

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GLOBAL TEL*LINK CORPORATION,
Petitioner,

v.

SECURUS TECHNOLOGIES, INC.,
Patent Owner.

Case IPR2014-00493
Patent 7,899,167 B1

Before KEVIN F. TURNER, BARBARA A. BENOIT, and
GEORGIANNA W. BRADEN, *Administrative Patent Judges*.

BENOIT, *Administrative Patent Judge*.

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

I. INTRODUCTION

We have jurisdiction to hear this *inter partes* review under 35 U.S.C. § 6(c). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–21 of U.S. Patent No. 7,899,167 B1 (Ex. 1001; “the ’167 patent”) are unpatentable.

A. *Procedural History*

Global Tel*Link Corporation (“Petitioner”) filed a corrected Petition (Paper 4; “Pet.”) for an *inter partes* review of claims 1–21 (“the challenged claims”) of the ’167 patent. Patent Owner, Securus Technologies, Inc., filed a Preliminary Response opposing institution of a review. On September 17, 2014, pursuant to 35 U.S.C. § 314(a), we instituted an *inter partes* review for claims 1–21 of the ’167 patent as unpatentable under 35 U.S.C. § 103(a) over the following references.

Reference(s)	Claims Challenged
Spadaro ¹	1–7, 12, 14–19, and 21
Spadaro and Hodge ²	8–11 and 20
Spadaro and Bellcore ³	13

Paper 8 (“Inst. Dec.”) 20.

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 14; “PO Resp.”), and Petitioner filed a Reply (Paper 19; “Reply”). Patent Owner filed observations on the cross-examination of Petitioner’s declarant (Paper 23), to which Petitioner filed a response (Paper 24).

An oral hearing was held on June 4, 2015.⁴

B. Related Matters

Petitioner represents that the ’167 patent is involved in *Securus Technologies, Inc. v. Global Tel*Link Corp.*, No. 3:13-cv-03009 (N.D. Tex.). Pet. 2; *see also* Paper 5 (Patent Owner’s Mandatory Notice). Petitioner also has requested *inter partes* review of related patents—U.S. Patent No. 8,577,003 B2 (IPR2014-00749), U.S. Patent

¹ U.S. Patent No. 7,505,406 B1, issued Mar. 17, 2009, filed July 13, 2001 (Ex. 1004) (“Spadaro”).

² U.S. Patent No. 7,333,798 B2, issued Feb. 19, 2008, filed Aug. 8, 2002 (Ex. 1005) (“Hodge”).

³ BELLCORE, *Voice Over Packet in Next Generation Networks: An Architectural Framework*, Special Report SR-4717, Issue 1 (Jan. 1999) (Ex. 1006) (“Bellcore”).

⁴ At the joint request of the parties, the oral arguments for this proceeding and IPR2014-00749 were conducted at the same time. Paper 29, 2. A transcript of the oral hearing is included in the record as Paper 31.

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No. 8,340,260 B1 (IPR2014-00824), and U.S. Patent No. 7,529,357 B1 (IPR2014-00825).

C. The '167 Patent

The '167 patent, titled “Centralized Call Processing,” issued March 1, 2011 from an application filed August 15, 2003. The '167 patent describes a centralized architecture for call processing that uses Voice over Internet Protocol (“VoIP”) to carry calls from a location at which calling services are provided to a centralized call processing platform. Ex. 1001, Abstract, 1:38–40, 3:15–17. The call processing platform serves multiple facilities and provides call processing functionality, such as providing call intelligence to determine whether to allow a particular call to be continued, as well as calling party identification, call validation, call routing, and connection to the public switched telephone network (PSTN) or a digital network. *Id.* at Abstract, 9:31–37.

Figure 1 of the '167 patent is set forth below:

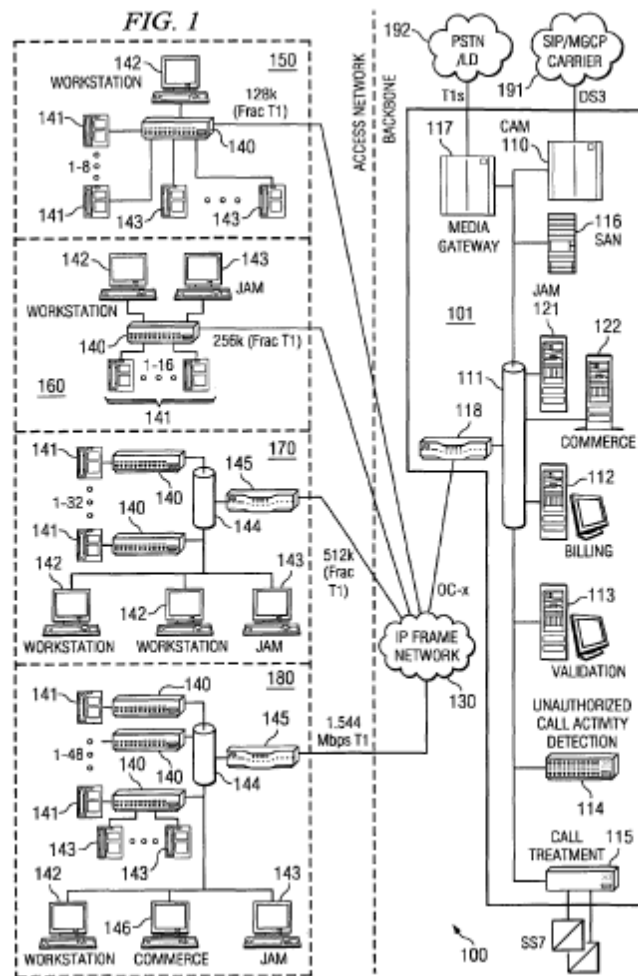


Figure 1 illustrates call processing system 100.

Call processing system 100 includes call processing platform 101, which communicates with facilities 150, 160, 170, 180 through network 130. *Id.* at 5:41–44. Call processing gateways 140, at or near each facility 150, 160, 170, 180, convert analog signals associated with telephone terminals 141 (or visitation telephones 143) to digital data packets sent over network 130. *Id.* at 6:10–15.

Call processing platform 101 includes, among other components, call application management system 110, which controls completing a call

between a party using one of telephone terminals 141 (or visitation telephones 143) and another party using telephone terminal (not shown), over PSTN 192 or digital network 191. *Id.* at 8:9–65. Call processing system 101 also includes unauthorized call activity detection system 114 to detect establishment of an unauthorized three-way call. *Id.* at 9:31–48. Billing system 112, another system of call processing system 101, collects billing information and deducts fees from prepaid accounts. *Id.* at 11:56–67.

D. Illustrative Claims of the '167 Patent

Of the challenged claims in the '167 patent, claims 1 and 17 are independent. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A centralized call processing system for providing call processing services to a plurality of prison facilities, comprising:

a networking device connected via digital data links to call processing gateways at the plurality of prison facilities to collect outgoing Voice over Internet Protocol (VoIP) data packets associated with calls from the plurality of prison facilities and to distribute incoming VoIP data packets associated with the calls to the plurality of prison facilities, the plurality of prison facilities located remotely from the call processing system, each of the plurality of prison facilities including at least one telephone terminal;

an unauthorized call activity detection system co-located with the networking device and connected to the networking device for detecting three-way call activity associated with the calls placed from one or more of the plurality of telephone terminals, the three-way call activity detection not performed at the plurality of the prison facilities;

a call application management system co-located with the networking device and connected to the networking device and the unauthorized call activity detection system for at least processing the outgoing VoIP data packets from the plurality of prison facilities into outgoing call signals and transmitting the outgoing call signals to a first telephone carrier network, the call application management system receiving incoming call signals from the first telephone carrier network and processing the incoming call signals into the incoming VoIP data packets for distribution to the plurality of prison facilities by the networking device; and

a billing system co-located with said call application management system and located remotely from the call processing gateways, the billing system connected to the call application management system for providing accounting of the calls.

Ex. 1001, 18:58–19:27.

II. ANALYSIS

A. *Claim Construction*

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012); *see also In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1278, 1279 (Fed. Cir. 2015) (“Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA,” and “the standard was properly adopted by PTO regulation.”), *reh’g en banc denied*, 793 F.3d 1297 (Fed. Cir. 2015). Under that standard, claim terms are presumed to be given their

ordinary and customary meaning as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). An inventor may provide a meaning for a term that is different from its ordinary meaning by defining the term in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

We construe “call application management system” and discuss the dispute over call processing in accordance with these principles. No other terms require express construction.

Independent claim 1 is directed to a “centralized call processing system” that includes a networking device, an unauthorized call activity detection system, a call application management system, and a billing system. Claim 1 further requires a particular location and particular system connections for the call application management system—the call application management system must be (1) “co-located with the networking device” and (2) “connected to the networking device and the unauthorized call activity detection system.” Claim 1 also recites functions performed by the call application management system—(1) “processing the outgoing VoIP data packets from the plurality of prison facilities into outgoing call signals,” (2) “transmitting the outgoing call signals to a first telephone carrier network,” (3) “receiving incoming call signals from the first telephone carrier network,” and (4) “processing the incoming call signals into the incoming VoIP data packets for distribution to the plurality of prison facilities by the networking device.” Claim 15, which depends from claim 1,

additionally requires the call application management system be further configured “to process and transmit outgoing call signals from the plurality of telephone terminals to a second telephone carrier network, the call application management system selecting either the first telephone carrier network or the second telephone carrier network to transmit the call signals.” Claim 16, which depends from claim 15, further requires that the call application management system establishes connection for the calls over the first telephone carrier network and switches to connection over the second telephone carrier network responsive to detecting a predetermined event.

A central dispute between the parties concerns the broadest reasonable construction, in view of the Specification, of the recited “call application management system.” Patent Owner contends, with support of its declarant Dr. James L. Olivier and extrinsic evidence, the proper construction of “call application management system” is “a system performing call processing for a plurality of prisons.” PO Resp. 15. According to Patent Owner, “call processing” is a term of art in telephony and is understood as “control a call from origination, maintenance of that call, and subsequent release of that call [and] does not include call authorization functionality.” PO Resp. 15.

Patent Owner does not identify an express disclosure of a “call application management system” performing call processing in the way that “call processing” is defined by Patent Owner (i.e., controlling a call from origination, maintenance of that call, and subsequent release of that call, and not including call authorization). *See generally* PO Resp. 15–16. Rather, Patent Owner relies on the ’167 patent’s description of call application

management system 110 as “form[ing] the heart of call processing functionality provided by call processing platform 101,” which, according to Patent Owner’s declarant, would be understood by one of ordinary skill in the art as meaning “that call connection control and switching control is performed at a centralized location.” *Id.* (citing Ex. 1001, 8:9–13; Ex. 2001 ¶ 165).

Petitioner opposes Patent Owner’s proposed construction. Reply 3. According to Petitioner’s declarant Dr. Leonard J. Forys, the location and functions performed by the recited call application management system are defined within the claim, and call application management system should be given its ordinary and customary meaning as would be understood by one of ordinary skill in the art in the context of the entire disclosure, using the understandable language of claim 1. Ex. 1018 ¶¶ 6, 8; *see* Reply 3 (indicating “no need exists to go beyond the easily understandable language of Claim 1”). Further, Petitioner disagrees with Patent Owner’s proposed constructions as impermissibly narrowing claim 1 and being inconsistent with the Specification. Reply 3.

The plain language of the challenged claims support the position taken by Petitioner, as explained by its declarant (Ex. 1018 ¶¶ 6, 8), that an express construction of call application management system is unnecessary. Claim 1 recites the location and connections required by the call application management system—being co-located with the networking device and connected to the networking device and the unauthorized call activity detection system. Claim 1 further requires the networking device to be

connected to call processing gateways at the prison facilities. The plain language of claim 1 recites certain functions performed by the call application management system—processing and transmitting VoIP data packets in particular ways.

In contrast, the plain language of claim 1 does not recite the functions of call processing that Patent Owner contends is required to be performed by the call application management system—controlling a call from origination, maintenance of that call, and subsequent release of that call, and not including call authorization. Further, we note that claim 1 recites a “call *application* management system”—not a call *processing* management system.

Turning to Patent Owner’s proposed construction of call processing, we note that, although the challenged claims recite a “centralized call processing system,” “call processing services,” and “call processing gateways,” none of the challenged claims recite performing “call processing.” Moreover, Patent Owner’s proposed definition of call processing as “control a call from origination, maintenance of that call, and subsequent release of that call [and] does not include call authorization functionality” (PO Resp. 15) is inconsistent with the Specification and is not supported by the prosecution history of the application that issued as the ’167 patent.

The Specification is inconsistent with Patent Owner’s proposed definition of call processing, because Patent Owner’s proposed definition excludes call authorization functionality, which is expressly described by

the '167 patent as an example of call processing functionality. *See* Ex. 1001, 3:18–24 (“call processing functionality, such as . . . call validation”), 19:42–47 (claim 7 indicates call validation involves call authorization—“the validation system connected to said call application management system for *authorizing* connecting of said calls to said first telephone carrier network”) (emphasis added).

The Specification descriptions of call processing functionality also indicate “call processing” is broader than defined by the Patent Owner. For example, the Specification includes additional providing call intelligence as a type of call processing functionality, which is not included in Patent Owner’s proposed definition. Ex. 1001, 9:31–46. The Specification also indicates that other elements recited in claim 1—a billing system and an unauthorized activity detection system—work with a call application management system to provide call processing. *Id.* at 7:49–59.

The Specification indicates an earlier patent application,⁵ which the '167 patent incorporates by reference, as providing “[d]etail with respect to operation in processing providing call processing by a call application manager.”⁶ Ex. 1001, 8:28–32. The earlier patent application is inconsistent

⁵ U.S. Patent Application No. 10/135,878, titled “Information Management and Movement System and Method.” Ex. 1001, 8:28–31; *see also id.* at 1:6–9, 33–34 (indicating the patent application number corresponding to the patent application titled “Information Management and Movement System and Method” and incorporation of that disclosure by reference).

⁶ The '167 patent uses the term “call application management system 110” interchangeably with “call application manager 110.” *Compare* Ex. 1001, 8:34–35, 37 (“call application management system 110”) *with id.* at 8:42–43

with Patent Owner's proposed definition of "call processing." Rather, the earlier application describes⁷ call application manager 221 as providing distance telephony, prepaid and postpaid toll calling services, telephonic commerce, account balance verification and refill, and credit worthiness determination. Ex. 3001, 47 (¶ 27), 52 (¶ 38). The earlier application also depicts call application manager 110 as having modules for detainee calling, word search, and visitation and administration phones. *Id.* at 52 (¶ 38). The earlier application further discloses that "calls placed through communication/transaction services 221" can be analyzed. *Id.* at 56 (¶ 47). Neither Patent Owner nor its declarant Dr. Olivier directly addresses the disclosure of the earlier application.

The prosecution history of the application that issued as the '167 patent also is inconsistent with Patent Owner's proposed definition of "call processing." During examination, the applicant represented that "call processing" included detection of unauthorized calls. Ex. 1002, 299 (Applicant response to November 7, 2008 action, p. 8) (indicating "various call processing activities including detection of unauthorized call[s] may be performed at the call processing platform"). *See Microsoft v. Proxyconn*, 789 F.3d 1292, 1298 (Fed. Cir. 2015) ("The PTO should also consult the

("call application manager 110").

⁷ To be precise, the earlier application describes call application manager 221 as operating substantially as communication/transaction services 221, which, in turn, is described as "provide distance telephony, prepaid and postpaid toll calling services, telephonic commerce, account balance verification and refill, and credit worthiness determination." Ex. 3001, 47 (¶ 27), 52 (¶ 38).

patent's prosecution history in proceedings in which the patent has been brought back to the agency for a second review.”). Applicant's representation does not support Patent Owner's position that “call processing” would have been understood by one of ordinary skill in the art as “control a call from origination, maintenance of that call, and subsequent release of that call [and] does not include call authorization functionality” (PO Resp. 15).

Next, we examine extrinsic evidence and testimony proffered by Patent Owner of how one ordinarily skilled in the art would have understood “call processing.” Specifically, Patent Owner indicates one would have turned to U.S. Patent No. 6,052,454 (Ex. 2004, “Kek”) to understand the meaning of “call processing” as used in the '167 patent and, based on the disclosure of Kek, would have understood “call processing” as defined by Patent Owner. *See, e.g.*, PO Resp. 13–15. Kek is referenced in the “Background of the Invention” section of the '167 patent discussing automated systems for providing call processing functions and is incorporated by reference. Ex. 1001, 1:42–45. According to the '167 patent, Kek, which is titled “Telephone Apparatus With Recording of Phone Conversations on Massive Storage,” teaches call authorization functionality being remote to a prison facility and teaches call processing being provided at the prison facility itself. Ex. 1001, 1:60–67, 2:7–11. Patent Owner's extrinsic evidence provides little probative value because it does not comport with the detailed description of the invention in the '167 patent—either the '167 patent description of call processing functionality or the

earlier patent application's description of a call application manager for the reasons discussed earlier.

Weighing Dr. Oliver's testimony supporting Patent Owner's contentions that call application management system performs call processing—meaning controlling a call from origination, maintenance of that call, and subsequent release of that call, but which does not include call authorization functionality (PO Resp. 16 (citing Ex. 2001 ¶ 165)) against evidence of the written description of the term in the Specification and language of claim 1, we do not agree that call application management system necessarily must control a call from origination, maintenance of that call, and subsequent release of that call. It is within our discretion to assign the appropriate weight to the testimony offered by Dr. Oliver. *See, e.g., Yorkey v. Diab*, 601 F.3d 1279, 1284 (Fed. Cir. 2010) (holding the Board has discretion to give more weight to one item of evidence over another “unless no reasonable trier of fact could have done so”); *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1368 (Fed. Cir. 2004) (“[T]he Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations.”).

First, as discussed above, the Specification and earlier application provide examples of call processing functionality that contradict Dr. Oliver's position and which are not addressed directly by Dr. Olivier. Second, the inconsistency of Dr. Olivier's own testimony regarding the definition of call processing undercuts his position. In his declaration, Dr. Olivier identified

additional functions as part of call processing—including call authorization which Dr. Olivier testifies is not included in call processing. *See* Ex. 2001 ¶¶ 67 (showing Dr. Olivier’s annotation of Figure 2 of the ’167 patent to identify call processing), 69, 70, 73. Third, we are unpersuaded by Dr. Olivier’s reliance on a vague statement of the Specification that the call application management system “forms the heart of call processing functionality provided by call processing platform 101” (PO Resp. 16 (citing Ex. 2001 ¶ 165)). Dr. Olivier testifies that the context of “forms the heart” would be understood by one of ordinary skill in the art as meaning “that call connection control and switching control is performed at a centralized location,” because the Specification describes the call application management system as controlling completing a call between parties (Ex. 2001 ¶ 165).

We are mindful that, according to the Specification, the call application management system “*control[s] completing a call* between” two parties. Ex. 1001, 8:13–19 (emphasis added). Even so, “controlling completing a call” on its face seems more limited than Patent Owner’s position that call application management system is a system performing call processing—“control a call from origination, maintenance of that call, and subsequent release of that call.” We also are mindful that Petitioner’s declarant Dr. Forsys does not agree with Dr. Olivier’s position regarding call processing. Ex. 1018 ¶¶ 7–12.

We also address the preamble of claim 1—“[a] centralized call processing system for providing call processing services to a plurality of

prison facilities”—because it recites a centralized call processing system and call processing services, which may be relevant to our analysis of whether claim 1 requires call processing as defined by the Patent Owner. We view the preamble as a statement of intended use, rather than as providing additional limitations. “In general, a preamble limits the invention if it recites essential structure or steps, or if it is ‘necessary to give life, meaning, and vitality’ to the claim.” *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002). A preamble, however, “generally is not limiting when the claim body describes a structurally complete invention such that deletion of the preamble phrase does not affect the structure or steps of the claimed invention.” *Id.* at 809. One guidepost for determining the effect of a preamble on claim scope is whether the preamble language provides antecedent basis for any limitation in the body of the claim. *Id.* at 808.

The elements of the centralized call processing system recited in the body of claim 1 include a networking device connected via digital data links to call processing gateways at the plurality of prison facilities; an unauthorized call activity detection system co-located with, and connected to, the networking device; a call application management system co-located with, and connected to, the networking device and the unauthorized call activity detection system; and a billing system co-located with the call application management system and located remotely from the call processing gateways. These elements describe a structurally complete invention because the deletion of the preamble does not affect the structure

of the claimed invention. The body of claim 1 recites “the plurality of prison facilities located remotely from *the* call processing system,” which depends on “[a] centralized call processing system” for the antecedent basis of “*the* call processing system” (emphasis added).

Moreover, a preamble describing the purpose or intended use of an invention generally does not limit the claim. *Catalina Mktg.*, 289 F.3d at 809. In reciting “for providing call processing services to a plurality of prison facilities,” claim 1 recites an intended use for the centralized call processing system and so is not limited for this additional reason.

Even if we were to find the preamble limiting, the claim itself does not require call processing as Patent Owner defines call processing—“control a call from origination, maintenance of that call, and subsequent release of that call [and] does not include call authorization functionality,” for the reasons previously discussed. Further, claim 1 expressly requires “processing the outgoing VoIP data packets from the plurality of prison facilities into outgoing call signals,” and so, even if the preamble requires a call processing system, the claim itself recites call processing of VoIP data packets from prison facilities and so recites “providing call processing services to a plurality of prison facilities.”

Therefore, in light of the plain language of the claim, the Specification of the ’167 patent, and according Patent Owner’s evidence and the testimony of Patent Owner’s declarant appropriate weight, we construe “call application management system” to mean a system that is located as required by claim 1—“with the networking device and connected to the

networking device and the unauthorized call activity detection system”—and performs at least the functions recited by claim 1—“processing the outgoing VoIP data packets from the plurality of prison facilities into outgoing call signals and transmitting the outgoing call signals to a first telephone carrier network, the call application management system receiving incoming call signals from the first telephone carrier network and processing the incoming call signals into the incoming VoIP data packets for distribution to the plurality of prison facilities by the networking device.” A “call application management system” is not required to perform call processing as defined by the Patent Owner—“control a call from origination, maintenance of that call, and subsequent release of that call [and] does not include call authorization functionality” (PO Resp. 15).

B. Principles of Law

To prevail in challenging claims 1–21 of the ’167 patent, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). 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 the following: (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 ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

C. Level of Ordinary Skill in the Art

In determining whether an invention would have been obvious at the time it was made, 35 U.S.C. § 103 requires us to determine the level of ordinary skill in the pertinent art at the time of the invention. *Graham v. John Deere*, 383 U.S. at 17. “The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry.” *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention. *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). Factors that may be considered in determining the level of ordinary skill in the art include, but are not limited to, the types of problems encountered in the art, the sophistication of the technology, and educational level of active workers in the field. *Id.* In a given case, one or more factors may predominate. *Id.* Generally, it is easier to establish obviousness under a higher level of ordinary skill in the art. *Innovation Toys, LLC v. MGA Entm’t, Inc.*, 637 F.3d 1314, 1323 (Fed. Cir. 2011) (“A less sophisticated level of skill generally favors a determination of nonobviousness . . . while a higher level of skill favors the reverse.”).

With support of their respective declarants, both Petitioner and Patent Owner agree that, based on the disclosure of the ’167 patent, one of ordinary skill in the art would have a Bachelor of Science degree in electrical

engineering, computer science, or an equivalent field, as well as three to five years of academic or industry experience. Pet. 7–8 (citing Ex. 1017 ¶ 30); PO Resp. 7 (citing Ex. 2001 ¶ 156). Petitioner indicates communications system (or comparable industry experience) is the relevant academic or industry experience (Pet. 8), whereas Patent Owner indicates telephony systems (PO Resp. 7).

The parties propose similar levels of ordinary skill in the art and do not directly challenge the other’s proposal. We consider the level of ordinary skill in the art to be reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). The prior art references, like the ’167 patent, relate to telephone communication systems. *See* Ex. 1001, 1:38–40 (indicating the technical field relates to call processing); Ex. 1004, 1:7–9 (indicating the field of the invention relates to the processing of voice telephone calls); Ex. 1005, 1:7–9 (indicating the field of the invention relates to telephone communication systems); Ex. 1006, 1–3 (indicating the reference provides a framework for support of voice over packet-based networks).

In general, we adopt the areas of agreement in the parties’ proposals. Patent Owner’s proposed academic or industry experience of telephony⁸ systems comports with the level of ordinary skill in the art reflected in the prior art of record, which relate to telephone communication systems.

⁸ MCGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS 2112 (6th ed. 2003) (defining telephony as “[t]he transmission of speech to a distant point by means of electric signals”) (Ex. 3002).

Petitioner has not explained sufficiently why the broader field of communications systems is a more appropriate area of academic or industry experience than telephony systems. Thus, we generally adopt Patent Owner's proposed academic or industry experience in telephony systems.

Therefore, one of ordinary skill in the art would have a Bachelor of Science degree in electrical engineering, computer science, or an equivalent field, as well as at least three years of academic or industry experience in telephony systems.

D. Obviousness over Spadaro

Petitioner contends claims 1–7, 12, 14–19, and 21 are unpatentable under 35 U.S.C. § 103(a) as obvious over Spadaro. To support its contentions, Petitioner provides analysis and claim charts, relying on declaration testimony of Dr. Forsys. Pet. 9–26 (citing Ex. 1017). Patent Owner responds, relying on declaration testimony of Dr. Oliver. PO Resp. 31–60 (citing Ex. 2001). Having considered the parties' contentions and supporting evidence, we determine that Petitioner has demonstrated by a preponderance of evidence that claims 1–7, 12, 14–19, and 21 are unpatentable for obviousness over Spadaro.

As an initial matter, Petitioner represents that Spadaro is prior art under 35 U.S.C. § 102(e) to the challenged claims. Pet. 3. Spadaro is a patent, which issued from an application filed on July 13, 2001—a date prior to the earliest effective filing date claimed by the '167 patent—August 15, 2003. Patent Owner does not dispute that Spadaro is prior art to the challenged claims.

1. Summary of Spadaro

Spadaro that describes monitoring and controlling public telephone usage by inmates at a prison. Ex. 1004, 2:38–42. Telephones are connected to a control computer that establishes a connection to a telephone network, such as a public switched telephone network (“PSTN”). *Id.* at 2:48–57; *see id.* at Fig. 1. The control computer is located at the prison and provides for switching, accessing, routing, timing, billing, and the control of the telephones at the prison. *Id.* at 2:45–49. As a way to control telephone usage, the control computer includes a three-way call detection system. *Id.* at 3:35–42; *see* Fig. 1.

Spadaro describes a multiple site telephone system in Figure 3, which is set forth below:

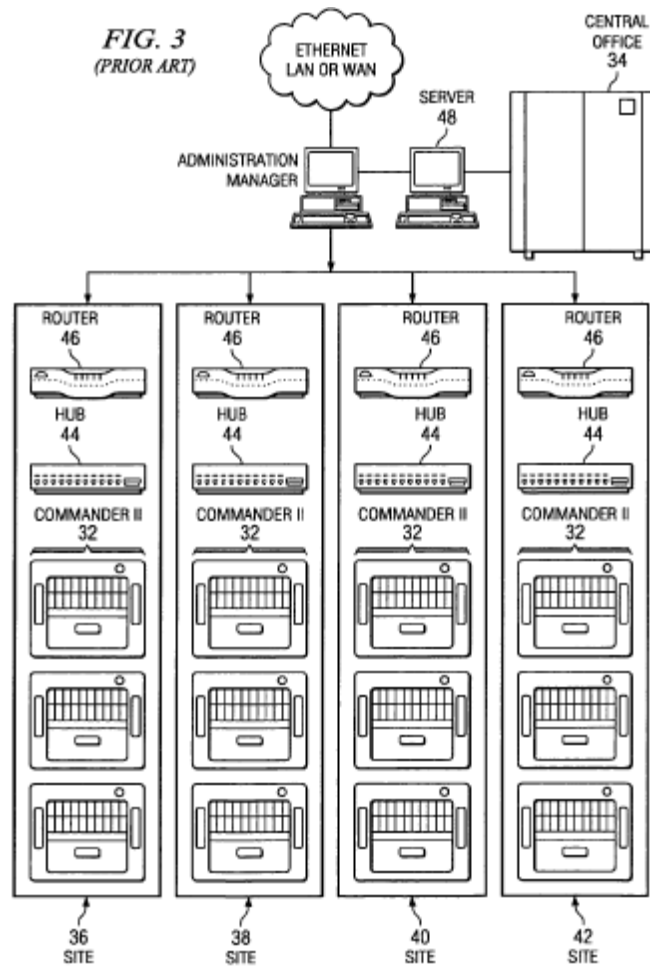


Figure 3 illustrates a multiple site telephone system.

See Ex. 1004, 2:25–26. Figure 3 shows four sites 36, 38, 40, 42, each of which has multiple control computers 32 connected through hubs 44 to router 46. *Id.* at 3:53–55. Each of the sites may be a prison in a state-wide prison system. *Id.* at 3:61–62. Calls from each of the four sites are routed from each site’s router 46 to server 48, which connects the calls to central office 34. *Id.* at 3:55–57. Spadaro describes obtaining lower cost and efficiency by operating the system shown in Figure 3 over Ethernet and Voice over Internet Protocol (“VoIP”) networks. *Id.* at 3:58–62.

Spadaro also describes telephone systems in which control functions, including the billing function, are distributed to a remote location over an Ethernet network (*id.* at 4:4–10; Fig. 4) and over a network that includes both VoIP and data (*id.* at 2:30–31; Fig. 5). Spadaro’s Figure 5 is set forth below:

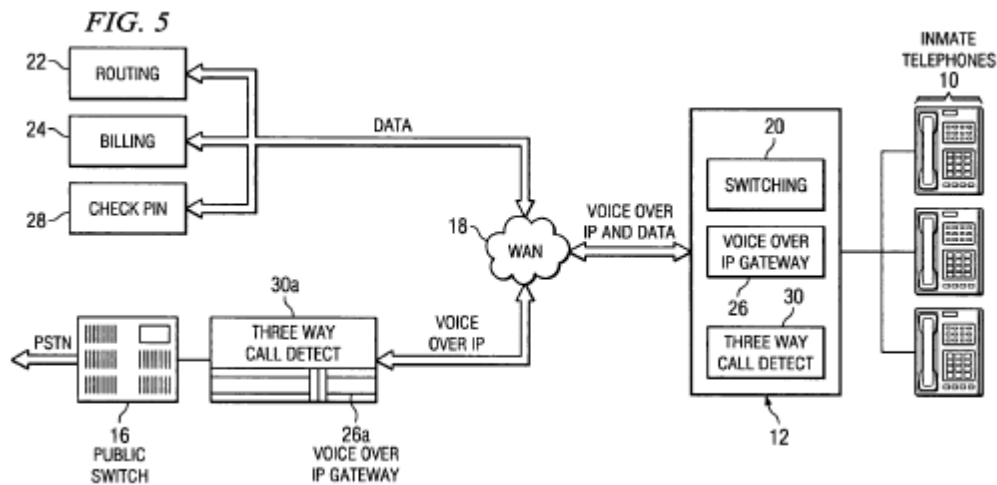


Figure 5 illustrates a telephone system that distributes control functions to a remote location over a VoIP and data network.

Ex. 1004, 2:27–30, 4:4–9, 4:25–27. Figure 5 shows control functions—routing 22, billing 24, and PIN checking 28—distributed to a location remote from the inmate telephones 10. *Id.* at 4:6–10, 4:25. Spadaro explains that an advantage of distributing these functions to a remote location is that “the functions can be centralized with the functions being performed at a central administration location.” *Id.* at 4:10–13.

Also shown in Figure 5 is “three-way call detection 30a [that] is moved from the site, i.e. in the control computer 12 as indicated at 30, to a point beyond the VoIP network.” *Id.* at 4:27–30. Spadaro explains that

VoIP transmission requires voice compression and packetizing, which are detrimental to the ability to perform three-way call detection. *Id.* at 4:30–32. “Therefore, three way call detection is performed at 30a after the telephony signals have been decompressed and depacketized by the VoIP gateway 26a.” *Id.* at 4:32–35.

2. Independent Claim 1

We focus our discussion on independent claim 1, the center of the parties’ dispute. Petitioner and Patent Owner dispute the scope and content of Spadaro and, thus, dispute the differences between the claimed invention and the prior art.

Independent claim 1 is a system claim that requires a networking device, an unauthorized call activity detection system, a call application management system, and a billing system to perform certain recited functions, to be located together, and to be located remotely from call processing gateways, which are located at prison facilities. Claim 1 further requires some devices be located at a prison facility—a telephone terminal and “call processing gateways.”

Petitioner’s Contentions Regarding Claim 1

Petitioner, with support from its declarant, generally contends that combining Spadaro’s “centralized call-processing used to serve multiple prison facilities” (as shown in Figure 3) with Spadaro’s “VoIP technology together with a centralized call processing system” (as shown in Figure 5) would have rendered obvious the subject matter of claim 1. Pet. 11–12;

see also id. at 9–12 (overview of Spadaro), 12–18 (discussing Spadaro with respect to claim 1). According to Petitioner, Spadaro’s three-way call detect system 30a teaches or suggests the recited “unauthorized call activity detection system for detecting three-way call activity associated with calls placed from telephone terminals.” *Id.* at 15. Spadaro’s VoIP Gateway 26a teaches or suggests the recited “call application management system” for processing outgoing VoIP data packets from prison facilities. *Id.* at 15–16 (citing Ex. 1004, 4:49–53). Petitioner relies on Spadaro’s billing function 24 as teaching or suggesting the recited “billing system.” *Id.* at 17–18. Petitioner further contends that, in view of Spadaro’s disclosure that lower cost and efficiency are obtained by operating the system as shown in Figure 3 over VoIP, Spadaro’s server 48 in Figure 3 discloses or suggests the recited “networking device.”

For the reasons explained in more detail below, we determine that Spadaro’s “centralized call-processing used to serve multiple prison facilities” (as shown in Figure 3) with Spadaro’s “VoIP technology together with a centralized call processing system” (as shown in Figure 5), combined as Petitioner proposes, would have conveyed the subject matter of claim 1 as a whole to one of ordinary skill in the art. This is a pertinent question under 35 U.S.C. § 103(a)—whether the claimed subject matter as a whole would have been obvious to one of ordinary skill in the art in view of Spadaro, not merely whether Spadaro discloses the subject matter of each element of claim 1 individually. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981)

(“the test [for obviousness] is what the combined teachings of the references would have suggested to those of ordinary skill in the art”).

Patent Owner’s Contentions Regarding Claim 1

Patent Owner contends that Spadaro does not teach centralization of call processing as defined by Patent Owner and so does not teach many of the limitations of claim 1, such as the recited “call application management system” as construed by Patent Owner. Patent Owner also contends that Spadaro does not teach the recited “networking device,” “three-way call detection system,” and “billing system” are co-located in a centralized location. We address these and other contentions by Patent Owner below.

Centralization of Call Processing

Central to many of Patent Owner’s contentions is that Spadaro does not teach centralization of call processing, but rather teaches distributed call processing located at the prison facilities. *See, e.g.*, PO Resp. 17–19; *see also id.* at 17 (Spadaro “does not teach centralization of call processing”; “Spadaro does not teach co-location of any of the required functions” including “call processing”), 18 (“Spadaro teaches a distributed network architecture, in which call control is performed at each location by a control computer”), 19 (Spadaro’s Figure 6A “illustrates the call processing, switching, and control” at the prison facilities), 23 (the claims of the Spadaro patent “all place call processing functionality at the prisons”), 46 (“Spadaro explicitly shows that call processing must remain at the prison facility”).

For the reasons set forth previously in Section II.A., we disagree that the challenged claims require call processing as defined by Patent Owner to be performed by a centrally located system and, therefore, are not persuaded by Patent Owner's contentions that rely on Patent Owner's definition of call processing.

Patent Owner's Reliance on Extrinsic Evidence

To support various contentions, Patent Owner cites documentation for an example software architecture ("BubbleLINK[®]") and documentation for an example of specific equipment ("Integrator C-2000[®] series," including the "Commander II Inmate Control" phone system), both of which are mentioned in the '167 patent, as evidence of how one of ordinary skill in the art would have understood Spadaro. *See, e.g.*, PO Resp. 22, 25 (citing Science Dynamics Corporation, BubbleLink Software Architecture (2003) (Ex. 2003)), 24 (citing Science Dynamics Corporation, "Inmate Telephone Control Systems" (2001) (Ex. 2005)); *see also* PO Resp. 22–22 (citing Ex. 1004, 4:15–21) (identifying example software architecture and example equipment).

To be clear, none of these documents are asserted in any ground challenging the claims of the '167 patent. Nor does Spadaro incorporate by reference any of these documents. Because Spadaro indicates these merely are examples, we accord some but relatively little weight to these documents. Ex. 1004, 4:15–16 ("such as BubbleLINK[®]"), 4:18–19 ("[s]uch equipment includes the Integrator C-2000[®] series"). Another reason for according relatively little weight to these documents is that Spadaro

expressly indicates the described technology is not limited to implementations covered by these documents. *Id.* at 4:66–52 (“While a particular embodiment of the invention has been shown and described[,] various modifications may be made. The appended claims are, therefore, intended to cover all such modifications within the true spirit and scope of the invention.”).

“Call Application Management System”

Turning to the elements recited in claim 1, we determine that Petitioner has demonstrated by a preponderance of evidence that Spadaro would have conveyed to one of ordinary skill in the art the recited “call application management system.” Claim 1 recites

a call application management system co-located with the networking device and connected to the networking device and the unauthorized call activity detection system for at least processing the outgoing VoIP data packets from the plurality of prison facilities into outgoing call signals and transmitting the outgoing call signals to a first telephone carrier network, the call application management system receiving incoming call signals from the first telephone carrier network and processing the incoming call signals into the incoming VoIP data packets for distribution to the plurality of prison facilities by the networking device.

Ex. 1001, 19:11–22. Regarding the recited “call application management system,” Petitioner relies on VoIP gateway 26a, shown in Figure 5, as being separated from inmate telephones 10 by WAN 18. *See* Pet. 15–16 (citing Ex. 1004, 4:10–13); *see also id.* at 12 (showing Petitioner’s Figure A, which incorporates portions of Spadaro’s Figure 5).

We agree with Petitioner (*id.* at 15–16) that Spadaro’s VoIP Gateway 26a would have conveyed to one of ordinary skill in the art the recited “call application management system” for processing outgoing VoIP data packets from prison facilities. As shown in Figure 5, Spadaro’s VoIP Gateway 26a transmits outgoing calls from the telephone terminals in the prison facility to a telephone carrier network (Spadaro’s public switch 16). Ex. 1004, 4:49–53. As acknowledged by Patent Owner (PO Resp. 35), Spadaro’s VoIP Gateway 26a performs “decompression and depacketization” of telephone signals and distributes the signals to a public switch. Ex. 1004, 4:51–53. As explained by Petitioner’s declarant Dr. Forsy, switches and routers are designed to transmit and receive call signals and, therefore, a person of ordinary skill in the art would have understood that the disclosure of distributing outbound calls or data to a telephone network presumes an analogous ability to handle incoming calls or data from the telephone network carrier. Pet. 17 (citing Ex. 1017 ¶ 76).

We are not persuaded by Patent Owner’s contentions that rely on its overly narrow construction of “call application management system” and which, in turn, rely on Patent Owner’s definition of call processing, which does not comport with the ’167 patent for the reasons discussed previously in Section II.A. For this reason, for example, we are not persuaded by Patent Owner’s contention that calls are routed to one of several possible VoIP egress points and, therefore, Spadaro does not teach a centralized call platform. PO Resp. 28–29 (depicting Dr. Olivier’s figure showing multiple egress points).

“Networking Device”

We determine that Petitioner has demonstrated by a preponderance of evidence that Spadaro would have conveyed to one of ordinary skill in the art the recited “networking device.” Claim 1 recites

[a] centralized call processing system . . . comprising:

a networking device connected via digital data links to call processing gateways at the plurality of prison facilities to collect outgoing Voice over Internet Protocol (VoIP) data packets associated with calls from the plurality of prison facilities and to distribute incoming VoIP data packets associated with the calls to the plurality of prison facilities, the plurality of prison facilities located remotely from the call processing system, each of the plurality of prison facilities including at least one telephone terminal.

Ex. 1001, 18:58–19:3. The networking device recited by claim 1 is located remotely from the prison facilities. Further, the recited networking device performs two functions—“*to collect* outgoing Voice over Internet Protocol (VoIP) data packets associated with calls from the plurality of prison facilities” and “*to distribute* incoming VoIP data packets associated with the calls to the plurality of prison facilities” (emphasis added). These broad functions of collecting and distributing VoIP data packets are the only enumerated functions that claim 1 requires the networking device to perform. For example, it is the recited call application management system—not the networking device—that processes outgoing VoIP data packets into call signals and processes incoming call signals into VoIP data packets.

Turning to the parties' contentions regarding the recited "networking device," Petitioner contends Spadaro's server 48 depicted in Figure 3 would have conveyed to one of ordinary skill the subject matter of the networking device recited in claim 1. Pet. 13–14. Patent Owner disagrees. PO Resp. 36–38.

As previously shown in Figure 3, Spadaro "depicts four sites 36, 38, 40, and 42 each of which has a plurality of Commander™ units connected through hubs 44 to a router 46. The router 46 *routes calls to a server 48* which connects the calls to a central office 34" of a Publicly Switched Telephone Network (PSTN). Ex. 1004, 3:51–57 (emphasis added). Thus, Spadaro's server 48 performs two functions. First, Spadaro's server 48 expressly connects calls from routers 46 located at each site to central office 34—the PSTN. Second, because Spadaro's router 46 routes calls to server 48, Spadaro's server 48 implicitly must receive the calls from router 46 to be able to connect the calls to the PSTN. Accordingly, Spadaro's server 48 *receives* calls made from the sites 36, 38, 40, and 42 and connects those calls to the PSTN.

Spadaro also discloses that "[i]n accordance with the present invention, lower cost and efficiency are obtained by operating systems such as shown in Figs. 2 and 3 over Ethernet and Voice over Internet Protocol networks." Ex. 1004, 3:58–61. Thus, Spadaro expressly indicates that the multiple site telephone system depicted in Figure 3 can be operated using VoIP and further indicates advantages ("lower cost and efficiency") obtained by doing so.

Therefore, we determine that Spadaro’s server 48 would have conveyed to one skilled in the art that it receives VoIP data packets from multiple sites located remotely from the server 48. Accordingly, we agree with Petitioner’s contention, which is supported by Dr. Forys’ testimony, that “VoIP packets are collected by the server 48.” Pet. 14 (citing Ex. 1017 ¶ 65 (relying on Ex. 1004, 3:55–57 to support Spadaro’s disclosure that “call signals between the sites and the central office 34 are collected and distributed by server 48”)); *see also* Ex. 1017 ¶ 68 (“the server 48 is a networking device that collects outgoing VoIP data packets”) (citing Ex. 1004, 3:53–55, 58–61).

We also note that the determination that Spadaro’s server 48 performs the functions recited by the networking device is in accordance with the prosecution history of the application that issued as the ’167 patent. *See Microsoft*, 789 F.3d at 1298 (“The PTO should also consult the patent’s prosecution history in proceedings in which the patent has been brought back to the agency for a second review.”). In rejecting application claim 1⁹

⁹ Application claim 1, similarly to patent claim 1, recited “a networking device connected via digital data links to call processing gateways at the multiple prison facilities to collect outgoing Voice over Internet Protocol (VoIP) data packets associated with calls from the plurality of prison facilities and to distribute incoming VoIP data packets associated with the calls to the plurality of prison facilities, the plurality of prison facilities located remotely from the call processing system, each of the plurality of prison facilities including a plurality of telephone terminals.” Ex. 1002, 117 (Amendment of claim 1 filed May 12, 2009).

as obvious over Spadaro,¹⁰ the examiner relied on Spadaro's server 48 as disclosing or suggesting the recited networking device. Ex. 1002, 159–60 (Office action dated January 6, 2010 citing Spadaro, 3:50–57 for the recited networking device). In response, the applicant argued that “Spadaro does not disclose any networking device for collecting outgoing VoIP data packets or distributing incoming VoIP data packets to a plurality of prison facilities.” Ex. 1002, 125–26. The examiner did not agree and maintained the rejection based on Spadaro. Ex. 1002, 101–02 (Office action dated July 21, 2010 citing Spadaro 3:50–57 for the recited networking device). In response, rather than contesting the examiner's findings, the applicant amended application claim 1 to recite a billing system with certain enumerated characteristics to gain allowance. Ex. 1002, 69 (amending application claim 1), 72 (amending application claim 59), 78 (applicant advocating that the rejection of claim 1 is overcome in view of the billing system amendment to claim 1); *see also* Ex. 1002, 54 (Notice of Allowance issued November 1, 2010). Although the prosecution history does not indicate that Patent Owner acquiesces to the view of the examiner, it does show the examiner held the same view, as discussed herein, that Spadaro

¹⁰ Although Spadaro was before the Office during prosecution, Petitioner's arguments concerning Spadaro are not the same arguments applied by the examiner. For instance, the examiner relied on the Commando™ units in Figure 3 as disclosing or suggesting the recited call application management system, whereas Petitioner relies on VoIP Gateway 26 for disclosing or suggesting the call application management system. *Compare* Pet. 12, 15–16 *with* Ex. 1002, 102–03.

discloses the recited networking device, in view of the disclosure of the '167 patent.

We also agree with Petitioner, with support from its declarant Dr. Forsy, that Spadaro's server 48 performs the corollary function of distributing incoming VoIP data packets to the prison sites. *See also* Pet. 14 (“The centralized server 48 of Spadaro ‘*collect[s] outgoing Voice over Internet Protocol (VoIP) data packets associated with calls from the plurality of prison facilities and . . . distribute[s] incoming VoIP data packets associated with the calls to the plurality of prison facilities*.’”) (citing Ex. 1017 ¶ 33) (emphasis in original).

Neither Patent Owner nor its declarant Dr. Oliver acknowledges Spadaro's server 48 performs the function of receiving VoIP data packets from the multiple sites. Patent Owner has not provided sufficient argument or evidence that using Spadaro's server 48 to receive and distribute VoIP data packets in the Petitioner's proposed combination would have been beyond the level of ordinary skill or would not yield predictable results. We also note the rather high level of ordinary skill in the art, which requires a Bachelor of Science in electrical engineering or computer science as well as at least three years of experience in telephony systems.

Turning to Patent Owner's contentions that Spadaro does not teach the recited networking device, Patent Owner first contends, with support from its declarant Dr. Oliver, that Spadaro's analog server 48 is not needed in a VoIP implementation of Spadaro's invention shown in Figs. 1, 5, 6, and 6B. PO Resp. 37–38. To support its contention, Patent Owner relies on its

conclusion that Spadaro's server 48 is an analog server that "is merely a connection point between analog calls received from the sites and the central office 34." *Id.* at 37. Spadaro's server 48, however, is not limited to analog calls, which undermines Patent Owner's argument. Patent Owner does not address directly Spadaro's express disclosure that the multiple site telephone system depicted in Figure 3, which includes server 48, can be operated using VoIP and Spadaro's indication of the advantages ("lower cost and efficiency") of using VoIP (Ex. 1004, 3:58–61).

Patent Owner also contends that Spadaro's server 48 is not needed in a VoIP implementation because "voice gateway 26a [depicted in Spadaro's Figure 5] distributes the telephone signals to the public switch, obviating server 48." PO Resp. 38. Patent Owner, however, does not address sufficiently Petitioner's proposed combination that does not rely on server 48 for distributing signals to the public switch, but rather relies on server 48 for its other function—receiving calls from the prison sites. *See* Pet. 13–14.

We do not agree with Patent Owner that Spadaro's server 48 would not be used in a VoIP context because server 48 would be redundant in a VoIP context. First, as noted above, Spadaro expressly states Figure 3 can be used in a VoIP context. Spadaro's server 48 might be duplicative if Petitioner's proposed combination relied on server 48 to connect the calls to the PSTN, but that is not the case. Petitioner's combination relies on server 48 to collect and distribute VoIP data packets, not for distributing telephone signals to a public switch.

Second, Patent Owner contends that Petitioner's proposed location of Spadaro's server 48 is incongruent with its actual function, because server 48 only connects analog calls to the central office 34. PO Resp. 36–37. Patent Owner's contention does not acknowledge, much less address sufficiently, Spadaro's express disclosure that the multiple site telephone system depicted in Figure 3, which includes server 48, can be operated using VoIP and indicates advantages obtained by doing so (Ex. 1004, 3:58–61).

Moreover, in Petitioner's proposed combination, Spadaro's server 48 performs the recited functions of the networking device—to collect VoIP data packets associated with calls from prison facilities and to distribute VoIP data packets associated with calls to the prison facilities. Patent Owner does not address sufficiently that function of Spadaro's server 48. Thus, we agree with the location indicated by Dr. Forys, Petitioner's declarant, of Spadaro's server 48 in Petitioner's proposed combination. Pet. 12–14; Ex 1017 ¶¶ 61, 65–67.

Third, Patent Owner contends that Spadaro's server 48 does not perform “intelligent packet routing” to provide different routing of data and voice packets, as Patent Owner contends would be required in the Petitioner's proposed combination. PO Resp. 38. Patent Owner has not persuaded us that such intelligent packet routing would not be an inherent part of any VoIP system, which is disclosed in Spadaro, as discussed above. Additionally, Patent Owner appears to be arguing that Spadaro's server 48 cannot be bodily incorporated into system depicted in Spadaro's Figure 5, which is not required to show obviousness. *See In re Keller*, 642 F.2d at 425

(“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.”). Patent Owner’s contentions do not take into account adequately what the collective teachings of Spadaro would have conveyed to one of ordinary skill in the art. *Id.* (“[T]he test [for obviousness] is what the combined teachings of the references would have suggested to those of ordinary skill in the art.”).

“Prison Facilities” and a “Telephone Terminal”

We determine that Petitioner has demonstrated by a preponderance of evidence that Spadaro would have conveyed to one of ordinary skill in the art the recited “prison facilities” and “telephone terminal” located at each prison facility. Claim 1 recites

[a] centralized call processing system . . . comprising:
the plurality of prison facilities located remotely from the call processing system, each of the plurality of prison facilities including at least one telephone terminal.

Ex. 1001, 18:67–19:3. Claim 1 further requires multiple prison facilities and each prison facilities must include a telephone terminal. Claim 1 further requires that the prison facilities be located remotely from the call processing system.

Petitioner contends that Spadaro’s Figure 3 shows multiple sites being administered at a central location. Pet. 12–13 (citing Ex. 1004, Fig. 3, 3:53–57). Petitioner further contends that Spadaro’s telephones 10 at the prison facilities disclose or suggest the recited telephone terminals. We agree. *See, e.g.*, Ex. 1004, Fig. 3 (showing commander control computers 32 at four

sites 36, 38, 40, 42 and central administration manager, server 48, and central office 34); Fig. 5 (showing inmate telephones 10 connected to a voice over IP gateway); Fig. 2 (showing inmate telephones 10 connected to commander control computers 32).

“Digital Data Links” and “Call Processing Gateways”

We also determine that Petitioner has demonstrated by a preponderance of evidence that Spadaro would have conveyed to one of ordinary skill in the art the recited “digital data links” and “call processing gateways” located at each prison facility. Specifically, claim 1 recites

[a] centralized call processing system . . . comprising:
networking device connected via digital data links to call processing gateways at the plurality of prison facilities to collect outgoing Voice over Internet Protocol (VoIP) data packets associated with calls from the plurality of prison facilities and to distribute incoming VoIP data packets associated with the calls to the plurality of prison facilities.

Ex. 1001, 18:61–19:1.

As noted by Petitioner, Spadaro’s control computers (also called “Commander™ units” after a particular model) are located at each of the sites 36, 38, 40, 42, which may be prison facilities. Pet. 13; *see* Ex. 1004, 3:53–62, 2:41–42. According to Petitioner, Spadaro’s control computers, which each have a VoIP gateway and Ethernet capability, disclose or suggest the recited call processing gateways. Pet. 13–14 (citing Ex. 1004, 4:1–2, 4:4–13). As Petitioner’s declarant testifies, an IP network is a digital network and, thus, includes the recited “digital data links.” Pet. 14 (citing Ex. 1017 ¶ 66).

We agree with Petitioner that Spadaro would have conveyed to one of ordinary skill in the art the recited prison facilities and “call processing gateways at the plurality of prison facilities to collect outgoing Voice over Internet Protocol (VoIP) data packets associated with calls from the plurality of prison facilities and to distribute incoming VoIP data packets associated with the calls to the plurality of prison facilities.”

“Unauthorized Call Activity Detection System” and “Billing System”

We determine that Petitioner has demonstrated by a preponderance of evidence that Spadaro would have conveyed to one of ordinary skill in the art the recited “unauthorized call activity detection system” and “billing system.”

Turning first to the recited “unauthorized call activity detection system,” claim 1 recites

an unauthorized call activity detection system co-located with the networking device and connected to the networking device for detecting three-way call activity associated with the calls placed from one or more of the plurality of telephone terminals, the three-way call activity detection not performed at the plurality of the prison facilities.

Ex. 1001, 19:4–10.

According to Petitioner, Spadaro’s three-way call detect system 30a discloses or suggests the recited “unauthorized call activity detection system . . .for detecting three-way call activity associated with the calls placed . . .from telephone terminals.” Pet. 15. Petitioner indicates Spadaro’s three-way call detect system 30a is “moved from the site . . . to a point

beyond the VoIP network” and “is located remotely [from the] prison telephone system.” *Id.* (citing Ex. 1004, 4:27–30, 6:4–6 (claim 8)). Patent Owner acknowledges that Spadaro performs three-way call detection between the VoIP network and the PSTN connection. PO Resp. 20–22.

Turning to the recited “billing system,” claim 1 recites
a billing system co-located with said call application management system and located remotely from the call processing gateways, the billing system connected to the call application management system for providing accounting of the calls.

Ex. 1001, 19:23–27.

Petitioner relies on Spadaro’s billing function 24 as teaching or suggesting the recited “billing system.” Pet. 17–18. Petitioner also relies on Spadaro’s disclosure that “the billing function 24 [is] distributed to a remote location.” Pet. 14 (citing Ex. 1004, 4:4–13). Petitioner further notes that, during prosecution of the application that issued as the ’167 patent, to distinguish amended claims that recited a billing system, the applicant represented to the examiner that Spadaro “fails to disclose anything about billing.” Pet. 6 (citing Ex. 1002 (Response filed October 18, 2010), 78). The applicant’s statement was incorrect. *See* Ex. 1004, FIGS. 4, 5 (showing BILLING block 24), 2:45–49 (“programmable computer 12 at the site is provided for . . . billing”), 3:28–30 (“FIG. 1 shows that the computer 12 performs the function of . . . billing”), 4:4–8 (indicating billing function 24 is distributed to a remote location).

Spadaro indicates that the distribution of the billing function to remote locations has the advantage that the function can be centralized with

functions being performed at a centralized administration location.
Ex. 1004, 4:4–13; Pet. 18. Spadaro also discloses “various computing and switching means . . . arrange the accounting and billing for the public telephones and calls.” Ex. 1004, 1:24–30. Petitioner’s declarant Dr. Forsys relies on that disclosure as support for his conclusion that the billing disclosed by Spadaro would be understood by one skilled in the art as encompassing accounting of calls. Pet. 18 (citing Ex. 1017 ¶ 81).

“Co-located”

We determine that Petitioner has demonstrated by a preponderance of evidence that Spadaro would have conveyed to one of ordinary skill in the art the required co-location. Claim 1 requires the unauthorized call activity detection system, the call application management system, and the billing system¹¹ be co-located with the networking device.

According to Petitioner, Spadaro’s Figure 3 shows multiple prison sites being administered at a central location. Pet. 12–13. Petitioner also relies on Spadaro’s indication that “the billing function 24 [is] distributed to a remote location.” Pet. 14 (citing Ex. 1004, 4:4–8). As noted by Petitioner (*id.* at 13), Spadaro indicates distributing billing and other functions to a remote location “has the advantage that the functions can be centralized with the functions being performed at a central administration location.” Ex. 1004, 4:10–13. Regarding the recited “unauthorized call activity

¹¹ The recited billing system is required to be co-located with the call application management system, which, in turn, is required to be co-located with the networking device.

detection system,” Petitioner indicates Spadaro’s three-way call detect system 30a is “moved from the site . . . to a point beyond the VoIP network” and “is located remotely [from the] prison telephone system.” Pet. 15 (citing Ex. 1004, 4:27–30, 6:4–6 (claim 8)). Petitioner further indicates that the three way call fraud detection is one of the control functions that may be distributed to remote locations. Regarding the recited “call application management system,” Petitioner relies on the VoIP gateway 26a, shown in Figure 5, as being separated from inmate telephones 10 by WAN 18. *See* Pet. 15–16 (citing Ex. 1004, 4:10–13); *see also* Pet. 12 (showing Petitioner’s Figure A, which incorporates portions of Spadaro’s Figure 5).

Patent Owner contends that Spadaro does not disclose a system, disposed at a central location, that performs call processing, detects unauthorized three-way call activities, and performs billing with respect to a call. PO Resp. 38–43. Many of Patent Owner’s contentions are based on the example software architecture (“BubbleLINK[®]”) and Patent Owner’s overly narrow definition of call processing (*id.*), which we do not find persuasive for the reasons previously discussed. Patent Owner also contends, with support of its declarant Dr. Olivier, that Spadaro’s billing system would not be co-located with the call application management system and the unauthorized call activity detection system because, among other contentions, Spadaro, in Figure 4, separates billing function 24 from the VoIP gateway 26a by a wide area network (“WAN”).

Weighing Dr. Olivier’s testimony supporting Patent Owner’s contention that Spadaro’s billing system would not be located in the same

location as three-way call detect (Ex. 2001 ¶¶ 128, 137, 190–91) against Dr. Forsys testimony that Spadaro teaches billing and three way call detect each can be distributed to a remote location and advantageously centralized (Ex. 1018 ¶ 54), we credit Dr. Forsys’ testimony over that of Dr. Olivier, because Dr. Forsys’ testimony better comports with evidence of Spadaro’s disclosure that control functions—including billing functions 24 and three way call fraud detection—may be distributed to remote locations and the advantages of centralization (Ex. 1004, 4:4–8, 10–13, 22–24). We also discount Dr. Olivier’s testimony based in large measure on documentation regarding the *example* BubbleLINK architecture (Ex. 2001 ¶¶ 128, 137–38, 191). It is within our discretion to assign the appropriate weight to the testimony offered by Dr. Olivier and Dr. Forsys. *See, e.g., Yorkey*, 601 F.3d at 1279 (holding the Board has discretion to give more weight to one item of evidence over another “unless no reasonable trier of fact could have done so”); *Am. Acad. of Sci. Tech Ctr.*, 367 F.3d at 1368 (“[T]he Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations.”).

Thus, we determine Petitioner has established by a preponderance of evidence that Spadaro would have conveyed to one of ordinary skill in the art locating the billing system with the unauthorized call detection system, the call application management system, and the networking device.

Reason to Combine

Having determined that Petitioner’s position that Spadaro would have conveyed to one of ordinary skill in the art all of the limitations in claim 1,

our inquiry continues because “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). “Care must be taken to avoid hindsight reconstruction by using ‘the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.’” *Grain Processing Corp. v. Am.-Maize Prods. Co.*, 840 F.2d 902, 907 (Fed. Cir. 1988) (quoting *Orthopedic Equip. Co. v. United States*, 702 F.2d 1005, 1012 (Fed. Cir. 1983)).

Petitioner asserts the subject matter of claim 1 would have been obvious in view of various disclosures of Spadaro—Spadaro’s “centralized call-processing used to serve multiple prison facilities” (as shown in Figure 3); Spadaro’s “VoIP technology together with a centralized call processing system” (as shown in Figure 5); and Spadaro’s disclosure of the benefits of using VoIP for the system depicted in Figure 3, among others. Patent Owner contends that Petitioner improperly “blend[s] different embodiments of Spadaro,” which amounts to improper hindsight reconstruction. PO Resp. 18. Patent Owner further contends that an ordinarily skilled artisan would not have modified Spadaro in the manner that Petitioner contends to centralize control functions, but rather an ordinarily skilled artisan would have modified Spadaro to distribute control functions. *Id.* at 43–44.

We are not persuaded by Patent Owner. Spadaro itself indicates the reason one of ordinary skill in the art would combine the “centralized call-processing used to serve multiple prison facilities” (as shown in Figure 3) with “VoIP technology together with a centralized call processing system” (as shown in Figure 5)—“because of the lower cost and efficiency” obtained by operating systems such as shown in Figure 3 over a Voice over Internet Protocol network (Ex. 1004, 3:58–65). Although the rote application of the teaching-suggestion-motivation test (or TSM test), requiring an express teaching in the prior art, is inappropriate, “[t]here is no necessary inconsistency between the idea underlying the TSM test and the *Graham* analysis.” *KSR*, 550 U.S. at 419.

Moreover, as noted by the Court in *KSR*, “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR*, 550 U.S. at 416. Spadaro’s server 48 performs a known function—receiving call signals and, in a VoIP context noted by Spadaro, collecting VoIP data packets from multiple sites. Here, in the combination proposed by Petitioner, Spadaro’s server 48 performs one of the functions for which server 48 is used in Spadaro—receiving calls from multiple sites. We also note that electrical arts, such as claimed here, involve predictable factors. *See In re Fisher*, 427 F.2d 833, 839 (CCPA 1970) (indicating patents in the mechanical or electrical arts involve predictable factors). Thus, using server 48 in the proposed combination, used in the same manner as used in Spadaro, yields predictable results. *Cf.* Ex. 1017 ¶ 61 (Petitioner’s declarant Dr. Forays

testifying, in the proposed combination, server 48 connects the centralized location to the inmate facilities). As another factor favoring a finding of obviousness, we again note the rather high level of ordinary skill in the art, which requires a Bachelor of Science in electrical engineering or computer science as well as at least three years of experience in telephony systems. *Innovation Toys*, 637 F.3d at 1314 (“A less sophisticated level of skill generally favors a determination of nonobviousness . . . while a higher level of skill favors the reverse.”).

Patent Owner also contends that Spadaro teaches away from centralizing call processing and transmitting calls to a single egress point. PO Resp. 44–45. To the contrary, according to Patent Owner, Spadaro teaches the advantages of a local access circuit at the prison. *Id.* at 45.

We do not agree that Spadaro teaches away from using server 48 to route VoIP calls. *Id.* at 44 (generally stating that Spadaro teaches away). Rather than criticizing, discrediting, or discouraging the use of VoIP, Spadaro describes the advantages of using the system depicted in Figure 3, including server 48, with VoIP. *See In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004) (To teach away, prior art must “criticize, discredit, or otherwise discourage the solution claimed.”). Moreover, Patent Owner contends that Spadaro teaches away “from centralizing call processing” as Patent Owner defines call processing, with which we do not agree for the reasons discussed in Section II.A.

Therefore, we determine that Petitioner has established by a preponderance of evidence that the subject matter recited in claim 1 as a

whole would have been obvious to one of ordinary skill in the art in view of Spadaro. *See* 35 U.S.C. § 103(a).

3. *Dependent Claims 2–7, 12, and 14–16*

For the reasons that follow, we determine that Petitioner has established, by a preponderance of evidence, that the subject matter of claims 2–7, 12, and 14–16, which depend from independent claim 1, as a whole would have been obvious to one of ordinary skill in the art in view of Spadaro.

In general, Patent Owner’s contentions regarding Spadaro unduly focus on specific, isolated capabilities described in Spadaro without addressing what those capabilities would have suggested to one of ordinary skill in the art at the time of the invention of the ’167 patent. Further, Patent Owner’s contentions in large measure amount to attacks on the individual elements of the dependent claims, without sufficient consideration of what the disclosure of Spadaro would have suggested to one of ordinary skill in the art regarding the claimed subject matter as a whole, which is an approach we find unpersuasive. Indeed, many of Patent Owner’s contentions are more appropriate to a ground of anticipation, which requires a prior art reference to disclose, expressly or inherently, every limitation of the claim as arranged in the claim. *See Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008). Patent Owner’s arguments are not appropriate for a challenge of obviousness, which requires an analysis of whether 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, 35 U.S.C. § 103(a).

Dependent Claims 2 and 3

Claims 2 and 3, each of which depends from independent claim 1, recite further limitations for the call processing gateways. For the reasons that follow, we determine Petitioner has established by a preponderance of evidence the subject matter recited in claims 2 and 3 as a whole would have been obvious to one of ordinary skill in the art in view of Spadaro.

Claim 2 additionally recites the call processing gateways comprise “voice over Internet protocol gateways.” As noted previously, Petitioner indicates Spadaro’s control computer would have conveyed the recited call processing gateway to one of ordinary skill in the art. Petitioner relies on Spadaro’s disclosure that control computer 12 in Figure 1 includes Voice over IP Gateway 26 for conveying to one of ordinary skill in the art the “voice over Internet protocol gateway,” recited in claim 2. Pet. 18 (citing Ex. 1004, FIG. 2, 3:43–50).

Patent Owner contends that, because Spadaro’s control computer provides call processing, one skilled in the art would not have understood Spadaro’s control computer to provide “the simple voice over Internet protocol gateway of claim 2.” PO Resp. 46. We do not agree with Patent Owner’s position because the language of claim 2 recites “call processing gateways comprise [VoIP] gateways,” which does not preclude the call processing gateway from performing additional functions, such as call processing. *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501 (Fed.

Cir. 1997) (“‘Comprising’ is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim.”).

Further, Spadaro expressly discloses a control computer 12 that includes a VoIP gateway. Ex. 1004, FIG. 2, 3:43–50. Moreover, as noted previously, Spadaro indicates the benefits of operating the system shown in Figure 3 (that includes control computers 32) over a VoIP network.

Claim 3 additionally recites the call processing gateways “provide at least one local area network interface for coupling with a computer workstation.” For this feature, Petitioner indicates¹² that Spadaro depicts the control computers 32 connected to the Administrative Manager, which is depicted as a workstation. Pet. 18–19; Reply 17 (citing Ex. 1017 ¶ 87). Patent Owner opposes by noting that relying on control computers 32 to be connected through a local area network to Administrative Manager is inconsistent with Petitioner’s position that the call processing gateways are remote to the call processing system, as shown in Figure 3. PO Resp. 46–47.

First, we disagree with Patent Owner’s position. Petitioner’s combination did not include Spadaro’s Administrative Manager in the centralized system. *See* Pet. 12 (showing Petitioner’s proposed combination of Figures 3 and 5). Moreover, Spadaro expressly shows the control computer connected through “an Ethernet LAN or WAN” to an

¹² We understand Petitioner’s assertion to be based at least in part on Figure 2. Our understanding is confirmed by the Reply.

Administration Manager, depicted as a computer workstation. Ex. 1004, FIG. 2; *see also* Reply 17 (citing Ex. 1004, FIGS. 2, 3).

Dependent Claims 4 and 5

Claims 4 and 5, each depend from claim 1, further require communicating with the telephone carrier network using digital data packets (claim 4) and using analog signals (claim 5). Claim 5 further requires “a media gateway connected to the networking device.”

Petitioner relies on Spadaro’s express disclosure of communicating with carrier networks using digital (claim 4) or analog (claim 5) local access wire circuits. Pet. 19 (citing Ex. 1004, 4:56–61). Patent Owner challenges Petitioner’s position regarding claim 4 on the basis that claim 4 requires “the carrier network used for connecting calls outside of the call application management system uses digital data packets” and that transporting a call to an Inter-Exchange Carrier (IXC) is insufficient. PO Resp. 47–48 (citing Ex. 1001, FIG. 1 (showing SIP carrier 191)). Claim 4 requires that the call application management system “communicate[] with said first telephone carrier network using digital data packets” and does not recite “VoIP” data packets as claim 1 does. Nor does claim 4 limit the telephone carrier network other than implicitly requiring the telephone carrier network to receive transmitted outgoing call signals and provide incoming call signals. Thus, because of the broad language of claim 4, and the express disclosure of Spadaro that local access wire circuits (analog or digital) can be used to a local exchange carrier and the VoIP portion can be used to transport higher cost long distance calls to an IXC, we determine Petitioner has demonstrated

by a preponderance of evidence that the subject matter of claim 4 would have been conveyed to one of ordinary skill in the art by Spadaro.

Petitioner relies on Spadaro's VoIP gateway 26a for the media gateway recited in claim 5. Pet. 19 (citing Ex. 1004, 4:51–53). Spadaro's VoIP gateway 26a "distribute[s] telephone signals," which have been depacketized, "to a public switch." Ex. 1004, 4:51–53. Thus, we determine Petitioner demonstrated by a preponderance of evidence that Spadaro's VoIP gateway 26a would convey to one of ordinary skill in the art the required function of the media gateway to place the outgoing calls on the telephone carrier network using analog signals.

Patent Owner contends that Petitioner's declarant Dr. Forys "concedes the call application management system of his FIG. A includes no further systems, such [as] the claimed media gateway." PO Resp. 48 (citing Ex. 2007 (Forys Dep.), 188:14–189:8). The pertinent question is not whether the call application management system of Dr. Forys' FIG. A includes a media gateway. Rather, the question is whether Spadaro's VoIP 26a would have conveyed to one of ordinary skill in the art the recited media gateway, to which Dr. Forys' has testified. *See* Ex. 1017 ¶ 91 (testifying "the VoIP gateway 26a [media gateway] of the call application management system decompresses and depacketizes the signals from the call processing gateways [control computer 12] to distribute to a public switch") (citing Ex. 1004, 2:53–67, 4:51–53); *see* Pet. 19.

Patent Owner also challenges Petitioner's use of Spadaro's VoIP gateway 26a for teaching both the recited call application management

system and the recited media gateway. We are mindful that claim 5 recites both a call application management system and a media gateway. Like the call application management system, the media gateway is connected to the networking device. The call application management system processes outgoing VoIP data packets into outgoing signals and transmits the outgoing call signals to a telephone carrier network. The media gateway places the outgoing calls on the telephone carrier network using analog signals.

Notably, claim 5 does not recite any limitations regarding how the structure of the recited call application management system relates to the structure of the recited media gateway. In contrast to claim 5, for example, claim 6 (discussed below) does recite a specific structure between the call application management system and another element—“a call recording system connected to said call application management system.” Thus, we conclude that the call application management system and the media gateway need not be wholly separate structures. *Cf. Powell v. Home Depot U.S.A., Inc.*, 663 F.3d 1221, 1231 (Fed. Cir. 2011) (“Nor are we convinced that the claim language ‘in fluid communication’ requires that ‘cutting box’ and ‘dust collection structure’ be wholly separate structures.”); *see also NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1310 (Fed.Cir.2005) (noting that the asserted claim language did not support a limitation requiring that the claimed “RF receiver” and “destination processor” be separate and distinct).

For the foregoing reasons, we determine that Petitioner has demonstrated by a preponderance of evidence that Spadaro would have

conveyed to one of ordinary skill in the art the additional limitations recited in claims 4 and 5.

Dependent Claims 6 and 7

Claims 6 and 7, each of which depend from claim 1, additionally recite a recording system and a validation system, respectively, connected to the call application management system.

Spadaro discloses that control functions “can be centralized with the functions being performed at a central administration location” and one of the control functions is “real time call recording.” Ex. 1004, 4:4–6, 4:10–13, 4:23–24. Petitioner relies on these disclosures of Spadaro. Pet. 19–20. We are persuaded that Petitioner has demonstrated that these disclosures would have conveyed to one of ordinary skill in the art the recording system, recited in claim 6.

In view of Spadaro’s disclosure that “real time call recording” is a control function that can be centralized, we do not agree with Patent Owner’s position that Spadaro discloses only call recording at prisons and only parameters for the recording can be retrieved from a central location. PO Resp. 49.

Nor are we persuaded that claim 6 necessarily requires a call recording system be co-located with the call application management system, as Patent Owner contends. *See* PO Resp. 49 (contending the Petition fails to establish that the subject matter of claim 6 would have been obvious because “the call recording itself” is not centralized). Claim 6 recites “a call recording system *connected to* said call application

management system,” but does not recite that the call recording system is “co-located” with the call application management system or located remotely from call processing gateways, as many other claims recite. *Compare* claim 6 *with* claims 1 and 7. We also note that claim 1 recites “a networking device *connected* via digital data links *to* call processing gateways.” *See In re Self*, 671 F.2d 1344, 1348 (CCPA 1982) (stating that it is well established that limitations not appearing in the claims cannot be relied upon for patentability).

We turn to claim 7, which recites “a validation system co-located with said call application management system and located remotely from the call processing gateways, the validation system connected to said call application management system for authorizing connecting of said calls to said first telephone carrier network.”

Spadaro discloses restrictions on telephone usage based on a PIN number associated with a calling card and that the PIN checking function can be performed at a centralized administration location. Ex. 1004, 3:30–37, 4:4–13. Petitioner, with support from its declarant, relies on these disclosures of Spadaro for teaching the validation system recited in claim 7. Pet. 20.

Patent Owner contends that Spadaro’s control computers authorize and connect calls and that Spadaro’s centralization is only as to an administrative database. PO Resp. 49–50. Thus, Patent Owner concludes the subject matter of claim 7 would not have been obvious to one of ordinary skill in the art.

We note that claim 7 requires that the validation system is connected to the call application management system for authorizing connecting the calls to the telephone carrier network. Claim 7 does not require the validation system itself to connect the call, as Patent Owner seems to contend. *See* PO Resp. 50 (“Dr. Forsys misunderstands that the database is what is distributed—and calls are still connected by the Commander” control computer). *See In re Self*, 671 F.2d at 1348 (stating that it is well established that limitations not appearing in the claims cannot be relied upon for patentability). Also, in view of Spadaro’s disclosure of restrictions on telephone usage based on a PIN number associated with a calling card and that the PIN checking function can be performed at a centralized administration location (Ex. 1004, 3:30–37, 4:4–13), we are not persuaded by Patent Owner that Spadaro discloses only call recording at prisons and only parameters for the recording can be retrieved from a central location. PO Resp. 49.

For the foregoing reasons, we determine that Petitioner has demonstrated by a preponderance of evidence that Spadaro would have conveyed to one of ordinary skill in the art the additional limitations recited in claims 6 and 7.

Dependent Claims 12 and 14

Claims 12 and 14 recite that the telephone carrier network includes a SIP (Session Initiation Protocol) carrier and comprises the PSTN (Public Switched Telephone Network), respectively. Regarding claim 12, as Petitioner notes (Pet. 21), Spadaro discloses a “VoIP portion [that] transports

higher cost long distance calls to an Inter-Exchange Carrier (IXC)” and “control signals could be applied using other protocols such as SIP per Internet RFC 2543.” Ex. 1004. 4:59–61, 3:26–27. Regarding claim 14, Spadaro indicates the telephone signals are decompressed and depacketized by VoIP gateway 26a and distributed to a public switch 16, which (as shown in FIG. 5) has an arrow labeled PSTN. Ex. 1004, 4:51–53, FIG. 5; *see* Pet. 21–22 (citing Ex. 1004, 4:51–53).

Patent Owner contends that Spadaro only teaches providing an analog connection to the carrier network and only teaches a VoIP transport to an Inter-Exchange Carrier. PO Resp. 54. We do not agree with Patent Owner’s position. Rather, we agree with Petitioner that Spadaro’s SIP disclosure would have conveyed to one of ordinary skill in the art that the telephone network carrier includes a SIP protocol and comprises the PSTN, respectively. Patent Owner fails to consider adequately what Spadaro’s disclosures concerning SIP and VoIP would have suggested to those one of ordinary skill in the art. *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012) (“[T]he test for obviousness is what the combined teachings of the references would have suggested to those having ordinary skill in the art.” (citing *In re Keller*, 642 F.2d at 413)).

For the foregoing reasons, we determine that Petitioner has demonstrated by a preponderance of evidence that Spadaro would have conveyed to one of ordinary skill in the art the additional limitations recited in claims 12 and 14.

Dependent Claims 15 and 16

Claim 15, which depends from claim 1, recites “the call application management system is further configured to process and transmit outgoing call signals from the plurality of telephone terminals to a second telephone carrier network” and “the call application management system selecting either the first telephone carrier network or the second telephone carrier network to transmit the call signals.” Claim 16 adds other limitations concerning the call application management system recited in claim 15—the call application management system (i) establishes connection for the calls over the first telephone carrier network and (ii) switches to connection over the second telephone carrier network responsive to detecting a predetermined event.

As noted by Petitioner (Pet. 22), Spadaro teaches “least cost routing” is supported by the control computer. Ex. 1004, 3:19–21. Dr. Forys explains that “‘least cost routing’ is a well-known telecommunication function that chooses the lowest cost path to a destination.” Ex. 1017 ¶ 102 (citing Ex. 1004, 3:19–21); *see* Pet. 22 (citing Ex. 1017 ¶ 102). According to Dr. Forys, Spadaro further explains least cost routing—Spadaro’s “mixed modes” uses local access circuits to transport local calls to a Local Exchange Carrier (LEC) and uses VoIP to transport higher cost long-distance calls to an Inter-Exchange Carrier (IXC). Ex. 1017 ¶ 102 (citing Ex. 1004, 4:56–61); *see* Pet. 22 (citing Ex. 1017 ¶ 102). According to Dr. Forys, Spadaro’s routing function 22 “selects a carrier (LEC vs. IXC) for transporting a call based on the rate for the call (cost).” Ex. 1017 ¶ 102.

Patent Owner's declarant Dr. Olivier disagrees with Dr. Forys' interpretation as inconsistent with Spadaro's configuration and other teachings. Ex. 2001 ¶¶ 209–13, 251; PO Resp. 56 (citing same). In reaching his conclusion, Dr. Olivier, however, focuses on Spadaro's purported lack of call processing (as defined by Patent Owner) at the centralized platform, which reduces the probative value of his testimony for the reasons discussed previously in Section II.A. Ex. 2001 ¶¶ 209–13. Patent Owner, relying on Dr. Oliver's testimony, further challenges Petitioner's position because it relies on the same section of Spadaro as teaching both the selection of a carrier network call and the switching of the call from one carrier network to another carrier network. PO Resp. 57 (citing Ex. 2001 ¶¶ 141–44, 251).

Thus, Patent Owner implicitly construes claim 16 to require switching a particular call from one carrier network to another. Petitioner argues that Patent Owner's reading of the claim is overly narrow and that Spadaro's least cost routing meets the limitations in that calls could be connected to the LEC and when a new long distance call occurs (the recited predetermined event), the system switches to an IXC connection. Reply 25.

The plain language of claim 16 requires establishing a connection for plural calls and "switch[ing] to connection over the second telephone carrier network responsive to detecting a predetermined event." Patent Owner has not identified any portion of the Specification to support its position that a connection for a specific call must be established and then the call switched to a different carrier based on a predetermined event. *See generally* PO

Resp. 56–57; *see also In re Self*, 671 F.2d at 1348 (stating that it is well established that limitations not appearing in the claims cannot be relied upon for patentability).

Based on the plain language of the claim and Spadaro’s disclosure of mixed mode in which local access circuits transport local calls at lower rates while VoIP transports higher cost long distance calls (Ex. 1004, 4:56–61), we determine that Petitioner has demonstrated by a preponderance of evidence that Spadaro would have conveyed to one of ordinary skill in the art the additional limitations recited in claims 15 and 16.

4. Claims 17–19 and 21

Independent claim 17 is a method claim that recites a call processing system that performs certain enumerated functions. Ex. 1001, 20:21–46. The functions performed by the call processing system are substantially similar to the functions performed by the elements recited in the body of independent claim 1. For instance, the call processing system recited in claim 17 collects, distributes, and processes VoIP data packets; processes incoming call signals into incoming VoIP data packets; and detects unauthorized three-way call activity associated with the calls. The call processing system in claim 17 also recites a billing system, as does claim 1. The billing system in claim 17 performs billing operations associated with the calls.

In contending the subject matter of claim 17 would have been obvious to one of ordinary skill in the art, Petitioner relies on substantially the same arguments and disclosures in Spadaro as Petitioner did for claim 1. Pet. 23–

26. Patent Owner maintains that Spadaro does not teach call processing, according to Patent Owner's proposed construction, at the central location performing the functions recited in claim 17. PO Resp. 57–58.

For the reasons indicated previously in Section II.A and with respect to claim 1, we do not agree with Patent Owner that call processing as defined by Patent Owner is required to be performed at the central location. Regarding the billing function recited in claim 17, we agree with Petitioner that Spadaro's disclosure of "billing function 24" would convey to one of ordinary skill in the art a system "performing billing operations associated with the calls," as recited in claim 17. Also, for the reasons indicated previously with respect to claim 1, we determine that Petitioner has established, by a preponderance of evidence, that the subject matter recited in claim 1 as a whole would have been obvious to one of ordinary skill in the art in view of Spadaro. *See* 35 U.S.C. § 103(a).

Claims 18 and 19, each of which depends from claim 17, further recite "coupling said call processing system to the telephone carrier network" either "via an analog interface" (claim 18) or "via a digital interface" (claim 19). As discussed in connection with obviousness of claims 4 and 5, Petitioner has demonstrated by a preponderance of evidence that Spadaro would have conveyed to one of ordinary skill in the art communicating with a telephone carrier network using digital data packets (claim 4) and placing calls on a telephone network carrier using analog signals (claim 5). Petitioner relies on the same disclosures in Spadaro and the same arguments for claims 18 and 19 as Petitioner relies on with connection to claims 4 and

5. *Compare* Pet. 25 (discussing claims 18 and 19) *with* Pet. 19 (discussing claims 4 and 5).

Patent Owner challenges claim 18 based on Patent Owner's construction of call processing, with which we do not agree, and challenges claim 19 on the basis that Spadaro teaches three-way call detection for analog calls, which would not work for a digital connection. As discussed in connection with claim 5, Patent Owner has not provided sufficient argument or credible evidence to support its position. When we balance Spadaro's express disclosure of digital local access wire circuits and VoIP (Ex. 1004, 4:56–61) against Patent Owner's assertions, we determine that a preponderance of evidence supports Petitioner's position that claims 18 and 19 would have been obvious over Spadaro.

Claim 21 depends from independent claim 17 and recites “selecting one telephone carrier network among a plurality of telephone carrier networks connected to the call processing system for processing and transmission of the calls responsive to receiving the calls from the plurality of telephone terminals.”

Petitioner relies on Spadaro's disclosure of mixed mode in which local access circuits transport local calls at lower rates while VoIP transports higher cost long distance calls, which Petitioner also relies on for claim 15 requiring the call application management system to select one of two carrier networks to transmit call signals. Pet. 25 (citing Ex. 1004, 4:56–61); *see id.* at 22 (discussing claim 15). Patent Owner relies on the same arguments made in connection with claim 15.

Similar to our conclusion regarding claim 15, when we balance Spadaro's express disclosure of mixed mode (Ex. 1004, 4:56–61) against Patent Owner's assertions, we determine that a preponderance of evidence supports Petitioner's position that claim 21 would have been obvious over Spadaro.

5. Conclusion of Obviousness over Spadaro

We have resolved the question of obviousness based on factual determinations of (1) the scope and content of Spadaro; (2) differences between the subject matter of claims 1–7, 12, 14–19, and 21 and the teachings of Spadaro; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham*, 383 U.S. at 17–18. Patent Owner has not put forth any evidence of secondary considerations for us to consider.

For the foregoing reasons, we determine that Petitioner has established, by a preponderance of evidence, that the subject matter recited in each of claims 1–7, 12, 14–19, and 21 as a whole would have been obvious to one of ordinary skill in the art in view of Spadaro. *See* 35 U.S.C. § 103(a).

E. Obviousness over Spadaro and Hodge

Petitioner contends claims 8–11 and 20 are unpatentable under 35 U.S.C. § 103(a) as obvious over Spadaro and Hodge, relying on declaration testimony of Dr. Forys. Pet. 26–33 (citing Ex. 1017). Patent Owner responds, relying on declaration testimony of Dr. Oliver. PO Resp.

52–59 (citing Ex. 2001). Having considered the parties’ contentions and supporting evidence, we determine that Petitioner has demonstrated by a preponderance of evidence that claims 8–11 and 20 are unpatentable for obviousness over Spadaro and Hodge.

1. Summary of Hodge

As an initial matter, Petitioner represents Hodge is prior art under 35 U.S.C. § 102(e) to the challenged claims. Pet. 4. Hodge is a patent, which issued from an application filed on August 8, 2002—a date prior to the earliest effective filing date claimed by the ’167 patent—August 15, 2003. Patent Owner does not dispute that Hodge is prior art to the challenged claims.

Hodge describes a secure telephone call management system for use in penal institutions. Ex. 1005, Abstract, 9:48–53. Hodge’s secure telephone call management system includes accounting software capable of limiting access to the system based on funds in a user’s account. *Id.* at Abstract. Among Hodge’s techniques to monitor calls, Hodge describes a live operator using a “shadow workstation” to monitor telephone calls without detection. *Id.* at 20:47–49. If the operator determines a call being monitored is suspicious, the operator may record the telephone call. *Id.* at 20:54–57. Hodge also describes an investigative workstation 125 used to access recorded conversations and used to detect if a third party is present during the telephone call. *Id.* at 21:1–7. Hodge describes a commissary workstation used “to manage and record a user’s financial transactions.” *Id.* at 20:32–34.

Hodge describes a central site server through which “[a]ll inmate and call information is routed.” *Id.* at 19:25, 37–38. According to Hodge, the shadow workstation, the investigative workstation, and the commissary workstation may be connected to a central site server through a local area network or “may be integral within the central site server.” *Id.* at 20:35–36, 20:46–47, 21:13–16. Hodge further describes a WAN configuration in which the site server is connected to multiple devices located in separate institutions, a central database is used for the entire system, and administrative and investigative workstations are located at a central facility to administer all user accounts. *Id.* at 10:41–48 (Summary of Invention).

2. *Claims 8–11 and 20*

To support its contention that claims 8–11 and 20 would have been obvious, Petitioner augments its contentions that the challenged independent claims would have been obvious over Spadaro with assertions based on Hodge’s description of a secure telephone call management system for use in penal institutions. Pet. 26–33.

Claims 8 and 10

Claim 8, which depends from independent claim 1, recites “a justice application management system connected to the networking device for managing inmates at the plurality of prison facilities” and “a commerce system for managing commissary orders placed by the inmates at the plurality of prison facilities.” Petitioner contends Hodge’s shadow workstation teaches or suggests the recited justice application management system for managing inmates and Hodge’s commissary workstation teaches

or suggests a commerce system for managing commissary orders placed by the inmates. Pet. 28–29.

Petitioner further contends, with support of its declarant, that one of ordinary skill in the art would have placed the functions of Hodge’s shadow workstation and commissary workstation at Spadaro’s central administration location. *Id.* at 29 (citing Ex. 1017 ¶ 134). Thus, according to Petitioner, the combination of Spadaro and Hodge would have taught or suggested to one of ordinary skill in the art the recited justice application management system and the recited commerce system for managing commissary orders placed by inmates.

Patent Owner opposes, relying on its declarant testimony that one of ordinary skill in the art would have understood claim 8 to mean “managing inmate cells, medications, and other prison administrative functions.” PO Resp. 52 (citing Ex. 2001 ¶ 273). Notably, Dr. Olivier bases his conclusion on an *example* in the ’167 patent. Ex. 2001 ¶ 272 (quoting “[f]or example, justice application management, which may comprise a back office software product for a jail to facilitate management of the inmates in the facility (e.g., what cells they are assigned to, what medications are to be administered to them, tracking their medical records, tracking their privileges)”). We find this approach unpersuasive because we must be careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993); *see also Superguide Corp. v. DirecTV Enters, Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) (“Though understanding the

claim language may be aided by the explanations contained in the written description, it is important not to import into a claim limitations that are not a part of the claim.”); *In re Self*, 671 F.2d at 1348 (stating that it is well established that limitations not appearing in the claims cannot be relied upon for patentability). Here, the claim language “managing inmates” is broader than the examples in the ’167 patent—inmate assignment to cells, medications to be administered to inmates, tracking their medical records, and tracking their privileges.

Moreover, even if we were to accept Dr. Olivier’s conclusion that an example in the ’167 patent would limit the language of the claim, Dr. Olivier does not address sufficiently why the example in the ’167 patent of “managing inmates” by tracking inmate privileges would not encompass the function of Hodge’s shadow workstation—monitoring inmate telephone calls. Nor does Dr. Olivier address the expansive description in the ’167 patent that a justice application management system “may correspond to any number of information management systems providing data collection and/or sharing among facilities as described herein” (Ex. 1001, 8:4–8).

Weighing Dr. Olivier’s testimony against the Dr. Forys’ testimony, we credit Dr. Forys’ testimony over that of Dr. Olivier, because Dr. Forys’ testimony better comports with the disclosure of the ’167 patent about a justice application management system. We also discount Dr. Olivier’s testimony based on *example* functions of a justice application management system, while not addressing adequately evidence that undercuts Patent Owner’s position. It is within our discretion to assign the appropriate weight

to the testimony offered by Dr. Olivier and Dr. Forys. *See, e.g., Yorkey*, 601 F.3d at 1284; *Am. Acad. of Sci. Tech Ctr.*, 367 F.3d at 1368. Thus, we are not persuaded by Patent Owner’s attempt to construe claim 8 more narrowly than the broad claim language itself—“a justice application management system for managing inmates” at the prison facilities—based on unclaimed, example functions of a justice application management system.

Petitioner also has articulated sufficient reasoning with some rational underpinning to support the legal conclusion that the subject matter of claim 8 would have been obvious to one of ordinary skill in the art in view of Spadaro and Hodge. According to Dr. Forys, because Spadaro describes that that control functions, including advanced call monitoring and real-time call recording, “can be centralized with the functions being performed at a central administrative location,” one of ordinary skill in the art would have placed the functions provided by Hodge’s shadow workstation, investigative workstation, and commissary workstation at Spadaro’s central administrative location. Ex. 1017 ¶ 134 (citing Ex. 1004, 4:10–13); *see also* Ex. 1004, 4:21–24 (indicating control functions include advanced call monitoring, real time call recording, and three-way call fraud detection). We also note the administrative nature of Hodge’s commissary workstation—“to manage and record a user’s financial transactions” (Ex. 1005, 20:32–34) and, as noted by Petitioner (Pet. 27), Spadaro’s disclosure of a centralizing billing functions, among other functions, at a “central administration location” (Ex. 1004, 4:10–13).

Claim 10 depends from claim 8 and additionally recites the “justice application management system further provides investigative information with respect to said calls.” For this additional feature, Petitioner further relies on the capability of Hodge’s shadow workstation to record suspicious calls and flag the called party’s number in the inmate’s profile, which can then be used to provide future monitoring of calls. Pet. 31 (citing Ex. 1005, 20:47–61). Petitioner also relies on the capability of Hodge’s investigative workstation to monitor calls and provide an alert when certain words are spoken. *Id.* (citing Ex. 1005, 20:62–67).

Patent Owner relies on an example in the ’167 patent of intelligence functions provided by the justice application management system to construe claim 10 as requiring the example from the ’167 patent, an approach which we find unpersuasive for the reasons given in connection with claim 8. *See* PO Resp. 53 (indicating, claim 10 requires “investigative analysis of call and money flow data, or analyzing call and commerce transaction velocity” based on the examples provided of investigative information in the ’167 patent); *see also* Ex. 1001, 14:35–38 (describing “intelligence functionality (e.g., investigative analysis of call and money flow data, or analyzing call and commerce transaction velocity)”).

Weighing Patent Owner’s narrow construction of the claim language based on an example in the ’167 patent against Hodge’s descriptions of several capabilities that provide information with respect to inmate calls, we determine Petitioner has shown by a preponderance of evidence that

Hodge's descriptions of workstation capabilities provide investigative information with respect to inmate calls.

Claim 9

Claim 9, which depends directly from claim 7 and indirectly from independent claim 1, recites “a call treatment system co-located with said call application management system and located remotely from the call processing gateways” and “the call treatment system connected to the validation system for communicating with a signaling network of said first telephone carrier network to determine whether a call forwarding feature is activated for call numbers associated with the calls.”

Petitioner relies on Hodge's description, in the Background of the Invention section, that conventional systems prevent an inmate from using call forwarding. Pet. 30 (citing Ex. 1005, 4:60–67). For the recited “call treatment system,” Petitioner relies on Hodge's description of another conventional system's techniques for “detecting tones commonly associated with call bridging and call forwarding attempts,” including various types of signals, such as ring signals and busy signals, which are characteristic of placing a telephone call. *Id.* (citing Ex. 1005, 8:21–28). For support of its position, Petitioner relies on testimony from Dr. Forys. *Id.* (citing Ex. 1017 ¶ 137).

Petitioner further contends, with support of its declarant Dr. Forys, that one of ordinary skill in the art would have placed Hodge's call forwarding detection means at the central administration location of Spadaro. *Id.* According to Petitioner's declarant, Spadaro's centralized

three-way call detection (Ex. 1004 4:10–13, 4:21–24) and Hodge’s call forwarding detection use the same network signaling tones (switch hook flashes). *Id.* (citing Ex. 1017 ¶ 137).

Patent Owner contends that Hodge does not teach the recited “validation system” for the reasons discussed with respect to claim 7. PO Resp. 51–52; Ex. 2001 ¶ 274 (indicating that Hodge fails to disclose the recited validation system). Petitioner, however, does not rely on Hodge for the validation system but relies on Spadaro. Pet. 20, 29–30. Further, for the reasons discussed in connection with claim 7, we determine that Petitioner has established that claim 7 would have been obvious in view of Spadaro.

Patent Owner, relying on its declarant, also contends that Hodge does not disclose signaling that indicates “whether a call forwarding feature is activated for call numbers associated with the call,” as additionally recited in claim 9. PO Resp. 51 (citing Ex. 2001 ¶ 274). Dr. Olivier acknowledges that Hodge indicates another reference “includes a means for detecting tones commonly associated with call bridging and call forward attempts.” Ex. 2001 ¶ 274 (citing Ex. 1005, 8:21–28). Dr. Olivier indicates that “Hodge omits any description of signaling that indicates” the recited feature. *Id.*

Patent Owner’s contentions regarding Hodge unduly focus on specific isolated capabilities described in Hodge without addressing what those capabilities would have suggested to one of ordinary skill in the art at the time of the invention of the ’167 patent. Further, Patent Owner’s contentions in large measure amount to attacks on the individual elements of

claim 9, without sufficient consideration of what the disclosure of Hodge would have suggested to one of ordinary skill in the art regarding the claimed subject matter as a whole, which is an approach we find unpersuasive. *Mouttet*, 686 F.3d at 1332 (“[T]he test for obviousness is what the combined teachings of the references would have suggested to those having ordinary skill in the art.”).

Thus, we credit Dr. Forys testimony that one of ordinary skill in the art would place Hodge’s call forwarding detection means at the central administration location of Spadaro, which supports Dr. Forys’ conclusion that Spadaro and Hodge would have conveyed the subject matter of claim 9 to one of ordinary skill in the art. For the reasons discussed in connection with claim 9 and the reasons discussed later, Petitioner has articulated sufficient reasoning with some rational underpinning to support the legal conclusion that the subject matter of claim 9 would have been obvious to one of ordinary skill in the art in view of Spadaro and Hodge.

Claim 11

Claim 11 depends from independent claim 1 and additionally recites “interactive voice response functionality for providing messaging associated with processing of the calls.” Petitioner relies on Hodge’s description of a pre-recorded menu of restrictions informing an inmate of specific restrictions and different payment options, such as a collect call means or debit account means. Pet. 31–32 (citing Ex. 1005, 11:52–58). Dr. Forys testifies that one of ordinary skill in the art would recognize this discussion as referring to interactive voice response functionality. Ex. 1017 ¶ 141. We

also note Hodge describes, adjacent to the portion cited by Petitioner, that the person called may be first prompted to select a language for future voice prompts, may be informed via voice prompts the identity of the calling party and location where the calling party is located, and may allow the called party to accept or reject the caller through voice responses.

Ex. 1005, 11:60–67. Based on the Dr. Forys’ testimony and Hodge’s description, we are persuaded that Petitioner has established that the combination of Spadaro and Hodge would have conveyed to one of ordinary skill in the art the subject matter additionally recited in claim 11—interactive voice response for providing messaging associated with processing of the calls.

Patent Owner contends that the subject matter of claim 11 would not have been obvious in view of the combination of Spadaro and Hodge, because Spadaro describes call processing being performed local to a prison and Spadaro’s control computer provides an interactive voice response system for collecting data. PO Resp. 53. We are not persuaded because Patent Owner has not considered sufficiently what the combination of Spadaro and Hodge would have conveyed to one of ordinary skill in the art in view of Hodge’s description of interactive voice response capability. *Mouttet*, 686 F.3d at 1332.

Claim 20

Claim 20, which depends from independent claim 17, additionally recites “recording the calls from the plurality of telephone terminals,” similarly to claim 6. Petitioner relies on similar arguments regarding this

feature as advanced with respect to claim 6. *Compare* Pet. 32 (regarding claim 20) *with* Pet. 19–20 (regarding claim 6). For the reasons discussed in connection with claim 6, we are persuaded by Petitioner’s contentions.

Claim 20 further recites “analyzing content of the calls for particular utterances to determine presence of threats in the calls.” For this feature, Petitioner relies on Hodge’s description of monitoring inmate calls and, when certain key words are spoken, starting an audio recorder and sending an alert to authorities that a violation has occurred. Pet. 32–33 (citing Ex. 1005, 20:62–67); Ex. 1017 ¶ 144 (Dr. Forsys’ testimony regarding the same).

Patent Owner acknowledges that Hodge describes analyzing calls for particular utterances but contends that is insufficient because Hodge does not describe doing so for the particular purpose “to determine presence of threats in the calls,” recited in claim 20. PO Resp. 59.

Hodge describes analyzing calls for particular utterances to determine when a violation has occurred and to alert authorities about the violation. Ex. 1005, 20:62–67. Petitioner’s declarant indicates that Hodge’s description supports his conclusion that the combination of Spadaro and Hodge would have conveyed to one of ordinary skill in the art the subject matter of claim 20. Ex. 1017 ¶¶ 142–44.

Weighing Patent Owner’s contentions presented without substantial support from its declarant against Petitioner’s declarant’s testimony concerning Hodge’s description of alerting authorities about a violation, we are persuaded that Petitioner has established by a preponderance of evidence

that Spadaro and Hodge would have conveyed to one of ordinary skill in the art the subject matter of claim 20. Hodge’s description of sending an alert to authorities about a violation when certain key words are spoken in an inmate’s call is similar to the description of the ’167 patent of using word search functionality “to alert investigators of a potential threat associated with a caller’s utterance of words.” Ex. 1001, 10:45–50.¹³ Both Hodge and the ’167 patent describe analyzing content of calls for particular utterances and sending an alert to authorities or investigators based on an analysis of call content. Hodge expressly describes alerting authorities about a violation, whereas the ’167 patent expressly describes alerting investigators about a potential threat. Dr. Forsys at least implicitly indicates that Hodge’s alerting authorities about a violation would have conveyed to one of ordinary skill in the art determining presence of a threat in a call. *See* Ex. 1017 ¶¶ 142–44.

3. Reason to Support Legal Conclusion of Obviousness

Petitioner has articulated sufficient reasoning with some rational underpinning to support the legal conclusion that the subject matter of claims 8–11 and 20 would have been obvious to one of ordinary skill in the art in view of the teachings of Spadaro and Hodge as combined in the manner proposed by Petitioner. *See KSR*, 550 U.S. at 418. For the reasons discussed regarding independent claims 1 and 17, Spadaro would have

¹³ The ’167 patent does not provide further details but rather refers to a different patent application for “[f]urther detail with respect to investigative uses of such word search functionality.” Ex. 1001, 10:50–54.

conveyed to one of ordinary skill in the art the limitations of the independent claims. For the reasons previously discussed, we have determined that Petitioner has established by a preponderance of evidence that the combination of Spadaro and Hodge would have conveyed the features of dependent claims 8–11 and 20.

Petitioner, with support from its declarant, indicates the reason that one of ordinary skill in the art would have combined Spadaro and Hodge was the two references were addressing the same problem—control and management of inmate telecommunications. Pet. 26 (citing Ex. 1017 ¶ 128). *KSR*, 550 U.S. at 420 (“Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.”). Petitioner, also relying on its declarant, contends a one of ordinary skill in the art could have combined the functions of Hodge with the system of Spadaro by known methods and the results of the combination would have been predictable to one of ordinary skill in the art. Pet. 27 (citing Ex. 1017 ¶ 130). As noted previously in connection with independent claims 1 and 17, the electrical arts, such as claimed here, involve predictable factors. *See In re Fisher*, 427 F.2d at 833 (indicating patents in the mechanical or electrical arts involve predictable factors).

*4. Conclusion Regarding Obviousness of
Claims 8–11 and 20 in View of Spadaro and Hodge*

Accordingly, we determine that the subject matter recited in each of claims 8–11 and 20 as a whole would have been obvious to one of ordinary

skill in the art in view of Petitioner's combination Spadaro and Hodge. 35 U.S.C. § 103(a). We have resolved the question of obviousness based on factual determinations of (1) the scope and content of Spadaro and Hodge; (2) differences between the subject matter of claims 8–11 and 20 and the teachings of Spadaro and Hodge; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham*, 383 U.S. at 17–18. Therefore, we determine that Petitioner has shown by a preponderance of the evidence that the subject matter of claims 8–11 and 20 of the '167 patent would have been obvious to a person of ordinary skill in the art in view of the teachings of Spadaro and Hodge.

F. Obviousness over Spadaro and Bellcore

Claim 13 depends from claim 1 and further recites that the “first carrier network comprises a MGCP (Media Gateway Control Protocol) carrier.” Petitioner contends claim 13 is unpatentable for obviousness under 35 U.S.C. § 103 over Spadaro and Bellcore, relying on declaration testimony of Dr. Forys. Pet. 33 (citing Ex. 1017). Patent Owner responds, relying on declaration testimony of Dr. Oliver. PO Resp. 54 (citing Ex. 2001).

Bellcore is a technical reference that describes an architectural framework for voice over packet networks. Ex. 1006. Petitioner represents that Bellcore is prior art under 35 U.S.C. § 102(b) because it was published in January 1999, more than four years prior to the filing date of the application that issued as the '167 patent. Pet. 4. Patent Owner does not dispute that Bellcore is prior art to the challenged claims.

Petitioner acknowledges that Spadaro does not disclose that a VoIP network may use MGCP and relies on Bellcore's disclosure that "MGCP enables external control and management of data communications equipment operating at the edge of emerging multi-service packet networks." Pet. 33 (quoting Ex. 1006, 4–10).

Patent Owner counters that claim 17 is not obvious in view of Spadaro and Bellcore because a MGCP carrier network "would not provide the analog connection that Spadaro teaches is required for high-fidelity three-way call detection." PO Resp. 54 (citing Ex. 2001 ¶ 107). In the cited paragraph of Dr. Olivier's testimony, Dr. Olivier testifies that "[t]o achieve successful three-way call detection, Spadaro emphasizes that his invention requires that the three-way call detection is 'moved beyond the VoIP network so that signal loss or degradation by VoIP does not interfere with three way call detection.'" Ex. 2001 ¶ 107 (citing Ex. 1004, 2:12–15). Dr. Olivier's testimony cited by Patent Owner, however, does not indicate expressly or directly that a MGCP carrier network "would not provide the analog connection that Spadaro teaches is required for high-fidelity three-way call detection" or conclude that claim 13 would not have been obvious in view of Spadaro and Bellcore.

We agree with Petitioner (Pet. 23), who contends that Patent Owner conflates Spadaro's disclosure of performing three-way call detection in an analog context with the selection of the type of network carrier— analog or VoIP. Further, as Petitioner correctly indicates (Reply 23), Spadaro

discloses both analog and VoIP transport to the carrier (Ex. 1004, 4:56–61), which further undercuts Patent Owner’s position.

We also determine that Petitioner has articulated sufficient reasoning with some rational underpinning to support the legal conclusion that the subject matter of claim 13 would have been obvious to one of ordinary skill in the art in view of the teachings of Spadaro and Bellcore as combined in the manner proposed by Petitioner. *See KSR*, 550 U.S. at 418; Pet. 33 (citing Ex. 1017 ¶ 147) (indicating Bellcore describes implementation details for VoIP networks described by Spadaro).

Accordingly, we determine that the subject matter recited in claim 13 as a whole would have been obvious to one of ordinary skill in the art in view of Petitioner’s combination Spadaro and Hodge. 35 U.S.C. § 103(a). We have resolved the question of obviousness based on factual determinations of (1) the scope and content of Spadaro and Bellcore; (2) differences between the subject matter of claim 13 the teachings of Spadaro and Bellcore; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham*, 383 U.S. at 17–18. Therefore, we determine that Petitioner has shown by a preponderance of the evidence that the subject matter of claim 13 of the ’167 patent would have been obvious to a person of ordinary skill in the art in view of the teachings of Spadaro and Bellcore.

III. CONCLUSION

Petitioner has proven by a preponderance of the evidence that claims 1–7, 12, 14–19, and 21 of the '167 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over Spadaro, claims 8–11 and 20 are unpatentable as obvious over Spadaro and Hodge, and claim 13 is unpatentable as obvious over Spadaro and Bellcore.

IV. ORDER

Accordingly, it is hereby

ORDERED that, based on a preponderance of the evidence, claims 1–21 of U.S. Patent No. 7,899,167 B1 are held unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, the parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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Patent 7,899,167 B1

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