “the central processing station **160**.” *See* ’538 patent, col. 4, lines 4, 8–9, 20; *id.*, fig.1. But those bases, we conclude, are insufficient for the conclusion drawn by the district court.

As confirmed by the “for example” language, the collocation noted in the above quoted sentence is merely exemplary. ’538 patent, col. 2, lines 29–32. And the use of a single figure-element number when referring to the

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centralized processing station and the head-end unit likewise need not mean anything more than that, in the embodiment illustrated in figure 1, the two components are colocated. Neither of those specification sources implies that the two components *must* be colocated.

Such a limitation would read embodiment features into a claim term that is not so limited. The “centralized” term in “centralized processing station,” as the claim language makes clear, refers simply to its relation to a group of set-top boxes. See Comcast Response Br. at 61 (“The claim term ‘centralized processing station’ makes clear that the processing station is a *discrete physical* thing (a ‘station’) that is *centrally located* (‘centralized’) vis-à-vis the ‘multitude of television set top boxes’ from which it receives signals.” (citing ’538 patent, col. 13, lines 37–61)). Such centralization exists when the station is in the cable network, serving many set-top boxes, whether or not it is located at the same place as a head-end unit.

III

We vacate the district court’s entry of final judgment as it relates to Promptu’s ’196 and ’538 patent-infringement claims. We reverse in part and affirm in part the district court’s claim constructions. We remand to the district court for further proceedings.

The parties shall bear their own costs.

**VACATED IN PART, REVERSED IN PART,
AFFIRMED IN PART, AND REMANDED**