

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Unified Patents Inc.,
Petitioner,

v.

Barkan Wireless IP Holdings, L.P.,
Patent Owner.

Case IPR2018-01186
Patent 8,014,284

PATENT OWNER'S NOTICE OF APPEAL

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Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Pursuant to 28 U.S.C. § 1295(a)(4)(A), 35 U.S.C. §§ 141(c), 142, and 319, 37 C.F.R. §§ 90.2(a) and 90.3, and Rule 4(a) of the Federal Rules of Appellate Procedure, Patent Owner Barkan Wireless IP Holdings, L.P. (“Barkan”) hereby appeals to the United States Court of Appeals for the Federal Circuit from the Final Written Decision (Paper 56) entered on December 4, 2019 (attached hereto as Exhibit A), and from all underlying orders, decisions, rulings, and opinions that are adverse to Barkan related thereto and included therein.

In particular, Barkan identifies the following issues on appeal: whether Petitioner satisfied the requirements of 35 U.S.C. § 312(a)(2) and 37 C.F.R. § 42.8(b)(1) by identifying all real parties in interest; whether the Board properly instituted *inter partes* review, properly continued *inter partes* review without dismissing or terminating the *inter partes* review, and properly issued a final written decision when the Petitioner failed to identify all real parties in interest; whether the Board is properly appointed under the Appointments Clause and remedies for unconstitutional appointments of the Board; the determination that Claims 1-3, 9, 10, 16, and 18 of U.S. Patent No. 8,014,284 are unpatentable under 35 U.S.C. § 102(e); the determination that Claims 5-8, 12-14, and 17 of U.S. Patent No. 8,014,284 are unpatentable under 35 U.S.C. § 103(a); any finding or determination supporting or relating to these issues; and all other procedural and substantive issues decided adversely to Barkan in any order, decision, ruling, or opinion by the Board in IPR2018-01186.

Barkan is concurrently providing true and correct copies of this Notice of Appeal, along with the required fees, to the Director of the United States Patent and

Trademark Office and the Clerk of the United States Court of Appeals for the Federal
Circuit.

Dated: January 31, 2020

Respectfully submitted,
/Michael F. Heim/
Michael F. Heim (Reg. No. 32,702)
mheim@hpcllp.com
Heim, Payne & Chorush LLP
1111 Bagby Suite 2100
Houston, TX 77002
713.221.2000

Attorney for Patent Owner
Barkan Wireless IP Holdings, L.P.

CERTIFICATE OF SERVICE

The undersigned certifies that pursuant to 37 C.F.R. § 42.6(e), a copy of the foregoing NOTICE OF APPEAL was served via email to lead and backup counsel of record for Petitioner as follows:

David M. O'Dell (Reg. No. 42,044) - david.odell.ipr@haynesboone.com
Thomas W. Kelton (Reg. No. 54,214) - thomas.kelton.ipr@haynesboone.com
David L. McCombs (Reg. No. 32,271) - david.mccombs.ipr@haynesboone.com
Raghav Bajaj (Reg. No. 66,630) - raghav.bajaj.ipr@haynesboone.com
Haynes and Boone, LLP
2323 Victory Ave. Suite 700
Dallas, TX 75219
Tel: 972-739-8635
Fax: 214-200-0853

Roshan Mansinghani (Reg. No. 62,429) - roshan@unifiedpatents.com
Jonathan Stroud (Reg. No. 72,518) - jonathan@unifiedpatents.com
Unified Patents Inc.
1875 Connecticut Ave NW, Floor 10
Washington, DC 20009
Tel: 214-945-0200

The undersigned further certifies that a copy of the foregoing NOTICE OF APPEAL was filed electronically with the Clerk's Office of the United States Court of Appeals for the Federal Circuit.

The undersigned further certifies that a copy of the foregoing NOTICE OF APPEAL was filed with the Director of the United States Patent and Trademark Office by hand delivery to the following address: Office of the General Counsel, 10B20, Madison Building East, 600 Dulany Street, Alexandria, Virginia.

IPR2018-01186
U.S. Pat. No. 8,014,284

Dated: January 31, 2020

By: /Michael F. Heim/
Michael F. Heim (Reg. No. 32,702)
Attorney for Patent Owner
Barkan Wireless IP Holdings, L.P.

Exhibit A

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNIFIED PATENTS INC.,
Petitioner,

v.

BARKAN WIRELESS IP HOLDINGS, L.P.,
Patent Owner.

IPR2018-01186
Patent No. 8,014,284 B2

Before MEREDITH C. PETRAVICK, WILLIAM V. SAINDON, and
NATHAN A. ENGELS, *Administrative Patent Judges*.

ENGELS, *Administrative Patent Judge*.

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

I. INTRODUCTION

Unified Patents Inc. (“Petitioner”) filed a Petition under 35 U.S.C. § 311 requesting *inter partes* review of claims 1–21 of U.S. Patent No. 8,014,284 B2 (Ex. 1001, “the ’284 patent”). Paper 1 (“Pet.”). Barkan Wireless IP Holdings, L.P. (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). To address the real-party-in-interest (“RPI”) issue, Petitioner filed a Reply to Patent Owner’s Preliminary Response (Paper 8), and Patent Owner filed a Sur-Reply to Petitioner’s Reply (Paper 16). We issued a Decision Instituting *Inter Partes* Review on December 7, 2018. Paper 24 (“Institution Decision”).

After institution, Patent Owner filed a Response (Paper 32) (“PO Resp.”), Petitioner filed a Reply to Patent Owner’s Response (Paper 37) (“Pet. Reply”), and Patent Owner filed a Sur-Reply (Paper 40) (“PO Sur-Reply”). Patent Owner also filed a Motion to Exclude Evidence (Paper 43), Petitioner filed an Opposition to Patent Owner’s Motion to Exclude (Paper 46), and Patent Owner filed a Reply in Support of Motion to Exclude Evidence (Paper 48). Oral arguments were held in a hearing on September 4, 2019 and a transcript of the public portion of the hearing has been entered into the record (Paper 54) along with a separate transcript of the closed portion of the hearing filed under seal (Paper 55).

We have jurisdiction under 35 U.S.C. § 318(a). Having considered the evidence and arguments of record, for the reasons explained below, we determine that Petitioner has established by a preponderance of the evidence that claims 1–3, 5–10, 12–18, and 20 of the ’284 patent are unpatentable.

II. BACKGROUND

A. Real Party-in-Interest

Among other requirements, a petition for *inter partes* review may be considered only if “the petition identifies all real parties in interest.” 35 U.S.C. § 312(a)(2); *accord* 37 C.F.R. § 42.8(b)(1) (requiring petitioners to “[i]dentify each real party-in-interest for the party” as part of a petitioner’s mandatory notices). That requirement is not jurisdictional; “if a petition fails to identify all real parties in interest under § 312(a)(2), the Director can, and does, allow the petitioner to add a real party in interest.” *Wi-Fi One, LLC v. Broadcom Corp.*, 878 F.3d 1364, 1374 n.9 (Fed. Cir. 2018) (en banc); *accord Proppant Express Investments, LLC v. Oren Techs., LLC*, IPR2017-01917, Paper 86 at 7–8 (PTAB Feb. 13, 2019) (precedential).

Requiring petitioners to identify all RPIs serves to assist members of the Board in identifying potential conflicts and to assure proper application of the statutory estoppel provisions. Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,759 (Aug. 14, 2012) (“Trial Practice Guide”); *accord Bowtech, Inc. v. MCP IP, LLC*, IPR2019-00379, Paper 14 at 22 (PTAB July 3, 2009) (Decision Instituting *Inter Partes* Review). The petitioner bears the burden of persuasion to show that it accurately names all RPIs. *Applications in Internet Time, LLC v. RPX Corp.*, 897 F.3d 1336, 1343 (Fed. Cir. 2018) (“*AIT*”).

Petitioner states “[p]ursuant to 37 C.F.R. § 42.8(b)(1), Unified Patents Inc. . . . certifies that [it] is the real party-in-interest, and further certifies that no other party exercised control or could exercise control over Unified’s participation in this proceeding, the filing of this petition, or the conduct of any ensuing trial.” Pet. 1. Patent Owner contends that Petitioner has failed

to identify all real parties-in-interest under § 312(a)(2), arguing that Samsung and Verizon should have been named as RPIs. PO Resp. 10–20; PO Sur-Reply 1–10; *accord* Prelim. Resp. 41–55.

There is no bright-line test for determining whether a party is a real party in interest. Trial Practice Guide at 48,759. Whether an entity that is not named as a participant in a given proceeding constitutes a “real party in interest” is a highly fact-dependent question that takes into account how courts generally have used that term to “describe relationships and considerations sufficient to justify applying conventional principles of estoppel and preclusion.” Trial Practice Guide at 48,759. The Federal Circuit explained in *AIT* that the Board should consider an “expansive formulation” of the RPI test and should focus on:

determining whether the non-party is a clear beneficiary that has a preexisting, established relationship with the petitioner. Indeed, . . . the two questions lying at its heart are whether a non-party “desires review of the patent” and whether a petition has been filed at a nonparty’s “behest.”

AIT, 897 F.3d at 1351 (quoting Trial Practice Guide, 77 Fed. Reg. at 48,759). In assessing a petitioner’s alleged failure to identify an RPI, “[t]he point is . . . to probe the extent to which [the non-party] has an interest in and will benefit from [the petitioner’s] actions, and inquire whether [the petitioner] can be said to be representing that interest after examining its relationship with [the non-party].” *AIT*, 897 F.3d at 1353; *see also AIT*, 897 F.3d at 1347–1348 (listing various ways parties can be a real party in interest).

There are “multiple factors relevant to the question of whether a non-party may be recognized as” an RPI. Trial Practice Guide at 48,759 (citing *Taylor v. Sturgell*, 553 U.S. 880, 893–895, 893 n.6 (2008)). Considerations

may include, for example, whether a non-party exercises control over a petitioner's participation in a proceeding, or whether a non-party is funding or directing the proceeding. Trial Practice Guide at 48,759–60. Further relevant factors in the RPI analysis include, but are not limited to, "Party A's relationship with the petitioner; Party A's relationship to the petition itself, including the nature and/or degree of involvement in the filing; and the nature of the entity filing the petition." *Id.* at 48,760.

Evidence of record shows that Petitioner had a contractual relationship with [REDACTED]

[REDACTED] Ex. 2009 (filed under seal); Ex. 2014 (filed under seal). The record also shows that, at the time the Petition was filed, Samsung and Verizon were accused of infringing the '284 patent (Pet. 1; Prelim. Resp. 41), although Patent Owner's claims against Samsung and Verizon were subsequently settled (Pet. Reply 23; PO Sur-Reply 5; Ex. 1027).

Looking to the "nature of the entity filing the petition," Petitioner Unified Patents, Inc. states that it specializes in deterring non-practicing entity ("NPE") patent litigation. Ex. 1022 ¶ 3; *see also* Ex. 2014 (listing Unified's services in a proposal letter). The record shows that Petitioner executes membership agreements with its member and collects annual subscription fees based on a member's annual gross revenue, with the fees waived for any member with gross revenues below a certain threshold and fees progressively increasing for any member with gross revenues above the threshold. Ex. 1018, 14; Ex. 1019, 15; *see also* Ex. 1022 ¶ 5 ("[m]any members pay no fee"). According to the Declaration of Kevin Jakel,

Petitioner's Chief Executive Officer, Petitioner categorizes different technologies into specific technology zones, and companies can subscribe to one or more technology zones. Ex. 1022 ¶¶ 5, 6. The Jakel Declaration states that member fees are kept within a member's chosen technology zone(s) and that Petitioner has full discretion to allocate member fees within a technology zone. Ex. 1022 ¶ 3.

The Jakel Declaration states that [REDACTED]

[REDACTED]

[REDACTED]

Ex. 1022 ¶¶ 12, 17. The Jakel Declaration states that Petitioner chooses which patents to target based upon its own perceived deterrent value to a particular technology zone. Ex. 1022 ¶ 3. The Declaration states that Petitioner is not a law firm and does not have an attorney-client relationship with any of its members. Ex. 1022 ¶ 4 (stating that Unified is not an extension of any member's in-house legal team). The Declaration states that Unified never communicates with any companies regarding IPR or litigation strategy. Ex. 1022 ¶¶ 9, 11. The Jakel Declaration also states that Petitioner and its members do not share any individuals on their respective boards of directors and that Petitioner does not have corporate relationships with its members beyond its membership agreements. Ex. 1022 ¶ 7.

According to Patent Owner, based on these and other facts in evidence, "Petitioner engages in willful blindness to its members' wishes by filing IPRs that avoid conferring estoppel effects on its members, just like [the petitioner in *AIT*,] RPX." PO Sur-Reply 6. Patent Owner states that [REDACTED] of Petitioner's budget is dedicated to filing *inter partes* review proceedings. PO Resp. 15. Further, Patent Owner contends that although

Petitioner includes more than 200 member companies, about one tenth of its IPR docket relates to patents asserted against [REDACTED] and almost one tenth relates to patents asserted against [REDACTED] PO Resp. 16. According to Patent Owner, although Petitioner contends that it alone determines which patents to challenge in IPR proceedings without input from its members, Petitioner has not identified any patents that it has challenged that were not asserted against its members. PO Resp. 17.

Patent Owner also contends that Petitioner's history of settlements in IPR proceedings indicates that Petitioner's members exert control over Petitioner's IPR proceedings. PO Resp. 18. According to Patent Owner, significant numbers of Petitioner's IPR proceedings have settled within weeks of settlements in related infringement litigation. PO Resp. 18–19; PO Sur-Reply 8–11.

Patent Owner argues that because Samsung and Verizon had been accused of infringing the '284 patent in district court, Samsung and Verizon are therefore the primary (or sole) beneficiaries of this challenge to the '284 patent's claims. PO Resp. 2, 9. In total, Patent Owner argues [REDACTED] [REDACTED] to challenge patents asserted against them in litigation, as Petitioner has done here. PO Resp. 2, 9.

Unlike the facts of *AIT* and similar cases in which a party alleged to be an unnamed RPI was statutorily barred from filing its own petition, Verizon and Samsung were not subject to a statutory bar. *AIT*, 897 F.3d at 1353 (“Given that . . . any IPR petitions Salesforce might have wanted to file would have been time-barred, this evidence at least suggests that RPX may have filed the three IPR petitions, in part, to benefit Salesforce.”), 1355

(“[T]he evidence submitted indicates the company’s understanding that the very challenges to validity included in the IPR petitions were challenges Salesforce would like to have made if not time-barred from doing so.”), 1356 (no evidence contradicts “AIT’s theory that RPX filed IPR petitions challenging the two patents asserted in the *Salesforce* action to benefit Salesforce, where Salesforce itself was time-barred from filing petitions”). In fact, Verizon and Samsung filed their own petitions challenging the ’284 patent. IPR2018-01659, Paper 2; IPR2019-00100, Paper 1. Although Verizon’s and Samsung’s petitions indicate that the companies desired to have the ’284 patent reviewed, the companies’ filings also suggest to at least some degree that Verizon and Samsung did not direct or control the Petition filed in this proceeding or otherwise perceive it to be their own or filed at their behest. Further, Verizon’s and Samsung’s decisions to file petitions evidences that the companies were not motivated to avoid the estoppel associated with filing an IPR. These facts weighing significantly in favor of Petitioner’s position that Verizon and Samsung are not unnamed RPIs in this proceeding.

In addition, Patent Owner does not allege that it is prejudiced by Petitioner’s contention that Samsung and Verizon are not RPIs, and we find no evidence of gamesmanship in Petitioner’s identification of itself as the sole RPI, particularly given that Samsung and Verizon’s filings indicate their willingness to accept the statutory estoppel provisions associated with IPR proceedings. *See Proppant*, IPR2017-01917, Paper 86 at 16 (allowing identification of additional real parties in interest after institution “in the interest of justice” “furthers the purpose of 35 U.S.C. § 312(a)(2) and avoids significant prejudice to Petitioner (i.e., dismissal of its Petition), without

undue prejudice to Patent Owner”). Notably, Patent Owner acknowledges that Petitioner could have amend its disclosures to add RPIs if necessary, but Patent Owner contends that Petitioner does not [REDACTED]

[REDACTED] PO
Sur-Reply 6. We do not speculate regarding whether or how naming Samsung and Verizon might affect Petitioner’s business model, but we note that under the present circumstances, Petitioner’s identification of itself as the sole RPI did not deprive the Board of its ability to avoid potential conflicts nor has it allowed Samsung and Verizon to avoid statutory estoppel provisions. *See Bowtech*, IPR2019-00379, Paper 14 at 22 (identifying avoidance of potential conflicts and proper application of statutory estoppel provisions as reasons for requiring identification of all RPIs).

Even considering Petitioner’s business model as characterized by Patent Owner—collecting money from members and filing IPRs against patents asserted against the members—no court has determined that model to be improper. Notably, the Federal Circuit remanded the *AIT* case without determining that an unnamed party (Salesforce) should have been identified as an RPI after evaluating the following facts,¹ among others:

¹ We recognize that the court in *AIT* did not find that the unnamed party was an RPI; the court remanded to the Board to re-review the evidence of record in light of the proper legal analysis. *AIT* at 1358 (vacating the Board’s decision and remanding to “consider[] the full range of relationships under § 315(b) and the common law that could make [the unnamed party] a real party in interest with respect to this IPR”). The issue of whether the unnamed party in *AIT* is an RPI has not been resolved. Thus, any contrast we draw here with *AIT* is merely to show similarities or dissimilarities to the facts analyzed in that decision; we do not use the unnamed party in *AIT* as a yardstick to measure what is an RPI.

1. Testimony regarding “six communications between RPX and Salesforce employees in which the AIT-Salesforce Litigation and/or the AIT Patents were mentioned or discussed.”

2. The first of those communications was initiated by RPX, during which RPX “mentioned that RPX had become aware that Salesforce had been sued by AIT”; “provided a small amount of information” that RPX knew about the litigation; indicated that, although RPX did not have knowledge of AIT’s expectations for its litigation campaign, it had previous dialogue on other matters with the same counsel who was representing AIT in the litigation; and offered to reach out to that counsel.

3. The following month, after Salesforce “had just renewed its membership agreement with RPX,” an in-person meeting was held during which Salesforce “indicated that it would be interested if RPX could reach out to AIT and find out any information regarding AIT’s expectations for its litigation campaign.”

4. During a phone call, Salesforce “again indicated that it would be interested in any information RPX could obtain concerning AIT’s expectations for its litigation campaign.” Shortly after this communication, Salesforce filed its CBM petitions.

5. RPX initiated a call to Salesforce approximately two weeks later, during which Salesforce informed RPX that it had filed the CBM petitions, that a stay would therefore be granted in the district court litigation, and that Salesforce no longer was interested in having RPX reach out to AIT to obtain information about AIT’s expectations for that litigation.

AIT, 897 F.3d at 1342.

Here, in contrast, there is no evidence of record of any communications between Petitioner and Samsung and Verizon regarding the filing of this Petition. Nor is there any evidence of other factors considered by the Federal Circuit in *AIT*, such as evidence of a “very significant payment shortly before” the petition was filed, *AIT*, 897 F.3d at 1342, or evidence that the petitioner had held itself out as an “extension of a client’s in-house legal team,” *AIT*, 897 F.3d at 1357. Nor is there any evidence here of any overlapping members of boards of director members between Petitioner and Samsung and Verizon. *AIT*, 897 F.3d at 1354. And in *AIT*, a statutory bar prevented Salesforce from filing its own petition, unlike the facts at issue here. 897 F.3d at 1353 (“Given that . . . any IPR petitions Salesforce might have wanted to file would have been time-barred, this evidence at least suggests that RPX may have filed the three IPR petitions, in part, to benefit Salesforce.”), 1355 (“[T]he evidence submitted indicates the company’s understanding that the very challenges to validity included in the IPR petitions were challenges Salesforce would like to have made if not time-barred from doing so.”), 1356 (no evidence contradicts “AIT’s theory that RPX filed IPR petitions challenging the two patents asserted in the *Salesforce* action to benefit Salesforce, where Salesforce itself was time-barred from filing petitions”).

All entities have an interest in eliminating or mitigating the risks of a lawsuits pending against them; that does not make all defendants accused of infringing a patent later challenged in a petition for *inter partes* review a real party in interest to the petitioner. Notably, *AIT* did not end its inquiry with the fact that the petition at issue challenged a patent that was being asserted

against the non-party, even with evidence of payment from the non-party to the petitioner shortly before the petition’s filing. *See Unified Patents, Inc. v. Realtime Adaptive Streaming, LLC*, IPR2018-00883, Paper 29 at 14–15 (PTAB Oct. 11, 2018) (“The RPI analysis set out in *AIT* and the common law require more than simply confining the analysis to determining whether a party benefits generally from the filing of this Petition and also has a relationship with the Petitioner.”).

Although [REDACTED] and, at the time of the Petition’s filing, could have benefited from the Petition, weighing all of the relevant evidence of record we determine that Petitioner has satisfied its obligation to identify all real parties in interest.

B. Related Proceedings

The parties state that the ’284 patent was asserted in *Barkan Wireless IP Holdings, LP v. Samsung Electronics Co., Ltd. et al.*, No. 2:18-cv-28 (E.D. Tex.), which has been dismissed. *See* Pet. 1; Prelim. Resp. 41. The ’284 patent was also subject to *inter partes* review in IPR2019-00632, IPR2019-00100, and IPR2018-01659, each of which has been terminated.

C. The ’284 Patent (Ex. 1001)

The invention described in the ’284 patent “allow[s] the public at large to participate in providing telecommunications services” with distributed cellular networks. Ex. 1001, 2:10–16. That is, the claimed invention entails individual members of the public acquiring and operating “add-on base stations” that combine with existing infrastructure to provide wireless communication services. *Id.* at 2:24–42 (“base stations . . . are add-on units to be added to a network by various persons or firms”), 2:47–54 (“people will participate in the development of the cellular network”), 3:4–8

(“[p]rovided the right incentive, people will offer these facilities for other people’s use in cellular links”). Figure 1 of the ’284 patent, copied below, depicts an example of a distributed cellular network:

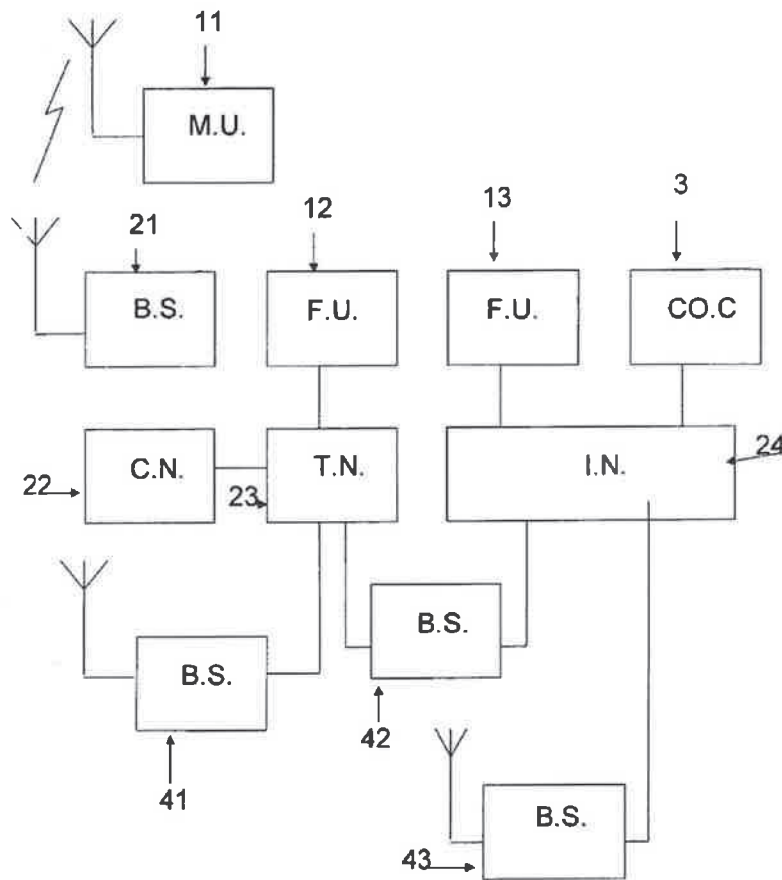


Figure 1 of the ’284 patent depicts a distributed cellular network providing communications between mobile user 11, fixed user 12, and fixed user 13. Ex. 1001, 3:55–57. The communications network includes cellular network 22, telephone network 23, and “an Internet network 24” linked to each other. Ex. 1001, 3:58–60. In this example, user 11 connects to cellular network 22 through base station 21, and add-on base stations 41, 42, and 43 represent additional ways that the public can connect to existing telephone network 23. Ex. 1001, 3:63–65, 4:19–21. Base station 41, for example, allows its

owner to create a wireless cell which then connects to telephone network 23 in any of various ways, including a telephone line, cable TV channel, wireless links, “the package delivery link and the TCP.” Ex. 1001, 4:38–56.

D. Challenged Claims

Petitioner challenges claims 1–21 of the ’284 patent. Claims 1, 2, and 3, reproduced below, are independent claims.

1. A gateway to a packet-based data network comprising:
 - a transceiver adapted to establish a radio-frequency link with a mobile device;
 - a first interface adapted to facilitate data flow between the mobile device and the packet-based data network; and
 - a controller adapted to regulate data flow between the mobile device and the data network based, at least partially, on information received over the data network from a coordination center, which center is connected to the data network through a second interface.

2. A communication system comprising:
 - a coordination center connected to a packet based data network through a first Interface, two or more gateways functionally associated with a packet based data network, wherein each gateway comprises:
 - a transceiver adapted to establish a radio-frequency link with a mobile device;
 - a second interface adapted to facilitate data flow between the mobile device and the data network; and
 - a controller adapted to regulate data flow between the mobile device and the data network based, at least partially, on information received over the data network from said coordination center.

3. A method of providing data to a mobile device comprising:
 - establishing a data link between the mobile device and a radiofrequency transceiver, which transceiver is functionally

associated with a packet based data network through a first interface;

regulating data flow between the mobile device and the packet based data network based, at least partially, on information received over the data network from a coordination center, which center is connected to the data network through a second interface.

E. Prior Art and Asserted Grounds

Petitioner asserts the following grounds:

Claims	35 U.S.C. §	Reference(s)
1-3, 9, 10, 16, 18	102(e)	Farris ²
1-3, 9, 10, 16, 18	103(a)	Farris
5, 12, 13, 17, 20	103(a)	Farris, Cheng ³
6-8, 14	103(a)	Farris, Lucidarme ⁴
15	103(a)	Farris, Lucidarme, Nelson ⁵
21	103(a)	Farris, Nelson
4, 11, 19	103(a)	Farris, Yeh ⁶

III. PATENTABILITY ANALYSIS

A. Level of Ordinary Skill in the Art

Petitioner contends a person of ordinary skill in the art would have a bachelor's degree in computer science, computer engineering, electrical

² Farris et al. (US 6,721,306 B1; filed Mar. 11, 1997; issued Apr. 13, 2004). Ex. 1004.

³ Cheng et al. (US 6,806,813 B1; filed June 4, 1999; issued Oct. 19, 2004). Ex. 1005.

⁴ Lucidarme (WO 99/27729; filed Nov. 24, 1997; published June 3, 1999). Ex. 1006.

⁵ Nelson et al. (US 6,760,778 B1; filed May 14, 1999; issued July 6, 2004). Ex. 1007.

⁶ Yeh (US 6,690,929 B1; filed Aug. 3, 1998; issued Feb. 10, 2004). Ex. 1008.

engineering, or a related subject and two to three years of experience in wireless communications. Pet. 7 (citing Ex. 1003 ¶¶ 44–47). Patent Owner does not directly address the level of ordinary skill in the art. Petitioner’s proposed level of ordinary skill is commensurate with the level of skill reflected in the ’284 patent and cited prior art, and we agree with and adopt Petitioner’s statement of the level of ordinary skill in the art.

B. Claim Construction

As the Petition was filed before the November 13, 2018 effective date of a recent change to the claim-construction standard applicable in *inter partes* review proceedings, we interpret the challenged claims using the broadest-reasonable-interpretation standard. 37 C.F.R. § 42.100(b) (2017); *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the Board’s use of the broadest reasonable interpretation standard in *inter partes* review proceedings); *see also* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (codified at 37 C.F.R. pt. 42 (2019)) (“This rule is effective on November 13, 2018 and applies to all IPR, PGR and CBM petitions filed on or after the effective date.”). “Under a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history.” *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016); *see also Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc) (“Claims must always be read in light of the specification.”). Any special definitions for claim terms or phrases must be set forth in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480

(Fed. Cir. 1994). Although our claim interpretation cannot be divorced from the specification, *see Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015) (quoting *In re NTP, Inc.*, 654 F.3d 1279, 1288 (Fed. Cir. 2011)), we must be careful not to import limitations from the specification that are not part of the claim language, *see SuperGuide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004).

We note that the record includes a Claim Construction Memorandum and Order that provides a district court’s interpretation of certain limitations of the ’284 patent. Ex. 2024.⁷

1. “*Packet-based Data Network*”

Our Institution Decision does not expressly construe “packet-based data network,” but the Institution Decision explains why the claimed packet-based data network is not limited to an IP network such as the Internet. Institution Decision at 22. Subsequent to our Institution Decision, a district court interpreted this term to mean “a network that transfers packets of data from a sender to a recipient.” Ex. 2024, 18.

Although both parties suggest that the Board should adopt the district court’s interpretation (PO Resp. 3–4; Pet. Reply 1), adopting the district court’s interpretation does not resolve the parties’ dispute regarding the scope of this term. Specifically, the parties’ dispute on this issue is whether the scope of “packet-based data network” includes the network disclosed in Farris.

For its part, beyond the district court’s interpretation, Patent Owner argues that “packet-based data network” “requires that a network must

⁷ Patent Owner was a party to the district court litigation, but Petitioner was not.

include the necessary protocols and interfaces to transfer packets of data” (PO Resp. 4) and that a person of ordinary skill would understand the term “to implicate layer 3 network operation as reflected in the long-standardized OSI Reference Model” (PO Resp. 22). Patent Owner further argues that the capabilities of operating in a distributed manner and receiving packets out of order due to packet routing are additional well-known characteristic of packet-based data networks. PO Resp. 24, 27–28.

We disagree with Patent Owner’s arguments. First, we find nothing in the intrinsic evidence that defines or limits the claimed “packet-based data network” in terms of the OSI Reference Model. Likewise, nothing in the intrinsic record defines or limits “packet-based data networks” in terms of the capability of operating in a distributed manner or receiving packets out of order.

To the contrary, the ’284 patent’s Specification describes the relevant networks relatively broadly, to include IP networks such as the Internet or an Intranet. *See, e.g.*, Ex. 1001, 3:61–62 (“Throughout the present disclosure, Internet refers to *any IP network*, that may be for example the Internet or an Intranet.”) (emphasis added), 4:4–6 (“[a]n existing network may include, for example, an IP network, such as the Internet”). Further, as the district court recognized, the prosecution history reflects use of the term “packet-based data network” to distinguish circuit-switched networks. Ex. 2024, 16 (“The patentee argued that ‘the cited references generally teach cellular networks, which are digital and data based, but are *circuit switched*.’ The patentee thus referred to ‘the Internet’ merely as an example and used the term ‘packet-based data network’ to distinguish circuit-switched networks.”) (citations omitted); *accord* Ex. 1002, 297 (arguing during prosecution that “Johnson

teaches a **cellular network** and as is commonly known, **cellular network architectures** up until very recently were almost exclusively **circuit switched based and not packet based**. Thus, Johnson does not teach or suggest any form of access to a packet based data network.”), 333 (“all of the components the Johnson reference teaches operate within a circuit switched network and not a packet-based network and are focused on bandwidth allocation and not regulation of data flow”), 334 (“[T]he cited references generally teach cellular networks, which are digital and data based, but are circuit switched. Whereas, all the pending claims recite regulating access to a packet-based data network (e.g., the Internet).”).

Reading the claim language in light of the intrinsic evidence, we agree with the district court that “packet-based data network” is not limited to an IP network but does not encompass a circuit-switched network. *See* Ex. 2024, 16, 18. Further, we adopt the district court’s interpretation of “packet-based data network” as meaning “a network that transfers packets of data from a sender to a recipient.”

2. “*Coordination Center*”

Patent Owner argues “coordination center” should be construed as a “center that provides information over the packet-based data network required for making a call” (PO Resp. 4), and Petitioner does not contest Patent Owner’s construction. The district court concluded that “coordination center” should have a slightly different meaning, interpreting the term to mean a “center that provides information required for making a call *that determines and disseminates a price policy*.” Ex. 2024, 24 (citing Ex. 1001, 6:21–22, 7:34–36, 9:49–51, 10:27–29) (emphasis added).

Patent Owner states that the district court's interpretation reflects added language advocated by Samsung and Verizon, and Patent Owner does not propose that the Board should adopt the added language. PO Sur-Reply 10. Petitioner also does not suggest that the Board should adopt the added language, and Petitioner states that the district court's construction does not reflect the broadest reasonable construction because, although the Specification provides that determining and disseminating a price policy is one function of the coordination center, it is not the coordination center's only function and does not define the coordination center. Pet. Reply 2–4 (citing Ex. 1001, 3:13–14, 6:21–27, 6:52–54, 17:7–11).

Reading the plain language of the claims in light of the Specification, we determine that the parties' proposed interpretation is supported by the intrinsic evidence. Specifically, in addition to the plain language of the claims, the Specification directly describes the coordination center as providing information for making a call. Ex. 1001, 3:13–14, 6:52–54; *see also* Ex. 1001, 6:7–36 (listing price setting, “tracking down malfunctions,” and correlating and guiding the operation of users as additional functions of coordination centers).

We note that the parties' proposed interpretation is consistent with the district court's analysis and interpretation, but for the additional pricing-related language. *See* Ex. 2024, 18–24. Because none of the parties' disputes turns on the pricing-related language in the district court's interpretation, we need not determine whether the district court's interpretation reflects the broadest reasonable interpretation. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“only those terms need be construed that are in controversy, and only to the

extent necessary to resolve the controversy”); *see also Wilson Sporting Goods Co. v. Hillerich & Bradsby Co.*, 442 F.3d 1322, 1326–27 (Fed. Cir. 2006) (declining to construe a disputed limitation where the record lacked context for the parties’ positions). We adopt the parties’ proposed interpretation of “coordination center” as meaning a “center that provides information over the packet-based data network required for making a call.”

3. “Regulat[e/ing] Data Flow”

Noting the ’284 patent’s Specification does not use the term “regulate” outside of the claims and citing a dictionary definition of “regulate,” the district court interpreted “regulating data flow” to mean “controlling a flow of data.” Ex. 2024, 35–37. Petitioner suggests adopting the district court’s construction (Resp. 6), but Patent Owner argues the proper construction of “regulat[e/ing] data flow” is “control[ing] access to the packet-based data network by the mobile device” (PO Resp. 9; PO Sur-Reply 11). Patent Owner also argues that the “regulating data flow” limitations require “regulating the data flow from the mobile device, *through the* gateway, and to the packet-based network” (PO Resp. 7) and that “‘regulate’ must mean something *other than* ‘facilitate’” (PO Resp. 8). *Accord* PO Sur-Reply 11–12.

According to Patent Owner, the prosecution history defines the term “regulate” as “managing *access* to the packet-based network by the mobile device” with arguments that “each of the pending claims is specifically directed to *regulating access of a wireless device* (not RF bandwidth or buffer size) *to a packet based network* to which the gateway is connected (e.g. Internet) based on information received over the packet based data network.” PO Resp. 8–9 (quoting Ex. 1002, 335; citing Ex. 1002, 298)

(emphasis added by Patent Owner). Additionally arguing that the prosecution history supports reading a “through the gateway” requirement into the “regulating data flow” limitations, Patent Owner quotes the prosecution history, in which the applicant stated that “the Johnson reference makes no mention whatsoever of regulating data flow *through a gateway* at all,” and Patent Owner further characterizes the prosecution history as suggesting that Johnson “only teaches establishing and maintaining an RF link between a mobile device and a base station.” PO Resp. 8 (quoting Ex. 1002, 333) (emphasis added by Patent Owner).

We disagree with Patent Owner’s characterization of the prosecution history. Although the prosecution history does include statements that the then cited references did not disclose “regulating” access of a wireless device to a packet-based network, the relevant portions of the prosecution history do not amount to a definition or disclaimer relating to the “regulating data flow” limitations. *Poly-America, L.P. v. API Indus., Inc.*, 839 F.3d 1131, 1136 (Fed. Cir. 2016) (“the standard for disavowal is exacting, requiring clear and unequivocal evidence that the claimed invention includes or does not include a particular feature”); *accord* Ex. 2024, 36 (the district court rejecting Patent Owner’s arguments and determining that the prosecution history does not define “regulating”). As discussed above with the term “packet-based data network,” the prosecution history reflects arguments that distinguished the then-cited prior art based primarily on the references’ disclosures of circuit-switched networks, as opposed to packet-based networks as claimed. Ex. 1002, 297 (arguing in the prosecution history that “Johnson teaches a **cellular network** and as is commonly known, **cellular network architectures** up until very recently were almost

exclusively **circuit switched based and not packet based**. Thus, Johnson does not teach or suggest any form of access to a packet based data network.”), 333 (“all of the components the Johnson reference teaches operate within a circuit switched network and not a packet-based network and are focused on bandwidth allocation and not regulation of data flow”), 334 (“[T]he cited references generally teach cellular networks, which are digital and data based, but are circuit switched. Whereas, all the pending claims recite regulating access to a packet-based data network (e.g., the Internet).”). Notably, the district court similarly disagreed with Patent Owner’s arguments regarding the prosecution history. Ex. 2024, 36.

As recited in the claims, “regulating data flow” is a function of the claimed controller, and the function is performed based at least partially on information received over the data network from the coordination center. Arguing that the limitation relates to controlling “access,” Patent Owner cites the Specification’s description of a coordination center determining whether a caller is authorized and sending a message with information to allow the caller to access the network and complete a call. PO Resp. 8 (citing Ex. 1001, 8:32–60, 9:21–38). According to Patent Owner, by sending a message with information to allow the caller to access the network and complete a call, “the data flow is controlled (or regulated) based on rules within the coordination center.” PO Resp. 8.

Although the cited portion of the Specification suggests that controlling access may be one form of controlling (or regulating) data flow, like the district court, we find no basis for importing an “access” requirement into this limitation. *See* Ex. 2024, 37 (Patent Owner “has not . . . justified introducing ‘access’ into the construction”). We likewise find

no basis for interpreting the claim language to include a “through the gateway” requirement. The claims require regulating data flow “between the mobile device and the data network” (claims 1 and 2) or “between the mobile device and the packet based data network” (claim 3), without reference to data flow through the gateway.

Considering the plain language of the claims in light of the intrinsic evidence, we agree with and adopt the district court’s interpretation of “regulating data flow” to mean “controlling a flow of data.”

4. *“Consideration-Related Policy Database”*

In the Petition, Petitioner argued that a person of ordinary skill would have understood this limitation to include “a collection of policies which take matters into account, which may include pricing matters.” Pet. 11. Patent Owner’s Preliminary Response states that it disagrees with Petitioner’s construction but does not otherwise substantively address construction of this limitation. Neither party specifically addressed interpretation of this limitation after the Petition and Preliminary Response.

Claim 4 recites “[t]he gateway according to claim 1, wherein said controller is further adapted to regulate data flow between the mobile device and the data network based, at least partially, on information received over the data network from a consideration related policy database.” Claims 11 and 19 include similar language and additionally require that the consideration-related policy database is connected to the data network through a third interface.

The ’284 patent does not use the term “consideration-related policy database” outside of the claims themselves, but, as cited by Petitioner (Pet. 10), the prosecution history of the ’284 patent uses the term in arguments

intended to distinguish the prior art. In particular, the prosecution history includes arguments that associate the consideration related policy database “with the data network, rather than the gateway” and further describe it as providing information relating to billing. Ex. 1002, 187 (addressing claim limitations not found in the current claims; arguing “the consideration related policy database is associated with the data network, rather than with the gateway”) (emphasis omitted), 335 (arguing a reference does not teach a consideration-related policy database because it “makes no mention of consideration of any kind and actually deals only with data security”); *see also* Ex. 1002, 298–99 (equating “consideration related database” to a “billing database”). Similarly, the ’284 patent’s specification describes billing procedures that include a “cellular center policy” that provides pricing and billing information, although it is not clear that those descriptions relate directly to the “consideration-related policy database” limitation.

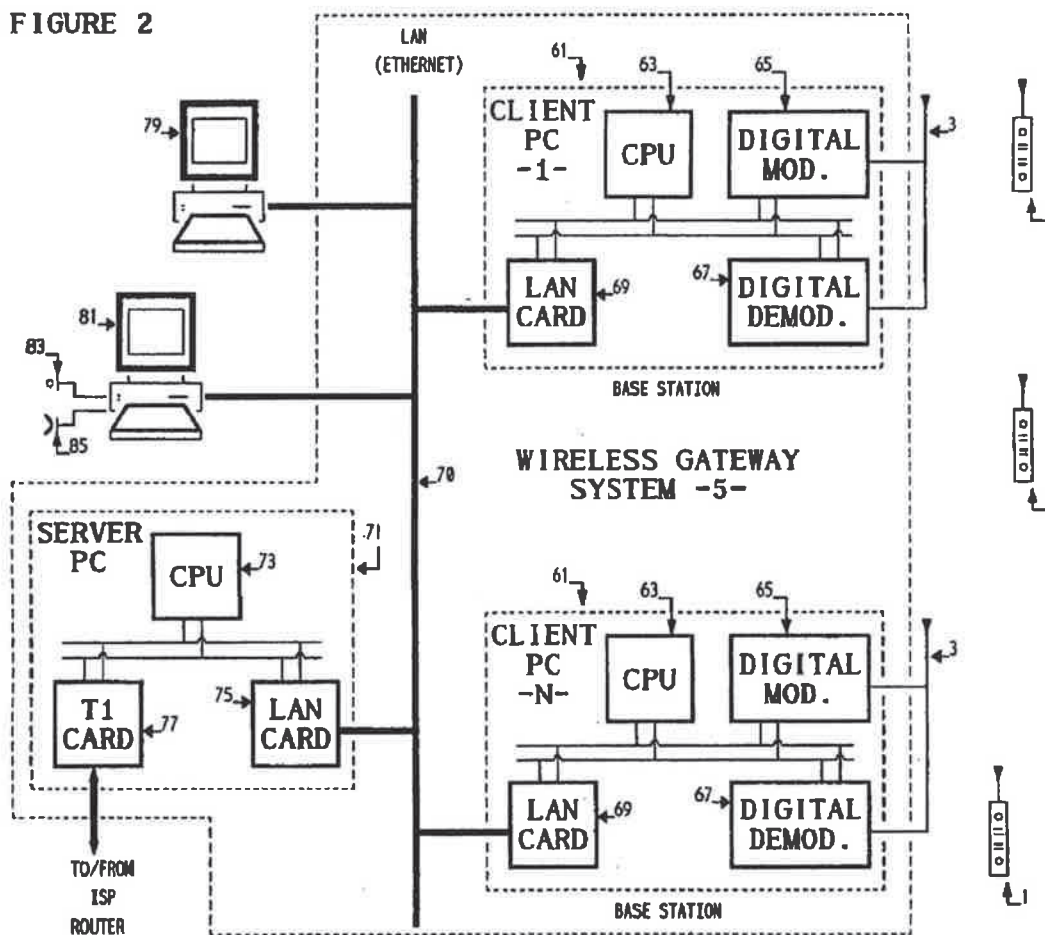
We note that the district court interpreted “consideration-related policy database” to mean “a database on the Internet that stores information related to billing or pricing policies” (Ex. 2024, 29), but we determine the parties do not materially dispute the meaning or implications of this term in this proceeding and we therefore do not formally interpret “consideration-related policy database.”

C. References

1. Farris

Farris discloses a localized installation of a gateway system for private or limited public wireless telephone communication in which telephone calls go into and come out of the localized wireless gateway system using a public

packet switched data network such as the Internet. Ex. 1004 14–19. Farris discloses using a local area network (“LAN”) of computers as a gateway to place voice calls over the Internet. Farris’s Figure 2, copied below, depicts relevant structures of Farris’s gateway system.



Ex. 1004, Fig. 2

Figure 2 of Farris depicts wireless telephone handsets 1 in wireless communication with client PC/base station 61. Client PC 61 includes LAN card 69 connecting client PC 61 to Ethernet LAN 70, which is also connected to LAN card 75 included with server PC 71. Server PC 71 also

includes T1 card 77 that connects server PC 71 to the Internet. *See* Ex. 1004, 14:40–16:14 (describing Figure 2).

D. Claim Analysis

1. Claim 1

Comparing Farris to claim 1 on a limitation-by-limitation basis and citing the Declaration of Dr. Vijay K. Madiseti, PhD (Ex. 1003) in support, Petitioner asserts that Farris anticipates claim 1 or renders claim 1 obvious. Pet. 12–27. As discussed in more detail below, Patent Owner argues Farris fails to disclose the following recitations of claim 1: (i) “packet-based data network” and the required first and second interfaces to that data network, (ii) “coordination center,” and (3) “[controller adapted to] regulat[e/ing] data flow.” PO Resp. 21.

a. A gateway to a packet-based data network comprising:

Comparing Farris to the preamble of claim 1, Petitioner states that Farris discloses a “client PC 61 serving as a base station” (the claimed “gateway”) that connects mobile devices on a first channel to a second channel such as LAN 70 (the claimed “packet-based data network”). Pet. 12–14.

Patent Owner argues Farris does not disclose the “packet-based data network” recited in both the preamble and the body of claim 1. PO Resp. 22–28. We agree with Petitioner that Farris discloses a client PC serving as a base station, and we address the recited “packet-based data network” with the discussion of the “first interface” limitation in subsection 3, below.

- b. a transceiver adapted to establish a radio-frequency link with a mobile device

Petitioner contends Farris discloses this limitation with Farris's disclosures of transceivers that provide two-way wireless voice frequency communications between client PC 61 and wireless handsets. Pet. 15–18 (citing Ex. 1004, 5:22–30, 41–44, 19:12–16, abstract; Ex. 1003 § 72). Among other things, the cited portions of Farris disclose that the transceivers include a digital modulator and a digital demodulator for two-way voice channel transmission via an RF channel. Ex. 1004, 5:41–44, 23:33–37. Patent Owner does not rebut the evidence cited by Petitioner for this limitation, and we agree with Petitioner that Farris discloses a transceiver as claimed.

- c. a first interface adapted to facilitate data flow between the mobile device and the packet-based data network; and

Petitioner contends Farris discloses the claimed first interface with Farris's disclosures of LAN interface card 69 in client PC/base station 61. Pet. 18–20. As cited by Petitioner, Farris discloses that client PC 61 and LAN interface card 69 provide a two-way data connection interface compatible with LAN 70. Pet. 18–19 (citing Ex. 1004, 14:65–67). Further, Petitioner cites Farris's disclosures that client PC 61 encapsulates information received from a wireless handset in "Ethernet packets" and sends the packets over LAN 70 to server PC 71. Pet. 19 (citing Ex. 1004, 20:23–26); *see* Ex. 1003 ¶¶ 78–79 ("Because *packets* are sent over LAN 70, a POSITA would have understood the LAN interface card 69 to facilitate data flow to a *packet-based data network* as recited.").

Patent Owner argues Farris does not disclose a “packet-based data network.” According to Patent Owner, Farris discloses an Ethernet LAN, which is not a packet-based data network under Patent Owner’s construction. PO Resp. 25–28; Sur-Reply 12–15. Patent Owner argues that Farris’s Ethernet LAN operates at layers 1 and 2 of the ISO Reference Model and is a frame-based network, not a packet-based data network. PO Resp. 25–27 (citing Ex. 2043 ¶¶ 57–58). Further, according to Patent Owner, Farris “teaches and recognizes that the Internet is a ‘Public Packet Data Network’ distinct from the Ethernet LAN” cited by Petitioner. PO Resp. 27 (quoting Ex. 1004, Fig. 1).

We disagree with Patent Owner. As explained above, we disagree with Patent Owner’s arguments that “packet-based data network” should be interpreted in terms of the OSI Reference Model as requiring “layer 3 network operation as reflected in the long-standardized OSI Reference Model” (PO Resp. 22), and we interpret “packet-based data network” to mean “a network that transfers packets of data from a sender to a recipient.”

Although the embodiment depicted in Farris’s Figure 2 labels network 70 “LAN (ETHERNET)” and Farris describes Ethernet as a preferred embodiment of network 70, Farris expressly states that information received from wireless handset 1 is encapsulated by client PC 61 in “Ethernet packets” and sent over LAN 70 to server PC 71. Ex. 1004, 17:12–18 (“The LAN card inserts the MAC address for the server PC 71, formats the message as an Ethernet packet and transmits the message on LAN 70.”), 20:23–26 (“client PC 61 encapsulates the outgoing CELP information received from the handset 1 in Ethernet packets and sends the packets over the LAN 70 to the server PC 71”); *accord* Ex. 1003 ¶¶ 67, 78–79. Similarly,

Farris states that its server PC 71 “may perform two-way IP packet processing and exchange signals with the base station in sequential order in the protocol utilized in the local area network, such as Ethernet and Asynchronous Transfer Mode (ATM).” Ex. 1004, 5:53–56; *accord* Ex. 1004, 15:47–58 (noting that network 70 may be a local ATM network, a token ring, or the Internet itself carrying TCP/IP traffic to and from various base stations).

Although Patent Owner presents evidence that a person of ordinary skill would have understood Ethernet to signify layer 2 of the OSI Reference Model (PO Resp. 22–23 (citing Ex. 2030; Ex. 2031; Ex. 2034; Ex. 2036; Ex. 2037; Ex. 2043 ¶¶ 43–45, 51–56)) and that LANs “typically” employ Ethernet in purported contrast to packet-based data networks (Ex. 2043 ¶ 49), Patent Owner’s arguments focused on the OSI Reference Model and Ethernet standards are not commensurate with our interpretation of “packet-based data network” and cannot refute the fact that Farris expressly discloses sending “packets” over network 70. *Cf.* PO Resp. 25 (“Ethernet is not recited in the claim language—rather, the claims specifically recite ‘packet’ instead, clearly implicating layer 3 network operation. Farris’s Ethernet LAN, however, is a layer 2 network as understood by one of skill in the art.”); Ex. 2043 ¶ 65 (“In light of these many differences between a layer 2 network (*e.g.*, Farris’s Ethernet LAN) and a layer 3 network (a packet-based layer), a POSITA would not understand Farris’s LAN 70 to satisfy or anticipate the claimed ‘packet-based data network.’”). Based on our claim interpretation of “packet-based data network,” and for the reasons above, we agree with Petitioner that Farris discloses this limitation.

- d. a controller adapted to regulate data flow between the mobile device and the data network based, at least partially, on information received over the data network from a coordination center,

Petitioner contends Farris discloses a controller as claimed with its disclosures of CPU 63 in client PC 61, and Petitioner cites Farris's server PC 71 as the recited coordination center. Pet. 20–26. Petitioner additionally cites Farris's disclosures that server PC 71 allocates a channel through base station transceiver 61 to the handset 1 and instructs the respective client PCs to make the connection via the LAN between the channels assigned to the called and calling parties' handsets. Pet. 21–22 (citing Ex. 1004 at 19:4–7, 8–16, 23:33–37). According to Petitioner, the client PC/base station regulates data flow between the mobile device and the data network through its use of a particular channel, the assignment of which was received over the data network from the server PC (the recited “coordination center”). Pet. 21–22; *see* Pet. Reply 11 (“RF channel allocation controls, or *regulates*, communication (i.e., *data flow*) between the base station and the mobile device”).

Patent Owner argues Farris does not disclose this limitation because, according to Patent Owner, (1) the server in Farris does not transmit information over a packet-based data network to a controller (PO Resp. 28–29) and (2) Farris does not disclose “regulat[ing] data flow” (PO Resp. 29–35).⁸ For its first argument, Patent Owner states “because Petitioner has not

⁸ Patent Owner also contends the “Direct Internet Embodiment” described in Farris eliminates the server PC and therefore does not satisfy this limitation. PO Resp. 28–29. Contrary to Patent Owner's argument, the so-called “Direct Internet Embodiment” of Farris is not part of Petitioner's anticipation arguments. *See* Pet. 20–26.

established that the Farris Ethernet LAN is a packet-based network, it follows that the transmissions from the server PC to the base station cannot suffice to meet the claimed functionality of the '284 claims.” PO Resp. 29 (citing Ex. 2043 ¶¶ 66–67). For the reasons explained above, that argument is premised on an incorrect interpretation of packet-based data network.

For its second argument, Patent Owner contends the cited allocation of RF channels does not constitute the claimed regulation of data flow because it applies only to “communications to and from the mobile phones, and not the data flow between the mobile device and the packet-based data network.” PO Resp. 31. According to Patent Owner, “[t]his is exactly the same type of system that was distinguished during the prosecution of the '284 patent.” PO Resp. 31 (citing Ex. 1002, 333). Patent Owner characterizes the prosecution history as distinguishing the Johnson reference “because it disclosed establishing and maintaining an RF link between the user and the base station, and not regulating data flow through a gateway between a mobile device and a packet-based network.” PO Resp. 31 (citing Ex. 1002, 333).

We disagree with Patent Owner. As noted above, Farris discloses that its server PC 71 provides channel-allocation information over LAN 70 to client PC 61, and client PC 61 provides two-way communication between it (client PC 61) and wireless handset 1 via the allocated channel. Ex. 1004, 19:4–7 (“server PC 71 instructs the client PC 61 to allocate an available radio channel to the calling handset 1”), 12–16 (“server PC 71 allocates a channel through base station transceiver 61 to the called handset 1 and instructs the respective client PCs to make the connection via the LAN between the channels assigned to the called and calling parties handsets”),

23:33–37 (“[w]hen the called party answers, the handset 1 and the client PC 61 execute an appropriate handshake and commence two-way voice channel transmission via an allocated RF channel”). Similar to Patent Owner’s argument that “data flow is controlled (or regulated) based on rules within the coordination center” (PO Resp. 8), we agree with Petitioner that server PC 71 instructing LAN 71 to allocate an available radio channel to handset 1 constitutes “regulating data flow” under our interpretation explained above. Accordingly, we agree with Petitioner that Farris discloses this limitation.

- e. which center is connected to the data network through a second interface.

Petitioner cites Farris’s disclosures of LAN card 75 as the recited second interface through which server PC 71 (the recited “coordination center”) is connected to the data network. Pet. 27–28 (citing Ex. 1003 ¶¶ 96–98). Beyond the arguments addressed above regarding the interpretation of “coordination center” and “packet-based data network,” Patent Owner does not substantively rebut the evidence cited for this limitation.

We agree with Petitioner that Farris discloses this limitation with its LAN card 75 through which server PC 71 connects to network 70.

f. Summary

Having considered each of the parties’ arguments and based on the entire record, for the foregoing reasons, we determine that Petitioner has established by a preponderance of the evidence that claim 1 is unpatentable under 35 U.S.C. § 102(e) as anticipated by Farris. Because we determine Farris anticipates claim 1, we do not address Petitioner’s alternative argument that claim 1 would have been obvious in view of Farris.

2. *Claims 2, 3, 9, 10, 16, and 18*

Petitioner asserts that claims 2, 3, 9, 10, 16, and 18 are anticipated by Farris. Pet. 28–45. Independent claim 2 recites a communication system with limitations similar to those of independent claim 1 and additionally requiring “two or more gateways,” among other differences. Independent claim 3 is a method claim that recites steps similar to those of independent claim 1. Dependent claims 9, 10, 16, and 18 recite additional functional language relating to the controller recited in their base claim.

Comparing Farris to each of claims 2, 3, 9, 10, 16, and 18 on a limitation-by-limitation basis, Petitioner advances substantially the same evidence and substantially the same arguments as those advanced for similar limitations of claim 1. *See* Pet. 28–45. For the additional recitations of claims 9 and 16, Petitioner cites Farris’s disclosures that CPU 63 in client PC/base station 61 provides an appropriate status message over the LAN to the server PC. Pet. 43 (citing Ex. 1004, 23:37–39, 24:35–37; Ex. 1003 ¶ 133), 45. For the additional recitations of claims 10 and 18, Petitioner cites Farris’s disclosures that client PC 61 forwards the digits and identification of handset 1 through LAN 70 to server PC 71 as a service request. Pet. 44 (citing Ex. 1004, 18:53–67, 19:8–17; Ex. 1003 ¶¶ 136–138), 45.

Patent Owner does not substantively address these claims beyond the arguments addressed above regarding claim 1.

Having considered each of the parties’ arguments and based on the entire record, we determine that Petitioner has established by a preponderance of the evidence that claims 2, 3, 9, 10, 16, and 18 are unpatentable under 35 U.S.C. § 102(e) as anticipated by Farris. Because we

determine Farris anticipates these claims, we do not address Petitioner's alternative argument that these claims would have been obvious in view of Farris.

3. Claims 5, 12, 13, 17, and 20

Petitioner asserts that claims 5, 12, 13, 17, and 20 are unpatentable over Farris in view of Cheng, but the Petition does not substantively address claim 20. Pet. 46–50. Claims 5 and 12 add to independent claims 1 and 2, respectively, the recitation that the controller(s) is/are further adapted to report the gateway's physical location to the coordination center. Claim 17 ultimately depends from claim 2 and additionally recites “wherein said coordination center is further adapted to maintain a record of the gateways' operational status.” Claim 13 depends from claim 12 and additionally recites “wherein said coordination center is further adapted to maintain a record of the gateways' physical location.” Claim 20 depends from claim 3 and additionally recites “further comprising reporting to the coordination center the transceiver's physical location.”

In addition to Petitioner's analysis of independent claims 1, 2, and 3, Petitioner provides a limitation-by-limitation analysis of claims 5, 12, 13, and 17 to argue each claim would have been obvious in view of the combined teachings of Farris and Cheng. Pet. 46–48. In addition to the teachings of Farris, Petitioner cites Cheng as teaching a system in which a plurality of base stations have a GPS position receiver to provide location information to a network management center. Pet. 46 (citing Ex. 1005, 2:66–3:1, 3:4–6, 5:54–56; Ex. 1003 ¶ 145). Petitioner argues Farris and Cheng both relate to “communications networks that use base stations, like

the '284 patent” and are therefore “analogous art to the '284 [p]atent (and each other), and in the same field of endeavor as the '284 [p]atent.” Pet. 47.

Petitioner argues that because Farris discloses that its system may be operated in public places, a person of ordinary skill would have been motivated to consider Cheng’s asset tracking system in order to keep track of expensive network equipment, quoting Cheng’s teaching that “in a network service environment, it is beneficial to track assets, such as various pieces of equipment, that are installed to support the network.” Pet. 47 (quoting Ex. 1005, 1:15–18). Further, Petitioner argues that combining the teachings of Cheng and Farris would have been no more than the combination of prior art elements according to known methods and that a person of ordinary skill would have had a reasonable expectation of success in such a combination. Pet. 48.

Patent Owner argues the Petition fails to present a motivation to combine Farris and Cheng. PO Resp. 38–42. Patent Owner argues that, unlike Cheng’s teachings that relate to management of a large public wireless communication network, Farris’s teachings relate to a localized wireless communication system and “Farris has no apparent need for location-based information of its gateway components because they are localized, and each gateway is located based on IP address and/or domain name information.” PO Resp. 38; *accord* PO Resp. 38–40. Patent Owner contends Cheng’s teachings address asset management problems that occur in large scale, geographically distributed networks, which is the opposite of a LAN arrangement in which all of the devices are near each other. PO Resp. 40. Further, Patent Owner argues Farris teaches that its gateways are located by IP address and/or domain names such that has no need for

geographic location information. PO Resp. 40–41. And Patent Owner contends that Farris’s gateway system is not portable, such that an asset-tracking system such as Cheng’s system simply has no application in Farris’s system.

Although generally described as a “localized” system, Farris disclose that its system is suitable for public places, including very large public places like airports, shopping centers, hotels, and convention centers. Ex. 1004, 7:14–17. Even though Cheng’s system can be suitable for systems deployed over larger geographic areas than Farris’s LAN applications, we agree with Petitioner that Cheng suggests benefits to systems on the scale of those suggested in Farris, with Cheng generally advocating the benefits of tracking installed devices in a network environment and using location data to plan planning for the provisioning of new devices. Ex. 1005, 1:15–21; *see* Pet. 47; Pet. Reply 16. Contrary to Patent Owner’s arguments, Cheng’s teachings regarding the benefits of tracking the physical location of individual assets are applicable to systems like Farris’s even if Farris’s system also tracks the IP address of individual devices, and we agree with Petitioner’s arguments that combining the teachings of Cheng and Farris would have been nothing more than a combination of prior art elements according to known methods with a predictable success. *See* Pet. 47–48; Pet. Reply 16–17.

Having considered each of the parties’ arguments and based on the entire record, we determine that Petitioner has established by a preponderance of the evidence that claims 5, 12, 13, and 17 are unpatentable under 35 U.S.C. § 103(a) as obvious in view of the combined teachings of

Farris and Cheng. Petitioner has not established that claim 20 is unpatentable under 35 U.S.C. § 103(a).

4. Claims 6–8 and 14

Petitioner asserts that claims 6–8 and 14 are unpatentable over Farris in view of Lucidarme. Claims 6 recites “[t]he gateway according to claim 1, further comprising a unique identity achieved by a unique number or digital document.” Claim 7 depends from claim 6 and further recites “wherein said unique number or digital document contains an encryption key.” Claim 8 depends from claim 7 and further recites “wherein said controller is further adapted to conduct encrypted communications.” Claim 14 recites “[t]he system according to claim 2, wherein said gateways further comprise a unique identity achieved by a unique number or digital document.”

For these limitations, in addition to the teachings of Farris, Petitioner cites Lucidarme’s disclosures of a SIM card and a private authentication key used for authentication and encryption in a mobile telephone network. Pet. 51–52 (citing Ex. 1006, 3:26–27, 9:3–4, 8–12, 15–16; Ex. 1003 ¶¶ 163–64). Petitioner argues that Lucidarme’s private key is used for identification purposes and a person of ordinary skill would have understood the private key to correspond to a unique identity for a particular device and for a base station associated with the device. Pet. 52–53 (citing Ex. 1003 ¶ 164). According to Petitioner, a person of ordinary skill would have recognized the advantages of encrypting communications between the base station and mobile device and that incorporating Lucidarme’s teachings to facilitate encryption into Farris’s system would have required no more than the combination of prior art elements according to known methods with a

reasonable expectation of success. Pet. 54–55 (citing Ex. 1003 ¶¶ 166–176; Ex. 1004, 7:11–12; Ex. 1006, 3:19–20).

Patent Owner argues Petitioner has failed to adequately explain how or why a person of ordinary skill would have combined the teachings of Lucidarme and Farris. According to Patent Owner, Farris discloses a non-cellular, “localized” wireless system that is unlike Lucidarme’s system that is designed to work as a component of the public cellular network, and Patent Owner argues that based the differences between Farris and Lucidarme, a person of ordinary skill would not have a reason to combine the references’ teachings. PO Resp. 42–44; *but see* Ex. 2043 ¶ 36 (recognizing Farris’s teachings relating to cellular telephones). Patent Owner also argues that adding SIM cards to Farris’s system would change its basis of operation, as Farris “relies on the use of IP and domain name translation to enable communication between its wireless devices,” and Patent Owner argues that Petitioner presents no evidence of a reason to make such a modification to Farris’s system. PO Resp. 44.

In addition, Patent Owner also argues that Lucidarme’s private authentication key does not disclose the recited “unique identity.” PO Resp. 44. According to Patent Owner, Lucidarme’s SIM card and private authentication key relate to a particular user and the user’s subscription to a cellular network; the private authentication key is not a unique identity of the base station. PO Resp. 44–45.

First, we agree with Petitioner that the claims do require a unique identity that is associated with a base station and not a particular user; claim 6 merely requires “a unique identity achieved by a unique number,” and we agree with Petitioner that Lucidarme’s SIM card information

provides a unique identity achieved by a unique number when the SIM card is added to a base station. *See* Pet. Reply 19. In fact, as cited by Petitioner, the '284 patent describes that a “smart card with a unique number . . . may be inserted in the base station” (Ex. 1001, 11:20–28), similar to the teachings of Lucidarme. Further, we agree with Petitioner that the limitations recited in claims 6–8 and 14 would have amounted to no more than the combination of known elements from Lucidarme into Farris’s system with predictable success.

Weighing the evidence of record, we determine that on balance, Petitioner has established by a preponderance of the evidence that claims 6–8 and 14 would have been obvious in view of the combined teachings of Farris and Lucidarme.

5. *Claims 15 and 21*

Petitioner asserts that claim 15 is unpatentable over Farris in view of Lucidarme and Nelson and that claim 21 is unpatentable over Farris in view of Nelson. Claim 15 depends from claim 14, which depends from claim 2, and further recites “wherein said unique number or digital document contains an encryption key; and said controllers are further adapted to conduct encrypted communications with said center.” Claim 21 recites “[t]he method according to claim 3, further comprising encrypting communications between said transceiver and said coordination center.”

In addition to the citations addressed above regarding the claims from which claims 15 and 21 depend, Petitioner cites Nelson’s teachings regarding encrypted communications. Pet. 57–60. As cited by Petitioner, Nelson teaches a gateway that connects *telephones within an aircraft* to terrestrial devices through a ground data gateway. Pet. 57. Petitioner argues

the gateway on the aircraft is analogous to the client PC of Farris and the ground data gateway is analogous to the server PC of Farris. Pet. 57–60. Among other things, Petitioner argues that Nelson explicitly states the security benefits to protect voice or data information, and Petitioner contends that combining the teachings of Nelson with those of Farris would have been no more than the combination of prior art elements according to known methods with a reasonable expectation of success. Pet. 59–60 (citing Ex. 1007, 3:45–48, 4:43–51; Ex. 1003 ¶¶ 180–183).

Patent Owner argues, and we agree, that Petitioner has not established that a person of ordinary skill would have looked to Nelson’s disclosures regarding an aircraft-to-ground communications to modify Farris’s LAN-based system. PO Resp. 47 (citing Ex. 2043 ¶¶ 88–90). Although Petitioner’s declarant states that Nelson and Farris both relate to communicating voice information over networks and have similar architectures (Ex. 1003 ¶ 180), on balance, the evidence of record does not support a determination that Nelson’s general teachings regarding the need to secure and encrypt communications between an aircraft and ground-based equipment would have motivated a person of ordinary skill to apply those teachings to Farris’s LAN-based system. *See* PO Resp. 47–48; Ex. 2043 ¶¶ 89–90 (arguing Nelson’s teachings have no bearing on cellular technology).

Accordingly, we determine Petitioner has not established by a preponderance of the evidence that dependent claims 15 and 21 are unpatentable.

6. *Claims 4, 11, and 19*

Petitioner asserts that claims 4, 11, and 19 are unpatentable over Farris in view of Yeh. Claims 4, 11, and 19 depend from claims 1, 2, and 3, respectively, and each claim requires, among other things, regulating data flow between the mobile device and the data network based at least partially on information received over the data network from a consideration-related policy database.

Petitioner argues Yeh teaches or suggests the limitations of claims 4, 11, and 19 with its disclosures of a system that includes a menu of Quality-of-Service levels offered by a service provider and communicated to a base station where a service level can be selected by a user. Pet. 61–63 (citing Ex. 1008, 3:15–21, 4:15–33, 5:50–62, 6:51–74, 719–22, 61–63, 8:37–42, Abstract; Ex. 1003 ¶¶ 190–193). Further, with respect to a “third interface” required of claim 11, Petitioner argues an interface would have been inherent in Yeh’s *mobile switching center* (“MSC”) because it would have been the only way the center could have communicated with other network elements (Pet. 65–66), and Petitioner provides a modified version of Farris’s Figure 2 depicting Yeh’s base stations 121 and 122 connected to home MSCs 120 that in turn connect to Farris’s base station 61 and/or Farris’s network 70. But other than suggesting that a POSITA would have understood that Yeh’s MSC 120 could have been connected to a LAN card, Petitioner does not adequately explain why a POSITA would have added a mobile switching center to Farris’s system.

Patent Owner argues, and we agree, that Petitioner failed to adequately explain how or why a person of ordinary skill would have combined Farris and Yeh to arrive at the invention of dependent claims 4,

11, and 19. PO Resp. 48–49. More specifically, as argued by Patent Owner (PO Resp. 49 (citing Ex. 2043 ¶¶ 91–95)), Petitioner does not adequately explain how or why a mobile switching center as taught in Yeh’s cellular-based system would have been incorporated into Farris’s system, to arrive at the invention of claim 4. Other than a conclusory suggestion that a POSITA could have connected Yeh’s MSC 120 to Farris’s system with a LAN card, Petitioner does not adequately explain why a person of ordinary skill would have been motivated to connect Yeh’s mobile base station to a non-cellular system such as Farris’s system, or how such a combination would have been made.

Accordingly, reviewing the evidence of record, we agree with Patent Owner that Petitioner has not adequately explained how or why a person of ordinary skill would have been motivated to combine Farris and Yeh to arrive at any of claims 4, 11, and 19. Accordingly, we determine Petitioner has not established by a preponderance of the evidence that dependent claims 4, 11, and 19 are unpatentable.

IV. PATENT OWNER’S MOTION TO EXCLUDE EVIDENCE

Patent Owner filed a Motion to Exclude Exhibits 1015, 1016, 1017, 1020, and 1021 under Federal Rules of Evidence 802 and 901. Paper 42. Because we do not rely on any of these exhibits to the detriment of Patent Owner in making this Decision, we dismiss the Motion as moot.

V. MOTIONS TO SEAL

The parties filed a Motion for Protective Order along with a proposed agreed Protective Order that deviates from the Board’s default protective order by limiting certain classes of confidential information as “Highly Confidential—Attorneys’ Eyes Only” and prohibiting in-house counsel and

other party employees from accessing that class of information. Paper 10. Petitioner filed a [First] Motion to Seal (Paper 11) requesting that Petitioner's Reply to Patent Owner's Preliminary Response (Paper 9) and Exhibits 1018–1022 be sealed pursuant to the parties' Protective Order. Petitioner filed a Second Motion to Seal (Paper 39), requesting that each of (i) Petitioner's Reply to Patent Owner's Response (Paper 37), (ii) Patent Owner's Response (Paper 31), (iii) Patent Owner's Surreply to Petitioner's Reply (Paper 16), and (iv) Exhibits 2009, 2012, 2013, and 2014 be sealed pursuant to the parties' agreed Protective Order. Petitioner filed a Third Motion to Seal (Paper 41) requesting that Patent Owner's Sur-Reply (Paper 40) be sealed pursuant to the parties' agreed Protective Order. Patent Owner filed a Motion to Seal Reply In Support of Motion to Exclude Evidence (Paper 49).

With each Motion to Seal, the parties explain that the information warranting protection is confidential business information relating to Petitioner's business practices and that good cause exist to protect the business confidential information, the disclosure of which could harm Petitioner. The parties also filed redacted, public copies of the papers identified in the Motions to Seal. Paper 8; Paper 17; Paper 27; Paper 33; Paper 38; Paper 42; Paper 49. We determine the redacted copies of the papers comport with the public-notice function of maintaining a complete record in this proceeding. Upon review of the parties' Motions, we determine that the parties have shown good cause to seal the limited set of requested information. Therefore, the parties' Motion for a Protective Order is *granted*, and the parties' Motions to Seal are *granted*.

Note that there is an expectation that information will be made public where the information is identified in a final written decision, and that confidential information that is subject to a protective order ordinarily would become public 45 days after final judgment in a trial, unless a motion to expunge is granted. 37 C.F.R. § 42.56; Trial Practice Guide, 77 Fed. Reg. at 48,761. In rendering this Final Written Decision, it was necessary to address information designated as confidential under the parties' Protective Order. Accordingly, this Final Written Decision is provisionally filed under seal, and the parties are directed to submit a joint proposed redacted version of this Final Written Decision within 14 days of its entry.

A party who is dissatisfied with this Final Written Decision may appeal the Decision pursuant to 35 U.S.C. § 141(c), and has 63 days after the date of this Decision to file a notice of appeal. 37 C.F.R. § 90.3(a). Thus, it remains necessary to maintain the record, as is, until resolution of an appeal, if any. In view of the foregoing, the confidential documents filed in this proceeding will remain under seal, at least until the time period for filing a notice of appeal has expired or, if an appeal is taken, the appeal process has concluded. The record for the instant proceeding will be preserved in its entirety, and the confidential documents will not be expunged or made public, pending appeal. Notwithstanding 37 C.F.R. § 42.56 and the Office Patent Trial Practice Guide, neither a motion to expunge confidential documents nor a motion to maintain these documents under seal is necessary or authorized at this time. *See* 37 C.F.R. § 42.5(b).

VI. CONCLUSION⁹

For the foregoing reasons, we determine Petitioner has established by a preponderance of the evidence that claims 1–3, 9, 10, 16, and 18 are unpatentable under 35 U.S.C. § 102(e) as anticipated by Farris, that claims 5, 12, 13, and 17 are unpatentable under 35 U.S.C. § 103(a) as obvious in view of the combined teachings of Farris and Cheng, and that claims 6–8 and 14 are unpatentable under 35 U.S.C. § 103(a) as obvious in view of the combined teachings of Farris and Lucidarme. We also determine that Petitioner has not established that claims 4, 11, 15, and 19–21 are unpatentable.

In addition, Patent Owner's Motion to Exclude Evidence is *dismissed*. The parties' Motion for Protective Order and the parties' Motions to Seal are *granted*.

VII. ORDER

In view of the foregoing, it is hereby:

ORDERED that pursuant to claims 1–3, 5–10, 12–14, and 16–18 of the '284 patent are unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Exclude Evidence is *denied*;

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

FURTHER ORDERED that the parties' Motion for Protective Order (Paper 10) and the parties' Motions to Seal (Paper 11, Paper 39, Paper 41, Paper 49) are *granted*;

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

FURTHER ORDERED that the parties shall jointly email a proposed redacted version of this paper no later than 14 days from the entry of this Decision to Trials@uspto.gov.

In summary:

Claims	35 U.S.C. §	Reference(s)	Claims Shown Unpatentable	Claims Not shown Unpatentable
1-3, 9, 10, 16, 18	102(e)	Farris	1-3, 9, 10, 16, 18	
1-3, 9, 10, 16, 18	103(a)	Farris		
5, 12, 13, 17, 20	103(a)	Farris, Cheng	5, 12, 13, 17	20
6-8, 14	103(a)	Farris, Lucidarme	6-8, 14	
15	103(a)	Farris, Lucidarme, Nelson		15
21	103(a)	Farris, Nelson		21
4, 11, 19	103(a)	Farris, Yeh		4, 11, 19
Overall Outcome			1-3, 5-10, 12-14, 16-18	4, 11, 15, 19-21

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PUBLIC VERSION

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PUBLIC VERSION

PETITIONER:

David Odell
Thomas Kelton
David McCombs
Raghav Bajaj
John Emerson
HAYNES AND BOONE, LLP
david.odell.ipr@haynesboone.com
thomas.kelton.ipr@haynesboone.com
david.mccombs.ipr@haynesboone.com
raghav.bajaj.ipr@haynesboone.com
russ.emerson@haynesboone.com

Roshan Mansinghani
Jonathan Stroud
UNIFIED PATENTS INC.
roshan@unifiedpatents.com
jonathan@unifiedpatents.com

PATENT OWNER:

Douglas Wilson
Michael Heim
HEIM, PAYNE & CHORUSH, LLP
dwilson@hpcllp.com
mheim@hpcllp.com