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Paper 30
Entered: October 3, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RINGCENTRAL, INC.,
Petitioner,
v.

ESTECH SYSTEMS IP, LLC,
Patent Owner.

IPR2021-00574
Patent 8,391,298 B2

Before THOMAS L. GIANNETTI, CHARLES J. BOUDREAU, and JON M. JURGOVAN, *Administrative Patent Judges.*

GIANNETTI, *Administrative Patent Judge.*

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

I. INTRODUCTION

RingCentral, Inc. ("Petitioner") filed a Petition (Paper 1, "Pet.") requesting an *inter partes* review of claims 1–12 and 17–19 ("the challenged claims") of U.S. Patent No. 8,391,298 B2 (Ex. 1001, "the '298 patent"). Patent Owner[1] filed a Preliminary Response (Paper 8, "Prelim. Resp.").

Pursuant to 35 U.S.C. § 314, we instituted this *inter partes* review as to all of the claims challenged and all grounds raised in the Petition. Paper 13 ("Institution Dec.").

Following institution, Patent Owner filed a Response. Paper 15 ("PO Resp."). Subsequently, Petitioner filed a Reply to Patent Owner's Response (Paper 18, "Pet. Reply"), and Patent Owner filed a Sur-reply (Paper 19, "PO Sur-reply"). On July 12, 2022, we held a consolidated oral hearing with case IPR2021-00573, also involving Petitioner and Patent Owner. A transcript of the hearing is included in the record. Paper 28 ("Hearing Tr.").

We have jurisdiction under 35 U.S.C. § 6. This decision is a Final Written Decision, issued pursuant to 35 U.S.C. § 318(a). For the reasons we discuss below, we determine that Petitioner has proven by a preponderance of the evidence that all challenged claims of the '298 patent are unpatentable.

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[1] Estech Systems, Inc. was initially identified as the owner of the '298 patent. *See* Paper 3, 1. In Updated Mandatory Notices filed July 15, 2022, Estech Systems IP, LLC, is identified as the owner of the '298 patent pursuant to a November 18, 2021, assignment. *See* Paper 27, 1 & n.2. Estech Systems, Inc., is identified as the parent corporation of Estech Systems IP, LLC. *Id.* at 1 n.1. The caption of this case has been revised to reflect this change.

II. BACKGROUND

A. Real Parties-in-Interest

Petitioner identifies as real parties-in-interest itself (RingCentral, Inc.) and the following entity: Howard Midstream Energy Partners ("HEP"). Pet. 2. Petitioner states that it has agreed to defend and indemnify its customer HEP in Case No. 6:20-cv-00777, filed August 25, 2020. *Id.* That case is an action for patent infringement brought by Patent Owner against HEP in the United States District Court for the Western District of Texas (Waco Division).

Patent Owner identifies Estech Systems IP, LLC, and Estech Systems, Inc., as real parties-in-interest. Paper 27, 1.

B. Related Proceedings

The parties identify numerous infringement litigations in the Eastern and Western Districts of Texas involving the '298 patent, including the action against HEP referenced in the preceding section. Pet. 2–4; Paper 6, 1–3. According to the parties, summary judgment of non-infringement was granted in favor of HEP in that action on June 21, 2022. Hearing Tr. 6–7; Paper 27, 4. In addition, the '298 patent has been before the Board in a prior petition for *inter partes* review, in IPR2021-00329. That petition, filed by Cisco Systems, Inc., was denied by the Board on July 6, 2021. IPR2021-00329, Paper 13.

C. The '298 Patent

The '298 patent relates to Voice over IP (VoIP) systems. Ex. 1001, (57), 1:29–60. Such systems are used to transmit voice conversations over a data network using the Internet Protocol (IP). *Id.* at 1:29–31. The patent describes a VoIP system where a user can dial numbers stored in a series of

lists. *Id.* at (57). The lists are stored in the system and displayed to the user of an IP telephone. *Id.*

This VoIP system provides an ability for a user to scroll through the list of names and phone numbers and then call a person once their name and phone number are displayed. *Id*. One embodiment allows a user to scroll through phone listings on remote sites. *Id.* at 9:53–59. Once a particular name and phone number are found, the user can press a button key (e.g., on a keyboard) to commence a telephone conversation with the user having the selected name and phone number. *Id.* at 9:60–64.

D. Illustrative Claim

Claim 1 is illustrative of the challenged claims. Claim 1 recites:

1. [preamble] An information handling system comprising:

[1a] a first local area network ("LAN");

[1b] a second LAN;

[1c] a wide area network ("WAN") coupling the first LAN to the second LAN;

[1d] a third LAN coupled to the first and second LANs via the WAN;

[1e] a first telecommunications device coupled to the first LAN;

[1f] a plurality of telecommunications extensions coupled to the second LAN;

[1g] the first LAN including first circuitry for enabling a user of the first telecommunications device to observe a list of the plurality of telecommunications extensions;

[1h] the first LAN including second circuitry for automatically calling one of the plurality of telecommunications extensions in response to the user selecting one of the plurality of telecommunications extensions from the observed list, wherein the list of the plurality of telecommunications

> extensions is stored in a server in the second LAN, and is accessed by the first circuitry across the WAN; and
>
> [1i] a plurality of telecommunications extensions coupled to the third LAN, the first LAN including circuitry for enabling the user to select between observing the list of the plurality of telecommunications extensions coupled to the second LAN or observing a list of the plurality of telecommunications extensions coupled to the third LAN.

Ex. 1001, 15:58–16:19 (references in square brackets provided by Petitioner). Challenged claims 8 and 17 are independent claims similar to claim 1. Challenged claims 2–7 depend from claim 1, challenged claims 9–12 depend from claim 8, and challenged claims 18 and 19 depend from claim 17.

E. Prior Art and Other Evidence

Petitioner relies on the following prior art:

1. International Application WO 99/05590 (Ex. 1003, "Chang");

2. United States Patent No. 6,490,619 (Ex. 1004, "Byrne"); and

3. United States Patent No. 6,240,448 (Ex. 1005, "Imielinski").

Petitioner relies also on the Declaration of Dr. Henry H. Houh. Ex. 1006 ("Houh Decl."). Patent Owner relies on the Declaration of Vijay K. Madisetti, Ph.D. Ex. 2013 ("Madisetti Decl."). In addition, Petitioner has submitted a transcript of Dr. Madisetti's deposition. Ex. 1037 ("Madisetti Dep.").

F. The Asserted Grounds

Petitioner challenges claims 1–12 and 17–19 of the '298 patent on the following grounds (Pet. 7):

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis[2]
1–5, 7–12, 17–19	103(a)[3]	Chang, Byrne
6	103(a)	Chang, Byrne, Imielinski

III. ANALYSIS OF THE CHALLENGED CLAIMS

A. Obviousness

Petitioner contends that the challenged claims would have been obvious over Chang and Byrne (claims 1–5, 7–12, and 17–19) or over Chang and Byrne, further in view of Imielinski (claim 6). Pet. 7.

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007).

The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) where in evidence, so-called "secondary considerations," including commercial success, long-felt but

[2] Each of Petitioner's challenges additionally refers to "the knowledge of a [person of ordinary skill in the art]." Pet. 7. We understand this to refer generally to a person of ordinary skill in the art's understanding of the applied reference and not to a separate basis for the challenge.

[3] The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103. Because the '298 patent was filed before March 16, 2013 (the effective date of the relevant amendments), the pre-AIA version of § 103 applies.

unsolved needs, failure of others, and unexpected results. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966) ("the *Graham* factors").

Neither the Petition nor the Preliminary Response has presented evidence on the fourth *Graham* factor. We, therefore, do not consider that factor in this decision.

B. Level of Ordinary Skill

Petitioner contends that the person of ordinary skill in the art "would have had at least a four-year degree in electrical engineering, telecommunication engineering, computer engineering, computer science, or a related field and two years of relevant experience in developing or implementing VoIP systems." Pet. 13–14. Further, "[a]n individual can substitute additional education in the relevant field for some of the experience." *Id.* at 14 (citing Houh Decl. ¶¶ 19–22).

Patent Owner's Response states that it does not dispute this description "[f]or the purposes of this Response only," and Patent Owner does not state otherwise in its Sur-reply. PO Resp. 5; *see generally* PO Sur-reply.

We credit Petitioner's definition as it is consistent with the prior art and patent specification before us and is supported by credible expert testimony, but without the qualifier "at least."[4] *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (prior art itself may reflect an appropriate level of skill). We therefore adopt Petitioner's proposal.

[4] Including "at least" suggests a broader level of ordinary skill than that expressly stated by Petitioner. This change, however, does not affect the outcome of our analysis.

C. Claim Construction

For this *inter partes* review, the Board applies the same claim construction standard as that applied in federal courts in civil actions under 35 U.S.C. § 282(b). *See* 37 C.F.R § 42.100(b) (2019). Under this standard, claim terms "are generally given their ordinary and customary meaning" as understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc) (citations omitted). "In determining the meaning of [a] disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence." *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17). Extrinsic evidence is "less significant than the intrinsic record in determining 'the legally operative meaning of claim language.'" *Phillips*, 415 F.3d at 1317.

Petitioner proposed constructions for the terms "IP telephone," "touch input," and "tacitly selecting," but stated also that it "does not contend that claim construction is material to the obviousness dispute presented." Pet. 14.

1. IP telephone (claims 4, 8, 11, 13, 14, and 17–19)

Petitioner proposed the following construction: "[A]ny apparatus, device, system, or computer that can communicate multimedia traffic using IP telephony technology." Pet. 14. Petitioner relied on the '298 patent specification, which states: "An IP telephone, or telephony device, is any apparatus, device, system, etc., that can communicate multimedia traffic using IP telephony technology." Ex. 1001, 3:7–10.

To define "IP telephony," Petitioner relied on *Newton's Telecom Dictionary*: "IP Telephony is an emerging set of technologies that enables voice, data, and video collaboration over existing IP-based LANs, WANs, and the Internet." Ex. 1015, 5.[5] This definition is incorporated by reference in the '298 patent. Ex. 1001, 3:10–12.

Patent Owner did not provide a construction of these terms, and stated that it "accepts Petitioner's proposed claim constructions." Prelim. Resp. 11. We, therefore, adopted Petitioner's construction of IP telephone for our Institution Decision, finding that it is consistent with the patent specification and other evidence of record. Institution Dec. 17.

Patent Owner's Response states that "for the purposes of this IPR, Patent Owner accepts Petitioner's proposed claim constructions." PO Resp. 5. For the reasons given in our Institution Decision, we maintain our construction of IP Telephony as "any apparatus, device, system, or computer that can communicate multimedia traffic using IP telephony technology."

2. workstation

Although neither party asked us to construe "workstation," in view of Patent Owner's arguments, for the purposes of our Institution Decision, we adopted the definition from the '298 patent: "Herein, the term 'workstation' can refer to any network device that can either receive data from a network, transmit data to a network, or both." Institution Dec. 17–18 (citing Ex. 1001, 2:60–62).

We noted that the term "workstation" is discussed further in the '298 patent specification in relation to IP telephones: "[A]n IP telephone is not

[5] Unless otherwise specified, citations to exhibits refer to the page numbers assigned by the parties, and not the original page numbers.

limited to the configurations described herein. For example, all of the functionality of the present invention can be implemented in a workstation." *Id.* at 18 (citing Ex. 1001, 3:15–17). For the purposes of our Institution Decision, we adopted this statement from the '298 patent describing the relationship between IP telephones and workstations. *Id.* For the reasons given in our Institution Decision, we maintain this construction of "workstation," including the statement that the functionality of an IP telephone can be implemented with a workstation.

We construe claim terms only as relevant to the parties' contentions, and only to the extent necessary to resolve the issues in dispute. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999); *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017). We do not see the need to construe any other terms for the purpose of this Decision.

D. Description of the Prior Art References

1. Chang

Chang describes "[a]n integrated voice gateway system for use within a company that can route a voice telephone call between parties at two different locations over an IP network or over the PSTN [Public Switched Telephone Network]." Ex. 1003, (57). Chang's system includes multiple gateway networks "coupled to the company's IP network." *Id.* at 15:10–11.[6] Each gateway network includes a LAN. *Id.* at 15:19.

[6] Citations to Chang refer to the original page numbers, and not the page numbers assigned by Petitioner.

Various components are coupled together via the LAN, including a router, multiple workstations, and a gateway server. This is illustrated in Figure 2 of Chang, following:

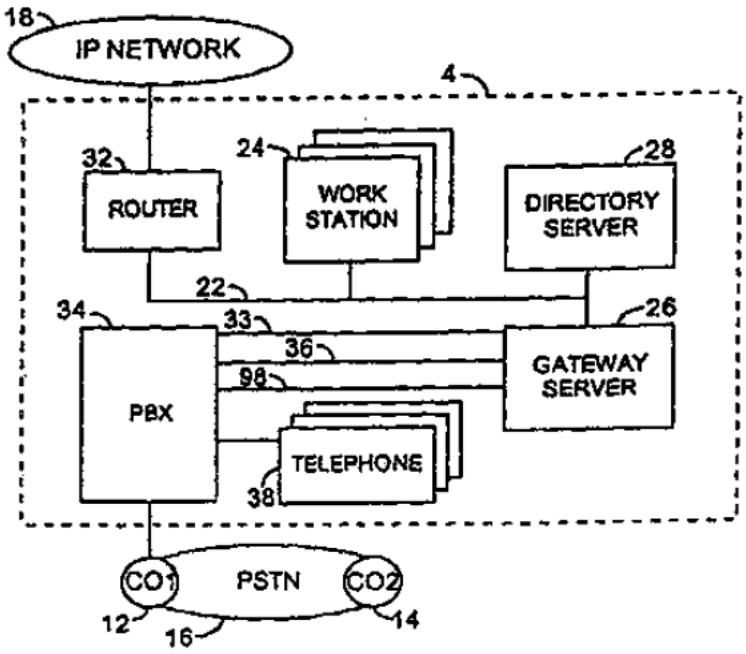

Figure 2 is a block diagram of the top-level architecture of a gateway network 4. *Id.* at 15:16–18. The gateway network includes local area network (LAN) 22. *Id.* at 15:19–20. Coupled to LAN 22 are one or more workstations 24, gateway server 26, directory server 28, and router 32. *Id.* at 15:20–21. The gateway server is coupled to private branch exchange (PBX) 34 via an industry standard tie-trunk or central office (CO) trunk 36. *Id.* at 15:21–22.

One or more telephones 38 are coupled to PBX 34. *Id.* at 15:27–28. Each telephone 38 may be logically associated with and co-located with a workstation 24. *Id.* at 15:30–31. Gateway server 28 is also coupled to PBX 34 via industry standard telephone station interface 33. *Id.* at 15:32–33.

Figure 3A of Chang, following, illustrates the distributed architecture of enterprise directory 90. *Id.* at 17:4–5.

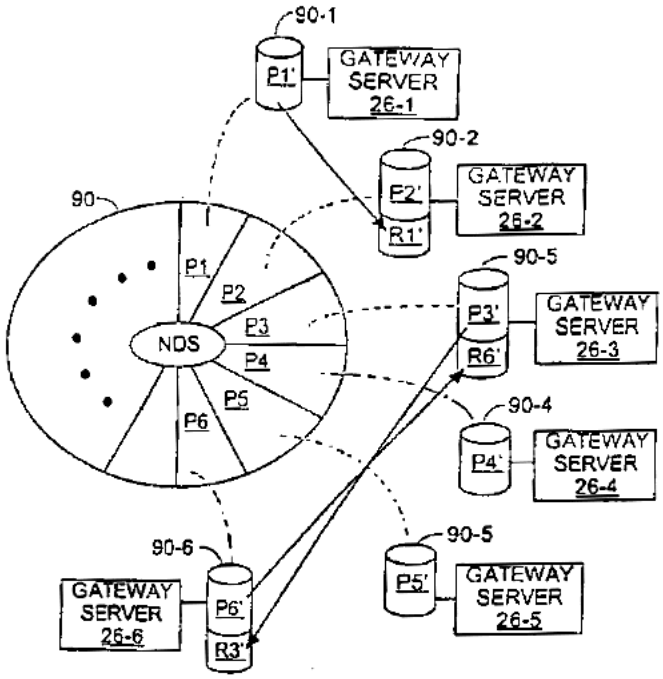

FIG. 3A

Figure 3A shows a series of gateway servers 26-1, 26-2, 26-3, 26-4, 26-5, 26-6. *Id.* at 17:11–12. Each gateway server is coupled to a respective physical partition P1', P2', P3', P4', P5', P6' of enterprise directory 90. *Id.* at 17:12–13.

Enterprise directory 90 is a company-wide global database of named objects, including users, network devices (e.g., routers, gateways), and network services (e.g., print servers). *Id.* at 16:22–24. Enterprise directory 90 is a distributed system with replication and synchronization among its nodes. *Id.* at 16:24–25. The dashed curved lines in Figure 3A indicate the

correspondence of the physical partitions P1', P2', P3', P4', P5', P6' with the logical partitions P1, P2, P3, P4, P5, P6 of enterprise directory 90. *Id.* at 17:13–16. Each physical partition P1', P2', P3', P4', P5', P6' comprises the portion of the respective enterprise directory 90 applicable to the respective location served by a gateway server 26-1, 26-2, 26-3, 26-4, 26-5, 26-6 in the enterprise's gateway network. *Id.* at 17:16–19.

2. Byrne

Byrne describes a method and apparatus for accessing information in a distributed system and managing LDAP (Lightweight Directory Access Protocol) directory servers. Ex. 1004, 1:7–12. Byrne describes a graphical user interface (GUI) that enables users to browse an enterprise directory distributed among many servers. *Id.* at 2:1–2, Fig. 4.

3. Imielinski

Imielinski describes a method to create interactive audio-enabled web pages to link text data from the World Wide Web. Ex. 1005, (57). Imielinski describes an audio web server that provides access to Internet resources with a telephone. *Id.* at 2:20–43. The user can use a telephone to dial a number to access the audio-enabled web pages through the web server. *Id.* at 2:40–43. The user can navigate the web pages and make selections using the telephone's touch tone keypad. *Id.* at 5:25–27.

E. Chang and Byrne (Claims 1–5, 7–12, 17–19)

Petitioner asserts that claims 1–5, 7–12, and 17–19 would have been obvious over the combination of Chang and Byrne. Pet. 21. Petitioner contends that Chang's integrated voice gateway system "discloses the majority of the claimed limitations." *Id.* Petitioner relies on Byrne mainly for its description of a GUI: "Although Chang contains a general discussion

of basic user interface elements for a 'white pages' directory, Byrne describes a GUI for a similar directory system in great detail." *Id.*

Petitioner contends it would have been obvious to combine Chang and Byrne and supports this contention with testimony by Dr. Houh. *Id.* at 22, 71–74; Houh Decl. ¶¶ 164–169. Petitioner contends Chang and Byrne relate to the same field of art and describe compatible and technologically overlapping aspects of distributed directory systems. Pet. 22. Petitioner asserts that "Chang recognizes the benefits of making a 'user-friendly' enterprise directory service for a multi-site company, and the complementary benefits of combining Chang's enterprise directory with Byrne's directory interface design would have been readily apparent to a [person of ordinary skill in the art]." *Id.*; *see also* Houh Decl. ¶¶ 164–169.

1. Claim 1

Petitioner provides an element-by-element analysis of claim 1 in relation to Chang and Byrne. Pet. 22–45. Petitioner supports this analysis with testimony from Dr. Houh. Houh Decl. ¶¶ 73–108. For the reasons that follow, we find that Petitioner demonstrates that each limitation of claim 1 is met by Chang and Byrne.

a. Preamble: "An information handling system"

Petitioner contends Chang discloses the preamble of claim 1 by describing "an 'integrated voice gateway system for use within a company which can route a voice telephone call between parties at two different locations over an IP network or over the PSTN.'" Pet. 22 (citing Ex. 1003, (57)). Patent Owner does not challenge this assertion. We find, based on the record presented, that Chang teaches the preamble of claim 1.

b. Element 1[a]: "a first local area network ('LAN')"

Petitioner contends this limitation is met by LAN 22 of gateway network 4 in Chang. Pet. 23–24 (citing Ex. 1003, 15:19–21). Referring to Figure 2 of Chang, reproduced *supra*, Petitioner explains: "[E]xemplary gateway network 4 . . . includes a LAN 22 that connects a gateway server 26, a router 32, workstations 24, and the directory server 26." *Id.* at 23.

Patent Owner does not challenge this assertion. We find, based on the record presented, that Chang teaches this limitation.

c. Element 1[b]: "a second LAN"

Petitioner contends Chang meets this limitation by disclosing "an IP network connected with multiple gateway networks (4, 5, and 6), each of which includes a number of components connected via its own LAN 22." Pet. 24.

Patent Owner does not challenge this assertion. We find, based on the record presented, that Chang teaches this limitation.

d. Element 1[c]: "a wide area network ('WAN') coupling the first LAN to the second LAN"

Petitioner contends Chang meets this limitation by disclosing IP network 10 coupling two gateway networks and their respective LANs: "A [person of ordinary skill] would have understood that the Internet is a WAN." Pet. 25 (citing Ex. 1003, 2:3–4; Houh Decl. ¶ 80).

Patent Owner does not challenge this assertion. We find, based on the record presented, that Chang teaches this limitation.

e. Element 1[d]: "a third LAN coupled to the first and second LANs via the WAN"

Petitioner contends this limitation is met by Chang because, in Chang, "there are multiple gateway networks, each including a LAN, coupled to

each other via the IP network." Pet. 26–27 (citing Ex. 1003, Fig. 1; Houh Decl. ¶ 82).

Patent Owner does not challenge this assertion. We find, based on the record presented, that Chang teaches this limitation.

f. Element 1[e]: "a first telecommunications device coupled to the first LAN"

Petitioner identifies the claimed "telecommunications device" with the workstations and telephones depicted in Figure 2 of Chang, *supra*. Pet. 27–28; Houh Decl. ¶¶ 83–85. Petitioner asserts, "Figure 2 teaches 'a first telecommunications device' in the form of both a 'workstation' and a 'telephone.'" Pet. 28. Petitioner explains, "the workstation is a telecommunications device because it performs 'telephone functions . . . including, without limitation, dialing a call, transferring a call, add-on conference, and forward a call to/from any white pages entry . . .'" *Id.* (citing Ex. 1003, 5:28–32) (alterations in original). Citing Dr. Houh's testimony, Petitioner asserts "[a person of ordinary skill] would have understood that a workstation that performs telephone functions and communicates with other devices is a 'telecommunications device.'" *Id.* (citing Houh Decl. ¶ 84).

Alternatively, Petitioner argues that the telephone/workstation combination in Chang "also constitutes a 'telecommunications device.'" *Id.* (citing Houh Decl. ¶ 85). Petitioner explains that Chang teaches that telephones 38 can be "logically associated with and may be co-located with respective workstation 24." *Id.* (quoting Ex. 1003, 15:30–31).

Patent Owner responds that neither the workstation nor the telephone disclosed in Chang meets this limitation. PO Resp. 5–6 (citing Madisetti Decl. ¶ 64). Patent Owner contends that the telephone does not meet this

limitation "because it is not 'coupled to the first LAN.'" *Id.* at 6–8. We do not agree. Our Institution Decision concluded that this claim limitation is met because the telephones in Chang "are connected to LAN 22 through the PBX and gate server." Institution Dec. 24. Patent Owner has not advanced a construction of "coupling" that requires a direct connection between the telephone and the LAN, nor would such a construction be proper. The claim itself does not require a direct connection, nor does the specification support this argument. The '298 patent describes the workstations and servers in Figure 1 as "coupled to the LAN *through hub 103*." Ex. 1001, 2:55–56 (emphasis added).

Patent Owner argues that our Institution Decision "disregards Petitioner's concession that the 'telephone' disclosed in Chang is not one of the devices connected to LAN 22." PO Resp. 7–8 (citing Pet. 23). We do not agree. The page from the Petition (p. 23) cited by Patent Owner describes LAN 22, not the telecommunications device, and relates to a different limitation of the claim. *See* Pet. 23 (discussing claim element 1[a]). For these reasons, this description of LAN 22 itself is not a "concession" that certain telecommunication devices are not "coupled" to the LAN. For the reasons given, we find that the telephones illustrated in Figure 2 of Chang are coupled to LAN 22 through the PBX and gate server. *See* Ex. 1003, Figure 2.

Patent Owner further contends the workstation in Chang "is not a 'telecommunications device.'" PO Resp. 8. Patent Owner argues that Chang's workstation "is not described as having telecommunications capabilities." *Id.* Patent Owner elaborates that "[t]he workstation can initiate some telephone functions, but not actually perform the functions of a

telecommunications device, like conducting a phone call." *Id.* Patent Owner presents additional arguments attempting to show that the workstation in Chang is not a telecommunications device. *Id.* at 9–12. We do not agree with those arguments.

For the reasons given by Petitioner, we find that Chang's workstations are telecommunications devices. *See* Pet. 28; Pet. Reply 5–6; Houh Decl. ¶ 84. As noted *supra*, in Section III.C.2, workstations are described broadly in the '298 patent as having all the technical capabilities of an IP telephone: "However, an IP telephone is not limited to the configuration described herein. . . . [A]ll of the functionality of the present invention can be implemented in a workstation." Ex. 1001, 3:14–17. Petitioner demonstrates that users of Chang's workstations can initiate "telephone functions" associated with telecommunications devices by "dialing a call, transferring a call, add-on conference [calls], and forward[ing] a call to [or] from any white pages entry." Pet. 28 (quoting Ex. 1003, 5:28–33); Houh Decl. ¶ 84.

Even if Patent Owner's argument that Chang's workstations are not telecommunications devices were correct, however, it would be unavailing. We find also that Petitioner has demonstrated that the combination of the workstations and associated co-located telephones in Chang, together, constitute "telecommunications devices." Pet. 28 (citing Houh Decl. ¶ 85); Pet. Reply 3–5. Patent Owner acknowledges itself that "the workstation [in Chang] initiates functions by controlling the telephone to perform those functions." PO Resp. 9. And Dr. Houh testifies that "[b]ecause the workstation [in Chang] is co-located with a telephone, they form a telecommunication combination so that the user can control the telephone

using the workstation." Houh Decl. ¶ 85 (citing Ex. 1003, 4:18–21, 10:11–15).

We do not agree with Patent Owner that Petitioner fails to demonstrate that it would have been obvious "to combine the two devices into a 'telecommunications device' as claimed." PO Resp. 11. The Petition explains that Chang describes telephone 38 as "logically associated" with workstation 24 and "co-located" with the workstation. Pet. 28 (citing Ex. 1003, 15:28–33). In addition to the above reasons, Petitioner summarizes its rationale for combining these devices as follows: "A [person of ordinary skill] does not need to 'combine' Chang's telephone and workstation because Chang already does this itself." Pet. Reply 5. We find that Petitioner has set forth a convincing rationale for combining Chang's telephone and workstation, together, as a "telecommunications device."

Petitioner contends also that Chang's "telephone alone" meets the limitation of a "telecommunications device." *See* Pet. Reply 6–7. As we have discussed *supra*, Patent Owner responds to this argument by asserting that the telephones in Chang are not "coupled to the first LAN." PO Resp. 6–7; PO Sur-reply 3–4. For the reasons given above, we do not agree with Patent Owner's argument, as it would import a requirement for a direct connection into the claims that is not supported by the claim language or the specification. We find, therefore, that Chang's telephones also meet the "telecommunications device" limitation.

In sum, we find, based on the record presented, that Chang teaches this limitation.

g. *Element 1[f]: "a plurality of telecommunications extensions coupled to the second LAN"*

Petitioner contends Chang meets this limitation. Pet. 29–30. Petitioner explains, referring to Chang's Figure 2, that "[a person of ordinary skill] would have understood that the gateway network of Figure 2 is exemplary and also depicts the composition of gateway network 6, including its own version [of] LAN 22 and an attached plurality of workstations 24 and telephones 38." *Id.* at 29 (citing Houh Decl. ¶ 86).

Patent Owner responds with arguments similar to those directed to element 1[e], *supra*, namely, that the telephone in Chang is not coupled to the second LAN, and the workstation is not a telecommunications extension. PO Resp. 12–13. For the reasons given above for element 1[e], we do not agree with these arguments and find that Chang meets element 1[f].

h. Element 1[g]: "the first LAN including first circuitry for enabling a user of the first telecommunications device to observe a list of the plurality of telecommunications extensions"

Petitioner contends that Chang meets this limitation. Pet. 31–34. Petitioner explains that "Chang discloses that the 'first LAN' (the LAN 22 of first gateway network 4 in Chang) includes a 'first circuitry' (comprising a computer and a display controlled by its processor) for 'enabling a user of the first telecommunications device' (the workstation coupled to the first LAN in Chang) to observe 'a list of the plurality of telecommunications extensions' (white pages stored in the 'gateway database' in the second gateway network)." *Id.* at 31 (emphases omitted).

As Petitioner observes, Chang discloses a "list of the plurality of telecommunications extensions" in the form of white pages records stored in gateway database 51 that is part of each gateway server 26. *Id.* at 31 (citing

Ex. 1003, 17:32–35). The collection of white pages is a listing of telecommunications extensions of all users in the gateway network. *Id.*

The source of the white pages is enterprise directory 90. *Id.* (citing Ex. 1003, 18:1–2). As noted *supra*, in Section III.D.1, enterprise directory 90 is a "company-wide global database of named objects including users, network devices . . . , and network services." Pet. 31–32 (quoting Ex. 1003, 16:22–24). Enterprise network 90 is a distributed directory. *Id.* at 32. As is also discussed in Section III.D.1 and illustrated in Figure 3A, *supra*, Chang teaches that each gateway server 26 hosts a partition of distributed enterprise directory 90 that corresponds to the users in the particular gateway network. Pet. 32 (citing Ex. 1003, Fig. 3A, 17:11–19).

Petitioner further explains that Chang teaches that a user of a workstation coupled to a first LAN is able to observe the white page entries by using the workstation's display that displays the white pages directory via the browser interface. *Id.* at 33 (citing Ex. 1003, 35:21–24). Petitioner contends a person of ordinary skill would have found it obvious to present the information as a list. *Id.* at 33–34 (citing Houh Decl. ¶¶ 94–95). Alternatively, Petitioner contends it would have been obvious to combine Chang's teachings with Byrne's teaching of a list of telephone destinations. *Id.* at 34–37 (citing Houh Decl. ¶¶ 96–99).

Patent Owner does not directly address this claim element. However, Patent Owner's contention that the following limitation (element 1[h]) is not met by Chang implicates language appearing in this limitation, as will be discussed in the following section.

i. Element 1[h]: "the first LAN including second circuity for automatically calling one of the plurality of telecommunications extensions in response to the user selecting one of the plurality of telecommunications extensions from the observed list, wherein the list of the plurality of telecommunications extensions is stored in a server in the second LAN, and is accessed by the first circuitry across the WAN"

Petitioner contends that Chang, alone and, alternatively, combined with Byrne, teaches this element. Pet. 37–41; Houh Decl. ¶¶ 100–105. Petitioner contends that "Chang discloses that the user at a workstation (which includes the first circuitry comprising a computer and a display controlled by its processor) in the first LAN can select 'one of the plurality of telecommunications extensions' (the workstation and telephone extensions in Chang) 'from the observed list' (the collection of white pages entries in Chang and displayed in the form shown in Byrne)." Pet. 37 (emphases omitted) (citing Ex. 1003, 14:17–24). Petitioner continues that "Chang further teaches that when the user selects the extension, a second circuitry will cause that telephone to automatically dial the desired extension." *Id.* (emphasis omitted).

Petitioner contends further that Chang teaches that "the white pages and the individual frequent contact lists from the enterprise directory are available for the user to select destinations for dialing, transfers and conferencing." *Id.* at 38 (quoting Ex. 1003, 56:10–12). Petitioner explains: "This functionality of automatically dialing a number selected from the white pages [in Chang] is performed by a browser-based web application on the workstation." *Id.* (citing Ex. 1003, 56:4–22). Petitioner contends also that "[a person of ordinary skill] would have understood that a browser-based web application on the workstation is controlled by a circuitry, i.e., the CPU, an input device (e.g., computer keyboard or mouse), in conjunction

with networking devices at the workstation." *Id.* at 38 (citing Houh Decl. ¶¶ 100–101).

Petitioner demonstrates that "at least a part of 'the list of the plurality of telecommunications extensions' is 'stored in a server in the second LAN' (the gateway server associated with the LAN 22 in the second gateway network 6 in Chang) and is accessed by the first circuitry across the WAN (the IP Network 18 connecting the LANs)." *Id.* (emphases omitted). Referring to Figure 3A, Petitioner explains that "Chang explains that the enterprise directory has a 'distributed architecture.'" *Id.* (quoting Ex. 1003, 17:4–5). Petitioner contends: "While each gateway server has access to the complete enterprise directory 90, the data underlying that directory is distributed such that *the directory data associated with the extensions corresponding to a given gateway server is stored on that gateway server*." *Id.* at 39 (emphasis added). Referring to the physical partitions of the enterprise directory, Petitioner concludes: "[W]hen a user in a first LAN (gateway network 4) accesses the white pages in a second LAN (gateway network 6), the user is browsing the directory data stored in the gateway server of the gateway network 6 across the IP network 18." *Id.* at 40 (citing Houh Decl. ¶¶ 102–103).

Alternatively, Petitioner contends that Byrne supplies the teaching of a distributed directory that can be accessed from other servers, as well as the organization of the plurality of telecommunications extensions in a list. *Id.* at 40–41. The rationale for combining the teachings of Chang and Byrne is summarized *supra*. *See also id.* at 22, 71–74.

Patent Owner contends that Chang does not meet this limitation. PO Resp. 13–20. Patent Owner asserts that that "the language of the claim

clearly requires that the 'list' that can be observed via the circuitry recited in limitation 1[g] must be stored in a server in the second LAN (as recited in limitation 1[h])." *Id.* at 16–17. According to Patent Owner "Chang is completely silent regarding the first circuitry (i.e., workstation in first LAN) accessing the list of telecommunication extensions (i.e., white pages with extensions of users of second LAN) stored in the server of the second LAN (i.e., gateway server in second LAN) over the WAN, as required by claim element 1[h]." *Id.* at 14.

At the oral argument, the Board pressed Patent Owner's counsel for a better explanation of its position. Hearing Tr. 100:18–101:1. Patent Owner's counsel was asked, "in a few short sentences, what is the failing of Chang as far as storing lists, and why doesn't it meet the claim?" *Id.* at 101:2–4. Patent Owner's counsel responded as follows:

> The failing of Chang is that it is a distributed system in which the list of telecommunications for the second LAN and the list for the telecommunications extensions for the third LAN *are not stored on the same server*, as required by the claims.

Id. at 101:5–9 (emphasis added).

We find that Patent Owner's "same server" argument is contrary to the claim language. Element 1[g] refers to observing "*a list* of the plurality of telecommunications extensions." Ex. 1001, 16:2 (emphasis added). The

term "a list" does not refer to a specific list.[7] Nor does it necessarily refer to plural lists, as Patent Owner asserts.[8] PO Resp. 17.

Furthermore, element 1[h] specifies "*the list* of the plurality of telecommunications extensions is stored in a server in the second LAN, and is accessed by the first circuitry across the WAN." Ex. 1001, 16:8–10. It does not say "every list of telecommunications extensions that the 'first circuitry' enables a user to observe" is stored there. *Cf.* PO Resp. 17; PO Sur-reply 4. Thus, we do not agree with Patent Owner's argument that "the language of the claim clearly requires that the 'list' that can be observed via the circuitry recited in limitation 1[g] must be stored in a server in the second LAN (as recited in limitation 1[h])." PO Resp. 17. Instead, we find that for the reasons given, according to the claim, the second LAN must store the list of extensions coupled to the second LAN and nothing more to meet the claim language. *See* Pet. Reply 13–14.

We further find that the claim language does not require that the "plurality of telecommunications extensions coupled to the third LAN" (referred to in claim element 1[i], *infra*), also be stored in the server in the second LAN, as Patent Owner contends. PO Resp. 16; Hearing Tr. 90:8–15.

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[7] "Definition of *indefinite article*: the word *a* or *an* used in English to refer to a person or thing that is not identified or specified." *Merriam-Webster Dictionary*, *available at* https://www.merriam-webster.com/dictionary/indefinite%20article.

[8] *See KCJ Corp. v Kinetic Concepts, Inc.*. 223 F. 3d 1351, 1352 (Fed. Cir. 2000) ("This court has repeatedly emphasized that an indefinite article 'a' or 'an' in patent parlance carries the meaning of '*one or more*' in open-ended claims containing the transitional phrase 'comprising.'") (emphasis added).

As Petitioner points out, "[t]here is no requirement [in the claim] that this list be stored anywhere in particular." Pet. Reply 14.

For the reasons given, Patent Owner's "same server" argument is not supported by the claim language. Nor does the specification support Patent Owner's argument. As Petitioner points out, the '298 specification describes a "site rolodex" feature. *Id.* at 15 (citing Ex. 1001, 10:47–64). The specification indicates that each LAN has a site rolodex, and with this feature, "the user at IP telephone 105 in LAN 301, can locate and access the site rolodex for LAN 302." Ex. 1001, 10:47–51. To obtain a particular remote site's rolodex, a message must be sent to that particular remote site. *Id.* at 11:25–26. The specification identifies no single remote site that stores the entire rolodex. Pet. Reply 15.

We find that this description in the specification of the '298 patent is similar to Chang, because, like Chang's white page directories, "the '298 patent's rolodex is stored in a distributed fashion, with each LAN storing a list of extensions or users associated with that particular LAN." *Id.* at 17–18. We find, therefore, that the '298 patent specification does not support Patent Owner's "same server" argument.

Patent Owner asserts that "a [person of ordinary skill] would conclude that each of Chang's gateway servers contains the white pages of all users." PO Resp. 15. Therefore, according to Patent Owner, "Chang's workstation (i.e., first circuitry) would obtain all white pages (i.e., list of extensions) by accessing the gateway server in the same LAN as the workstation (i.e., first LAN), not by accessing the gateway server in another one of Chang's LANs (i.e., second LAN) via Chang's IP network (i.e., WAN) as required by limitation 1[h]." *Id.*

This description of Chang is incorrect, and Patent Owner's arguments based on this description of Chang fail. We find, as Petitioner explains, that "[i]n Chang, no single gateway server stores the entirety of the white pages. Instead, the white pages are stored in a distributed fashion, with each gateway server locally storing only the portion of the white pages listing its extensions." Pet. Reply 8–9 (referring to Fig. 3 of Chang and accompanying description at Ex. 1003, 17:12–16); *see also id.* at 10–11. Further, we find that in Chang, "if a user on gateway server 26-1 would like to access the directory of users on gateway server 26-5, it will be necessary to communicate with gateway server 26-5 as that is the only place where that server's directory is physically stored." *Id.* at 10. While Chang does disclose the optional storage by certain of the gateway servers of "replicas" of partitions from another location in the network, to "help 'set up calls between locations which have a high volume of telephone calls,'" Chang does not disclose storage of the entire directory by any one gateway server. *Id.* at 9–10 (citing Ex. 1003, 17:20–23, Fig. 3A).

We do not credit Dr. Madisetti's testimony on this issue, which substantially mirrors Patent Owner's arguments discussed *supra*. *See* Madisetti Decl. ¶¶ 78–92. Apart from being unsupported by the record, Dr. Madisetti's opinions are refuted by his own admission that Chang's gateway servers do not store the entirety of the enterprise directory. Pet. Reply 10 (citing Madisetti Dep. 112:19–113:10).

We have considered Patent Owner's other arguments and find them unavailing. For example, we do not credit Dr. Madisetti's testimony that Chang "does not provide any details as to how or where Chang's workstation (i.e., the first circuitry) obtains the white pages (i.e., list of

extensions coupled to second LAN)." *See* Madisetti Decl. ¶ 80. The Federal Circuit has emphasized that in analyzing obviousness, *KSR* assumes that the person of ordinary skill "is not an automaton." *ClassCo, Inc. v. Apple, Inc.*, 838 F.3d 1214, 1219 (Fed. Cir. 2016). The Federal Circuit has further cautioned that "[t]he rationale of *KSR* does not support [the] theory that a person of ordinary skill can only perform combinations of a puzzle element A with a perfectly fitting puzzle element B." *Id.* We, therefore, see no necessity for Chang or Byrne to describe further details of the standard off-the-shelf components identified as making up the workstations, such as computers, processors, and displays, as those details would be known to persons of ordinary skill. *See supra,* Section III.B (the person of ordinary skill in the art would have had "a four-year degree in electrical engineering, telecommunication engineering, computer engineering, computer science, or a related field and two years of relevant experience in developing or implementing VoIP systems").

Patent Owner challenges Petitioner's rationale for combining the teachings of Chang and Byrne to meet this limitation. PO Resp. 18–20. Among other reasons, Patent Owner contends the exchange of messages required by that combination would "reduc[e] the bandwidth of Chang's IP network for its intended purpose, i.e., telephone calls." *Id.* at 19. We have discussed Petitioner's rationale for combining these references *supra*. We are persuaded by Dr. Houh's testimony that "[a]lthough Chang does not specifically describe how the White Pages is organized and presented to a user, a [person of ordinary skill] would have found it obvious to present the White Pages information as a 'list.'" Houh Decl. ¶ 94. The references in Chang to a "frequent contact list" constructed from the white pages, and the

presentation of lists of telephone phone numbers in the white pages directory, would have suggested to person of ordinary skill that the white pages are presented as a list. *Id.* ¶¶ 94–95. Furthermore, especially in light of Chang's references to lists, we credit Dr Houh's testimony that "it would have been obvious to combine Chang's White Pages with Byrne's teachings regarding displaying a 'list' of telephone destinations associated with a particular server." *Id.* ¶ 96.

Finally, we are persuaded by Dr. Houh's testimony that "[a person of ordinary skill] would have been motivated to implement certain features from Byrne's user interface to improve Chang's white page functionalities." *Id.* ¶¶ 165–166. Dr. Houh testifies that because the directories in Chang and Byrne "are distributed among different servers and based on the same protocol, they would have similar structures." *Id.* ¶ 164. This would lead a person of ordinary skill seeking to improve the "white page functionalities" in Chang to look to Byrne's interface. *Id.* Dr. Houh testifies that "[b]ecause portions of Chang's enterprise directory are already stored in separate gateway servers, creating list of servers and a tab for each server would have been convenient for the user, so that the user can browse directory data stored in different gateway servers separately." *Id.* ¶ 165.

We find Dr. Houh's testimony consistent with the prior art cited and credible and Patent Owner's arguments to the contrary unavailing, as they are predicated on a misunderstanding of Chang's teachings. For example, as Petitioner points out, Patent Owner's "reduced bandwidth" argument glosses over the fact that Chang already teaches a directory that is physically stored in a distributed fashion and requires exchanging messages. Pet. Reply 11.

We, therefore, find that Petitioner demonstrates that Chang and Byrne meet the limitations of claim elements 1[g] and 1[h], and that Petitioner has demonstrated that a person of ordinary skill would have combined the teachings of those references as described by Petitioner.

j. Element 1[i]: "a plurality of telecommunications extensions coupled to the third LAN, the first LAN including circuitry for enabling the user to select between observing the list of the plurality of telecommunications extensions coupled to the second LAN or observing a list of the plurality of telecommunications extensions coupled to the third LAN"

Petitioner relies on Chang in combination with Byrne to meet this limitation. Pet. 42. Petitioner relies on Chang for all elements except the specific recitation of enabling a user to switch between lists of extensions associated with individual gateways. *Id.* at 43–45. For example, Petitioner identifies Chang's gateway network 8 as including the recited "third LAN." *Id.* at 42. For the "list of the plurality of telecommunications extensions coupled to the second LAN" and the "list of telecommunication extensions coupled to the third LAN," Petitioner explains that "Chang also teaches that 'white pages,' which come from the enterprise directory, are stored in a distributed manner in respective gateway servers." *Id.* Petitioner concludes that "Chang discloses organizing white pages data by gateway servers associated with the various gateway networks and their LANs." *Id.* at 42–43 (citing Houh Decl. ¶ 106).

For the limitation reciting users switching between lists associated with individual gateways, Petitioner relies on Byrne's description of a "navigation panel" having multiple tabs, "each corresponding to a server." *Id.* at 43–44. According to Petitioner, "[o]nce a tab is selected, the user can click 'browse tree' in the navigation panel to browse a list of directory

entries for users associated with the particular server in the 'work area.'" *Id.* (citing Ex. 1004, Fig. 4). Petitioner also provides a convincing rationale for combining these teachings from Byrne with Chang. *Id.* at 44 (citing Houh Decl. ¶¶ 164–166). Petitioner asserts that "a [person of ordinary skill] would have found it obvious to use Byrne's method of presenting contacts in connection with the system disclosed by Chang – at least because (a) both systems group entries by server; (b) both systems present directory information using a web interface; and (c) allowing a user to view a list of extensions associated with a specific LAN provides an intermediary grouping which would be helpful at least because it would allow users to find extensions of interest more quickly." *Id.* Petitioner explains that a person of ordinary skill "would have understood that Byrne accomplishes this list switching functionality through circuitry in the form of the CPU of the user's computer, which controls the user interface, and an input device such as a keyboard or mouse, which enables the user to switch among different tabs allowing the user to view information about the clients (telecommunication destinations) coupled to a server." *Id.* at 44–45 (citing Houh Decl. ¶ 107).

Patent Owner responds by challenging Petitioner's reliance on Byrne. PO Resp. 20–22. Patent Owner argues that Figure 9 of Byrne "does not show a list of contact information and certainly does not show a list of telecommunication extensions, as required by claim element 1[i]." *Id.* at 21. Patent Owner continues, "[t]he Petition even concedes that Figure 9 is only displayed when the 'browse tree' option is clicked from the navigation panel." *Id.* at 21–22. And finally, "[n]ot only does Byrne not display a list

of telecommunications extensions, a selection between lists is simply not possible with Byrne's 'Server Tabs 406.'" *Id.* (citing Madisetti Decl. ¶ 95).

We do not agree with this argument. As Petitioner points out, Patent Owner's argument focuses on one figure of Byrne, not the teachings of the reference as a whole. Pet. Reply 17. Petitioner points out that Byrne explains that contact information for users associated with a particular server can be accessed "simply" by clicking on a small box. *Id.* (citing Ex. 1004, 7:30–33). Moreover, as Petitioner points out, "Chang teaches a telephone extension directory that includes user extensions associated with different LANs. And, Byrne provides one example of how such a directory can be displayed (a nested tree structure that can display users and user information on a LAN-by-LAN basis)." *Id.*

In addition, Patent Owner's argument is unconvincing because it is directed to Byrne alone and not to the combination with Chang. "The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 426 (CCPA 1981); *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

With these principles in mind, we find that for the reasons given, Petitioner demonstrates that this limitation is met by the combined teachings of Chang and Byrne, and that a person of ordinary skill would have made that combination.

k. Summary on Claim 1

For the reasons given, determine that Petitioner has demonstrated by a preponderance of the evidence that claim 1 would have been obvious over Chang and Byrne.

2. Claims 2–5 and 7

Claims 2–5 and 7 depend directly or indirectly from claim 1. Petitioner contends that Chang discloses the added limitations recited in each of these claims. Pet. 45–52. For example, Petitioner contends the "IP protocol" limitation added by claim 2 is met by Chang's disclosure of communications over an IP network. *Id.* at 45 (citing Ex. 1003, 3:30–34). Petitioner explains that a person of ordinary skill "would have understood that the IP network necessarily uses an IP protocol." *Id.* (citing Houh Decl. ¶¶ 110–111).

Patent Owner does not assert any new arguments for most of these claims, relying instead on its arguments directed to claim 1. PO Resp. 22–25. The exception is the recitation in claim 4 of an "IP telephone." *Id.* Similar to its argument for claim element 1[e], *supra*, Patent Owner contends the workstation in Chang is not an IP telephone. *Id.* at 23. Patent Owner asserts: "The workstation in Chang cannot conduct a phone call." *Id.*

We disagree that Chang's workstation cannot be considered an IP telephone. The construction of IP telephone that we adopted (and which Patent Owner accepted) requires an IP telephone to "communicate multimedia traffic using IP telephony technology." *See supra*, Section III.C.1. Petitioner demonstrates that Chang's workstation is "co-located with a PBX telephone" and performs "telephone functions." Pet. 47–48

(citing Ex. 1003, 5:28–32; Houh Decl. ¶¶ 114–115). Moreover, the '298 patent itself recognizes that workstations can implement IP telephone functionality. Ex. 1001, 3:14–17; *see also* Section III.C.2, *supra*.

For the reasons given, we determine that Petitioner has demonstrated by a preponderance of the evidence that dependent claims 2–5 and 7 would have been obvious over Chang and Byrne.

3. Claim 8

Petitioner's analysis of independent claim 8 in light of Chang and Byrne largely tracks its analysis of claim 1. Pet. 53–57. For the "IP protocol" recitation in claim 8, not present in claim 1, Petitioner relies on Chang's teaching that the first LAN operates under an IP protocol because it is connected to an IP network. *Id.* at 52. Patent Owner does not challenge this assertion. For the "IP telephone" recitation, Petitioner relies on its analysis of claim 4. *Id.* at 54.

Patent Owner raises several additional arguments that track its previous arguments for claims 1 and 4. PO Resp. 25–28. Patent Owner asserts Chang and Byrne do not disclose an "IP Telephone" and refers back to its arguments on claim 4, discussed *supra*. *Id.* at 25. Patent Owner asserts that Chang and Byrne do not disclose "second and third telephone extensions coupled to the second LAN" as claimed. *Id.* at 26. Patent Owner refers back to its arguments on claim element 1[f], discussed *supra*. *Id.* Patent Owner contends the "same server" limitation in claim 8 is not met by Chang and Byrne and refers back to its arguments on claim element 1[h], discussed *supra*. *Id.* at 27–28. Patent Owner contends that Chang and Byrne do not disclose "the first LAN including circuitry for enabling the user to select between viewing the list of the telephone extensions

coupled to the second LAN or viewing a list of the plurality of telephone extensions coupled to the third LAN." *Id.* at 28. Patent Owner refers back to its arguments on claim element 1[i], discussed *supra*. *Id.*

We have previously addressed these arguments in connection with claim 1. *See supra*, Section III.E.1. For the reasons previously given, we conclude that Petitioner has demonstrated by a preponderance of the evidence that claim 8 would have been obvious over Chang and Byrne.

4. Claims 9–12

These claims raise no new issues. Petitioner relies on its previous analysis of claims 1, 4, 5, and 7. Pet. 57–58. Patent Owner responds by referring to its arguments for claim 8. PO Resp. 28.

For the reasons given in our discussion of claims 1, 4, 5, 7, and 8, we conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 9–12 would have been obvious over Chang and Byrne.

5. Claim 17

This independent method claim introduces several new elements. Most notably, the claim calls for various "touch inputs" from the user and for "displaying on a display on an IP telephone" various lists. *See* Ex. 1001, 18:6–42.

Petitioner's obviousness challenge to claim 17 again relies on the combination of Chang and Byrne. Pet. 59–69. For example, Petitioner contends that the limitation "displaying on a display on the IP telephone a first list including second and third LANs coupled to the first LAN" is met by Chang in view of Byrne. *Id.* at 59–62 (referring to claim elements 17[a] and 17[b]). Petitioner contends that it would have been obvious to combine Chang and Byrne to use Byrne's interface to present the claimed list of

LANs. *Id.* at 60–61. Petitioner also relies on both Chang and Byrne for teaching that the user input can be a "touch input." *See id.* at 61–62.

For a motivation to combine the references, Petitioner refers back to its explanation in connection with claim element 1[i]. *See supra*, Section III.E.1. Relying on Dr. Houh's testimony, Petitioner asserts "[i]n light of Byrne's teachings regarding an interface that presents a tree (i.e., list) of servers, it would have been obvious to a [person of ordinary skill] that Byrne's interface teachings could be used in conjunction with Chang's system to display a list of Chang's gateway servers, which each correspond to a gateway network and a LAN." Pet. 60 (citing Houh Decl. ¶ 144). We agree with this testimony and therefore find that Chang and Byrne meet these limitations and that it would have been obvious to combine their teachings.

For each of the remaining limitations, Petitioner provides a similar analysis. For example, for limitations 17[c]–17[d], Petitioner again relies on Chang and Byrne. Pet. 63–65. Petitioner asserts that "Byrne discloses that in response to 'receiving a second touch input from the user,' the directory user interface displays a 'second list of telephone destinations accessible from the second LAN.'" *Id.* at 63 (emphasis omitted). Further, "[a]s explained above regarding Element 1[g]-1[i], Chang teaches an IP telephone in the form of a workstation (which can be a portable computer), or desktop computer." *Id.*

For elements 17[e]–17[f], Petitioner relies on Chang. *Id.* at 65–66. Petitioner contends, "[a]s explained with respect to Element 1[g], Chang teaches that in response to a user selecting a telephone destination from the white pages, the workstation automatically dials the selected telephone

destination." *Id.* at 65. For elements 17[g]–17[h], Petitioner relies on Chang and Byrne. *Id.* at 67–69. Petitioner explains that "[b]ecause the white pages [in Chang] are located in another gateway, in order to access the white pages, a [person of ordinary skill] would have understood (or at least found it obvious) that the gateway server in the workstation's LAN would send a message to another gateway server to request to access the white pages in that gateway server, and receives the white pages from the gateway server." *Id.* at 67 (citing Houh Decl. ¶¶ 155–56). In addition, Petitioner asserts "Byrne further describes establishing connections between two servers to request and receive directory data." *Id.* For elements 17[i]–17[j], Petitioner relies on Chang and Byrne and refers back to its analysis of element 1[d]. *See supra*, Section III.E.1.e.

Patent Owner disputes Petitioner's analysis on several grounds, most of which have already been addressed. PO Resp. 29–37. Patent Owner repeats its argument that Petitioner has not demonstrated that Chang's workstation is an "IP telephone." *See id.* at 29 (referring to claim element 17[a]); *see also id.* at 31–33 (referring to claim elements 17[c]–17[f]), and 36–37 (referring to claim elements 17[i] and 17[j]). For the reasons given *supra* with respect to claim 4, we do not agree with that argument. *See supra*, Section III.E.2.

Patent Owner repeats its erroneous assertion that "each of Chang's gateway servers contains the white pages of all users and thus the request for white pages between gateway servers in different LANs, as presented by the Petition, would not occur." *See* PO Resp. 35 (referring to claim elements 17[g] and 17[h]). As discussed at length in connection with claim element

1[h] (*see supra*, Section III.E.1), that description of Chang is not correct, and Patent Owner's arguments based on that description are unavailing.

Patent Owner argues that Petitioner fails to contend that Byrne discloses "displaying on a display" various lists. *See* PO Resp. 30 (referring to claim element 17[b]). We do not agree. Dr. Houh testifies, e.g., "Byrne teaches a graphical user interface that provides functionalities of 'displaying a tree of servers, browsing the tree of servers, and searching the tree of servers for an entry with specific attributes.'" Houh Decl. ¶ 144. Petitioner also demonstrates that the display occurs in response to user "touch input." *Id.* ¶¶ 145 ("A [person of ordinary skill] would have found it obvious that when tree interface is used in connection with Chang's gateway servers/LANs, that the list of LANs would likewise be displayed in response to a user pressing the appropriate navigation option because it is an intuitive design to provide the user a way to activate the functionality of browsing the gateway servers in the user interface."), 146.

Patent Owner responds that Petitioner has failed to establish that it would have been obvious to modify Chang's workstation to satisfy various limitations. *See, e.g.*, PO Resp. 30. We disagree. Petitioner provides detailed presentations on the motivation for combining various aspects of Chang with Byrne that are not acknowledged by Patent Owner. *See, e.g.*, Pet. 59–62 (referring to modifying Chang to provide "displaying on a display" and "touch input"), 71–74 (discussing motivation to combine Chang with Byrne). For example, Petitioner asserts: "A [person of ordinary skill] would have been motivated to implement Byrne's interface navigation features into Chang's web application to enable the user to browse the directory for each gateway network in an efficient way." *Id.* at 72.

Petitioner's expert, Dr. Houh, provides extensive credible testimony on this issue which was never challenged by Patent Owner on cross-examination. *See, e.g.*, Houh Decl. ¶ 144 ("A [person of ordinary skill] would have found it obvious that Byrne's teaching about displaying a 'tree of servers' can be combined with Chang's White Pages functionality, so that Chang's interface can also display a list of different gateway servers so that the user can browse white page entries associated with a particular server."); *see also* the extensive discussion of this issue in Section III.E.1, *supra*. For the reasons given, we do not agree that Petitioner has failed to prove sufficiently a motivation to combine the teachings of Chang and Byrne in the manner proposed by Petitioner, and we find that a person of ordinary skill would have done so.

We agree with Petitioner's analysis, and we find that Petitioner has demonstrated that Chang and Byrne meet the limitations of claim 17 and that a person of ordinary skill would have combined their teachings as proposed by Petitioner. Pet. 59–69; Houh Decl. ¶¶ 143–161.

For the reasons given, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 17 would have been obvious over Chang and Byrne.

6. Claims 18 and 19

These claims depend from claim 17. Petitioner demonstrates that the features they add are taught by Chang and Byrne. Pet. 69–70; Houh Decl. ¶¶ 162–163. Patent Owner responds by referring back to its arguments for claim 17. PO Resp. 37. We have considered those arguments and do not agree with them. *See supra,* Section III.E.5. We find for the reasons given that Petitioner has demonstrated that Chang and Byrne meet the limitations

of claims 17 and 18 and that a person of ordinary skill would have combined their teachings.

For the reasons given, we determine that these claims would have been obvious over Chang and Byrne.

F. Chang, Byrne, and Imielinski (Claim 6)

Claim 6 depends from claim 1 and further requires that the "list of the plurality of telecommunications extensions" is played as audio to the user. Ex. 1001, 16:39–42. Petitioner contends that "Imielinski discloses a method of creating interactive audio enabled web pages so that the user can hear the content of the web pages via a phone call and navigate the web pages using telephone inputs." Pet. 74–75. Petitioner contends that by combining this teaching with Chang's web-based user interface, a person of ordinary skill "would have arrived at a combination that the white pages function of the web-based user interface is converted to an audio enabled web page, so that the white pages are played as audio to the user." *Id.* at 75. Further, Petitioner contends that a person of ordinary skill would have been motivated to make this combination "to provide more flexible access to Chang's enterprise directory and white pages." *Id.* at 76.

Patent Owner responds by referring to its arguments for claim 1. PO Resp. 36. We have considered those arguments previously and do not agree with them. *See supra*, Section III.E.1. Further, we find, based on the record presented, that Imielinski teaches that the "list of the plurality of telecommunications extensions" is played as audio to the user, as alleged by Petitioner, and further, that a person of ordinary skill would have been motivated to provide audio access to Chang's white pages. Pet. 75–78. We find, therefore that Petitioner has demonstrated that Chang, Byrne, and

Imielinski meet the limitations of claim 6 and that a person of ordinary skill would have combined their teachings.

For the reasons given, we determine that claim 6 would have been obvious over Chang, Byrne, and Imielinski.

IV. CONCLUSION

For the foregoing reasons, we determine Petitioner has demonstrated by a preponderance of the evidence that all challenged claims of the '298 patent would have been obvious and therefore are unpatentable. Our conclusions are summarized in the following table.

Claim(s)	35 U.S.C. §	Reference(s)/ Basis	Claim(s) Shown Unpatentable	Claim(s) Not Shown Unpatentable
1–5, 7–17, 17–19	103(a)	Chang, Byrne	1–5, 7–12, 17–19	
6	103(a)	Chang, Byrne, Imielinski	6	
Overall Outcome			1–12, 17–19	

V. ORDER

Upon consideration of the record before us, it is:

ORDERED that claims 1–12 and 17–19 of the '298 patent are unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must

comply with the notice and service requirements of 37 C.F.R. § 90.2.[9]

PETITIONER:

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[9] Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).