

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC.,
Petitioner,

v.

NETSOCKET, INC.,
Patent Owner.

IPR2023-00606
Patent 7,616,601 B2

Before RICHARD M. LEBOVITZ, STACEY G. WHITE, and
GARTH D. BAER, *Administrative Patent Judges*.

WHITE, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Cisco Systems, Inc. (“Petitioner”) filed a Petition requesting an *inter partes* review of claims 1–9 of U.S. Patent No. 7,616,601 B2 (Ex. 1001, “the ’601 patent”). Paper 2 (“Pet.”). NetSocket, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 8 (“Prelim. Resp.”). Petitioner, with our authorization, filed a one-page Preliminary Reply limited to the impact of the Joint Motion to Amend the Docket Control Order (Ex. 1043) on *Fintiv*¹ Factors 2 and 3 (Paper 9, “Pet. Prelim. Reply”), and Patent Owner filed a Preliminary Sur-reply (Paper 10, “PO Prelim. Sur-reply”).

Under 35 U.S.C. § 314, an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Upon consideration of the Petition in view of the present record and for the reasons explained below, we determine that Petitioner has shown at least a reasonable likelihood of prevailing with respect to at least one of the challenged claims. Accordingly, we institute an *inter partes* review on all grounds set forth in the Petition.

A. Related Matters

The parties identify *NetSocket, Inc. v. Cisco Systems, Inc.*, No. 2-22-cv-00172 (E.D. Tex.), as a related district court case. Pet. 90; Paper 7, 2.

B. The ’601 Patent

The ’601 patent titled, “Network Resource Manager In a Mobile Telecommunication System,” describes “a method and arrangement for providing end-to-end Quality of Service [QoS] within a mobile

¹ *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (“*Fintiv*”)

telecommunication system.” Ex. 1001, codes (54), (57); *see also id.* at 2:7–16 (discussing the need for management of resources in order to provide appropriate QoS). As described in the specification, a “current networking trend is to provide ‘IP (Internet Protocol) all the way’ to wireline and wireless units.” *Id.* at 1:47–48. One big challenge in this trend “lies in supporting multiple services with different Quality of Service (QoS) requirements that is providing e.g. an appropriate delay, jitter and packet loss guarantees for each service.” *Id.* at 2:7–10. A stated “object of the present invention is to achieve automatic network resource management for providing appropriate end-to-end QoS for sensitive services throughout a wireless and IP transmission based communication network.” *Id.* at 4:66–5:2.

The ‘601 patent states that this object is:

achieved by introducing at least one Network Resource Managers (NRM) into a cellular telecommunication system e.g., within a RAN [radio access network] and/or within a network means e.g. a CN [core network] in accordance with the present invention. The NRM monitors and/or manages and/or reserves resources within the network with IP [Internet protocol] based transmission within the cellular telecommunication system and a bearer service manager, such as a RAB service manager, manages radio resources in the wireless part of the cellular telecommunication network.

Id. at 5:10–19; *see also id.* at code (57).

Figure 6 of the '601 patent, showing an exemplary wireless system (*id.* at 5:66–67), is reproduced below.

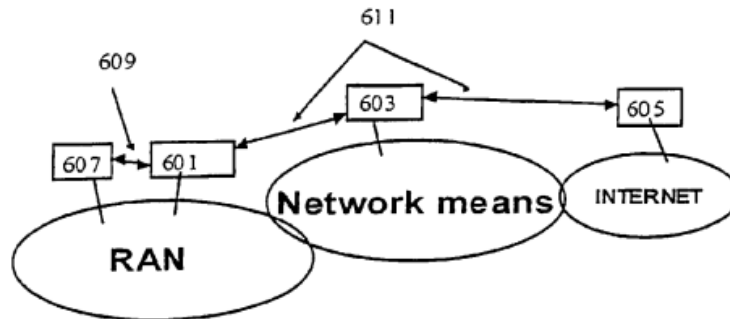


Figure 6, reproduced above, illustrates a radio access network (RAN), a network means, and the Internet. *Id.* at code (57), 6:8–43. The RAN uses Internet Protocol (IP) based transmission. *Id.* at code (57). The network means can include a core network (CN). *Id.* at 6:24–43; *see also id.* at code (57). Figure 6 illustrates network resource managers (NRM) 601, 603, 605 in the RAN, network means, and Internet, respectively. *Id.* at 6:8–43. Figure 6 additionally illustrates a bearer service manager 607, coupled to NRM 601, which is responsible for radio resource management. *Id.* at 6:27–29. An NRM has functionality that “coupl[es] . . . the described NRM entity with radio resource management function/entity that manages the radio resources within the RAN.” *Id.* at 6:8–23.

The '601 patent explains:

The NRM combines the routing information and resource information it receives from call set-up requests to create a resource map . . . [that] contains information on how much resources (e.g. bandwidth) that are available and reserved over time on a per link basis. The NRM uses the resource map to decide whether there are resources available or not (i.e. it performs a call admission control), for a call setup request from an entity/function.

Id. at 7:4–12.

To allow the NRM “to handle resource requests for both immediate and future use,” the 601 patent further discloses that the NRM introduces “a start and a stop time as a parameter in the resource request.” *Id.* at 7:25–28.

The ’601 patent states “[t]he NRMs and the bearer service manager, that controls the radio resources within the wireless part, communicate hence their resource needs between each other through the system in order to obtain end-to-end QoS.” *Id.* at 10:8–11.

C. Illustrative Claim

Petitioner challenges the patentability of claims 1–9 of which claim 1 is the only independent claim. Claim 1 is reproduced below.

1. A method for providing end-to-end Quality of Service (QoS) within a mobile telecommunication system comprising a Core Network (CN) connected to at least one Radio Access Network (RAN) using Internet Protocol (IP) based transmission, the method comprising the steps of:

handling radio resources within the RAN by using a radio resource manager;

controlling IP network resources by using a resource map in a Network Resource Manager (NRM) in order to provide said end-to-end QoS, the step of controlling the IP network resources including the steps of the NRM performing path-sensitive call admission control by using the resource map in the NRM, the NRM checking that resources are available along a path, and the NRM pre-allocating resources in an IP network;

scheduling resources over time by introducing a start and a stop time as a parameter in a resource request handled by the NRM;

communicating resource information between the NRM and the radio resource manager; and

reserving the IP network resources along the path by the NRM
to fulfill the end-to-end QoS.

Ex. 1001, 10:18–39.

D. Asserted Grounds of Unpatentability

Petitioner, supported by a declaration of Dr. R. Michael Buehrer (Ex. 1003), asserts the following grounds of unpatentability (Pet. 13)²:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–8	103(a)	Patel-225 ³ , Schelén-1999 ⁴ , Schelén-1997 ⁵
2–5	103(a)	Patel-225, Schelén-1999, Schelén-1997, Patel-764 ⁶
9	103(a)	Patel-225, Schelén-1999, Schelén-1997, Degermark ⁷
1–8	103(a)	Patel-225, Schelén-1999, Schelén-1997, Patel-185 ⁸ , Patel-624 ⁹
2–5	103(a)	Patel-225, Schelén-1999, Schelén-1997, Patel-185, Patel-624, Patel-764
9	103(a)	Patel-225, Schelén-1999, Schelén-1997, Patel-185, Patel-624, Degermark

² We apply the pre-AIA version of 35 U.S.C. § 103 because it appears the challenged claims have an effective filing date prior to March 16, 2013, the effective date of the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”). See Ex. 1001, codes (22), (86), (60).

³ U.S. Pat. No. 7,043,225, issued May 9, 2006 (Ex. 1005, “Patel-225”).

⁴ “Performance of QoS Agents for Provisioning Network Resources,” Schelén et al., IEEE, 1999 (Ex. 1011, “Schelén-1999”).

⁵ “Sharing Resources through Advance Reservation Agents,” Schelén et al., 1997 (Ex. 1031, “Schelén-1997”).

⁶ U.S. Pat. No. 6,850,764, issued Feb. 1, 2005 (Ex. 1007, “Patel-764”).

⁷ “Advance reservations for predictive service in the Internet,” Degermark et al., 1997 (Ex. 1019, “Degermark”).

⁸ U.S. Pat. No. 6,865,185, issued Mar. 8, 2005 (Ex. 1008, “Patel-185”).

⁹ U.S. Pat. No. 7,068,624, issued Jun. 27, 2006 (Ex. 1010, “Patel-624”).

II. DISCRETIONARY DENIAL UNDER 35 U.S.C. § 314(a)

As noted above, the '601 patent is the subject of parallel district-court litigation. Patent Owner asks that we exercise our discretion to deny the Petition based on the related litigation. *See* Prelim. Resp. 15–21. Seven patents are asserted in that case, including the '601 patent and U.S. Patent No. 7,190,698, which is the subject of IPR2023-00607. *See* Ex. 2002, 6–7. Petitioner argues that the factors outlined in *Fintiv* do not support an exercise of discretion to deny institution. *See* Pet. 86–88.

Institution of an *inter partes* review is discretionary. *See* 35 U.S.C. § 314(a) (2018) (stating “[t]he Director *may not* authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition”) (emphasis added); *Harmonic Inc. v. Avid Tech, Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (“[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.”).

Whether to exercise such discretion is informed by the Director’s Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (“Interim Procedure”), which discusses the application of the Board’s precedential decision in *Apple Inc. v. Fintiv, Inc.*¹⁰ As described in *Fintiv*, there are six factors that we consider when determining whether to use our discretion to deny institution due to the advanced state of parallel litigation:

¹⁰ Available at https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621.pdf

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board's exercise of discretion, including the merits.

Fintiv at 6. “These factors relate to whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding.” *Id.* In evaluating these factors, we take “a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Id.* (citing Patent Trial and Appeal Board Consolidated Trial Practice Guide 58 (Nov. 2019), <https://www.uspto.gov/TrialPracticeGuideConsolidated>). For the reasons below, we decline to deny institution under § 314(a).

A. Whether a Stay Exists or Is Likely to Be Granted

A stay of a related proceeding pending resolution of the PTAB trial “allays concerns about inefficiency and duplication of efforts.” *Fintiv* at 6. At this time, no stay has been requested or ordered in the district court. Pet. 86. Patent Owner argues that there is no evidence that the district court would grant a stay “in view of the fact that 5 out of the 7 patents asserted in the Texas Action are not subject to any post-grant proceedings in the PTAB.” Prelim. Resp. 17. As such, there has been no denial of a stay to

weigh this factor against exercising discretion to deny institution. *See Fintiv* at 6–7. We, thus, treat this factor as neutral.

B. Proximity of the Trial Date to Our Projected Statutory Deadline

We evaluate our discretion to deny institution in light of a trial date that has been set in a parallel litigation under the proximity factor in *Fintiv*. *See Fintiv* at 3, 5. In *NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 20 (PTAB Sept. 12, 2018) (precedential) (“NHK”), the Board expressed concern that a trial before the deadline for a final written decision addressing the same prior art and arguments would have undermined the Board’s objectives of providing an effective and efficient alternative to district court litigation (citing *General Plastic Indus. Co., Ltd. v. Cannon Kabushiki Kaisha*, IPR2016-01357, Paper 19 at 16–17 (PTAB Sept. 6, 2017 (precedential))).

The parties filed a copy of the Joint Motion to Amend the Docket Control Order (Ex. 1043), along with briefing that addressed the proposed new district court schedule. *See* Pet. Prelim. Reply, PO Prelim. Sur-reply. Petitioner informs us that “[t]he proposed schedule provides for a 5-month extension for all future litigation deadlines, including claim construction and trial [and] the district court held a hearing tentatively granting the parties’ request and referred to an expectation of scheduling trial in late October or November 2024.” Pet. Prelim. Reply 1 (internal citations omitted).

The projected statutory deadline for a final written decision in this matter is September 26, 2024. *See* 35 U.S.C. § 316(a)(11). The predicted trial date is therefore about one or two months *after* the projected final written decision deadline. Thus, in view of the likelihood that a final written decision will precede the trial date, *Fintiv* factor 2 weighs in favor of not

denying institution, particularly because if the final written decision precedes the district court date, Petitioner would be estopped under 35 U.S.C. § 315(e)(2) from raising at trial any grounds that were raised or reasonably could have been raised in this proceeding.

C. Investment in the Parallel Proceeding by the Court and Parties

If, at the time of institution, the district court in the parallel proceeding has issued substantive orders related to the challenged patent, such as a claim construction order, this fact weighs in favor of denial. *See Fintiv* at 9–10. On the other hand, if the district court has not issued such orders, this weighs against discretionary denial. *Id.* at 10.

Petitioner argues that factor 3 weighs against discretionary denial because “the co-pending litigation is still in its very early stages” and claim construction briefs “are not due until next spring.” Pet. Prelim. Reply 1 (citing Ex. 1044). Petitioner also asserts that the parties will not “begin narrowing the asserted claims or invalidity arguments until next spring.” *Id.*

Patent Owner argues that “the parties have exchanged initial disclosures, infringement contentions, and invalidity contentions.” PO Prelim. Sur-Reply 1. Patent Owner further asserts that discovery is underway and that the district court has entered a docket control order, discovery order, and protective order. *Id.* at 1.

Patent Owner cites *Supercell Oy v. Gree, Inc.*, IPR2020-00513, Paper 11 at 12 (PTAB June 24, 2020) (“*Supercell*”) to support that “substantial investments strongly weigh in favor of discretionary denial.” Prelim. Resp. 19. In contrast with *Supercell*, however, claim construction has not been briefed or argued, the district court has not issued its claim construction, and fact and expert discovery has not closed. *See Supercell* at

6, 7, 11–12. *Id.*; see Pet. 87 (“parties have not exchanged preliminary positions on claim construction or invalidity, expert discovery has not begun”). Thus, *Supercell* is distinguishable from the instant case. Although there has been some activity in the parallel proceeding, that litigation is still in its early stages. The record before us does not show extensive investment by either party or district court.

Accordingly, we consider the investment in the parallel proceeding by the court and the parties to be a neutral factor.

D. Overlap of Issues Raised in the Petition and the Parallel Proceeding

“[I]f the petition includes the same or substantially the same claims, grounds, arguments, and evidence as presented in the parallel proceeding, this fact has favored denial.” *Fintiv* at 12. “Conversely, if the petition includes materially different grounds, arguments, and/or evidence than those presented in the district court, this fact has tended to weigh against exercising discretion to deny institution under *NHK*.” *Id.* at 12–13.

Patent Owner contends that “Petitioner’s invalidity contentions, served on March 22, 2023, set out substantially the same arguments to those of the Petition” and “allege the same prior art alleged in the Petition: Patel-225, Patel-764, Patel-624 (referred to as ‘Dantu’ in the Contentions), and Degermark.” Prelim. Resp. 19–20 (citing Ex. 2002 (Defendant Cisco Systems Contentions in the district court proceeding)). Petitioner contends “[t]here is no present overlap of prior art issues due to the early stage of district court litigation.” Pet. 88.

Exhibit 2002 includes a list of more than 40 prior art patents and publications and approximately 20 printed publications applied against the teachings of the ’601 patent. Ex. 2002, 10–14. The list includes all of the

prior art references relied upon by Petitioner in this proceeding. *See id.* at 11–13. Evidence has not been provided that the district court invalidity contentions are substantially the same as those raised in the Petition. Indeed, only a handful of the more than sixty prior art references listed in Exhibit 2002 is asserted against the '601 patent claims in the patentability challenges raised in the Petition. Pet. 13. Thus, any overlap unpatentability issues between our proceeding and the district court is at most speculative. Moreover, to the extent that any overlap exists, a final decision issued before the district court trial, as noted above, would moot any overlap in grounds because Petitioner would be estopped from raising those grounds at trial.

Accordingly, we concluded that this factor favors not denying institution.

E. Overlap of the Parties

Patent Owner and Petitioner are the same parties in the parallel proceeding. Pet. 88; Prelim. Resp. 20. Accordingly, this factor weighs in favor of discretionary denial. *Fintiv* at 13–14 (if the petitioner is unrelated to the defendant in the parallel proceeding, that might weigh against denial).

F. Other Circumstances that Impact the Board's Exercise of Discretion, Including the Merits

The final factor takes into account any other relevant circumstances, including the merits. “For example, if the merits of a ground raised in the petition seem particularly strong on the preliminary record, this fact has favored institution.” *Fintiv* at 14–15. “[C]ompelling, meritorious challenges will be allowed to proceed at the PTAB even where district court litigation is proceeding in parallel.” Interim Procedure 4.

Here, factors 1 and 3 are neutral. However, factors 2 and 4 weigh in favor of not denying institution, while factor 5 favors denying institution. Thus, we conclude this factor weighs in favor of discretionary denial. In this case, we find the merits compelling for the reasons stated below, and as such we need not determine the extent to which other relevant circumstances not discussed in the other factors could have impacted this analysis. Below, we address the merits of the patentability challenges set forth in the Petition. We then address whether the Petition presents compelling merits.

III. DISCRETIONARY DENIAL UNDER 35 U.S.C. § 325(d)

Under 35 U.S.C. § 325(d), “[i]n determining whether to institute . . . , the Director may take into account whether, and reject the petition . . . because, the same or substantially the same prior art or arguments previously were presented to the Office.” Petitioner argues that denial under § 325(d) is not appropriate because “[n]one of the references presented in the petition were cited or considered by the Examiner during prosecution of the ’601 patent.” Pet. 85. Petitioner acknowledges that the “Schelén Thesis,” a doctoral thesis by Olov Schelén (Ex. 1012), was before the examiner and has some overlap in subject matter with the disclosures of Schelén-1999, Schelén-1997, and Degermark. *Id.* Petitioner contends that “the relevant teachings and the evidence were not considered as presented herein.” *Id.*

Patent Owner contends that “Petitioner’s blanket statement that ‘the relevant teachings and the evidence were not considered as presented herein’ is insufficient to satisfy Petitioner’s burden under 325(d).” Prelim. Resp. 21. Patent Owner argues that Petitioner failed to address “the substantive facts of the references in the context of 325(d),” which should be “fatal” to its Petition and that the similarities between the Schelén Thesis and the

references relied on in the Petition “preclude any finding that the Petition provides ‘compelling merit.’” *Id.*

In determining whether to deny institution under § 325(d), we use the following two-part framework: (1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and (2) if either condition of [the] first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.

Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential).

Under the first part of the *Advanced Bionics* framework, we consider “whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office.” *Id.* It is undisputed that the same art was not presented to the Office. The question before us is whether substantially the same art or arguments were previously presented.

The Schelén Thesis is cited on the face of the ’601 patent. *See* Ex. 1001, code (56). The Schelén Thesis has a common author with Schelén-1997, Schelén-1999, and Degermark. *See* Prelim. Resp. 21. Patent Owner states that there are “similarities in subject,” but does not direct us to specific overlap in the content of the Schelén Thesis and the art cited in the Petition. *Id.* In addition, Patent Owner does not indicate that any arguments made during prosecution are “substantially similar” to those before us in this proceeding. Overlap in authorship on its own is not sufficient to persuade us that the same or substantially the same art or arguments previously were presented to the Office. As a result, Patent Owner has not satisfied the first

part of the *Advanced Bionics* framework. Accordingly, for the reasons discussed above, we decline to deny institution under § 325(d).

IV. ANALYSIS

A. *Level of Ordinary Skill in the Art*

As part of our obviousness analysis, we consider the level of ordinary skill in the pertinent art at the critical time. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). The resolution of this question is important because it allows us to “maintain[] objectivity in the obviousness inquiry.” *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). In assessing the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). 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.”).

Petitioner asserts that a person of ordinary skill in the art:

would have had a working knowledge of the mobile telecommunication network art that is pertinent to the ’601 patent. A POSITA would have had a bachelor’s degree in computer science, computer engineering, electrical engineering, or an equivalent, and two years of experience working with wireless communication systems, including cellular networks that utilize IP-based core networks. Lack of work experience can be remedied by additional education, and vice versa.

Pet. 11 (citing Ex. 1003 ¶¶ 19–21).

Patent Owner does not challenge Petitioner’s description of the level of ordinary skill in the art. Prelim. Resp. 6. We are persuaded that Petitioner’s description is consistent with the prior art and patent specification. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). For purposes of this Decision, we adopt Petitioner’s description.

B. Claim Construction

In an *inter partes* review proceeding, a patent claim shall be construed using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b). 37 C.F.R. § 42.100(b) (as amended Oct. 11, 2018). Our rule adopts the same claim construction standard used by Article III federal courts, which follow *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc), and its progeny. Under this standard, the words of a claim are generally given their “ordinary and customary meaning,” which is the meaning the term would have to a person of ordinary skill at the time of the invention, in the context of the entire patent including the specification. *See Phillips*, 415 F.3d at 1312–13.

Petitioner asserts that “no claim term requires express construction,” but nevertheless states “a POSITA would have understood term ‘*Network Resource Manager (NRM)*’ to include a centralized or distributed agent or bandwidth broker.” Pet. 11–12 (citing Ex. 1003 ¶¶ 53–57). Patent Owner “agrees that claim construction is unnecessary.” Prelim. Resp. 6. We determine that no claim terms require express construction for purposes of this Decision. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017).

C. Overview of the Asserted Prior Art

1. Patel-225 (Exhibit 1005)

Patel-225 relates to a “method and system for brokering bandwidth in a wireless communications network.” Ex. 1005, code (57). Patel-225 describes a disadvantage of wireless communications networks:

[w]ireless communications networks use the IP QoS architecture to support transmission of data and/or voice traffic between mobile devices and a wireline network. Typically, wireless consumers sign-up for wireless telephony and data services in a defined coverage area at a specified QoS policy and price. Once outside the coverage area, the wireless services may not be available to a consumer or may only be available at an unknown price and QoS policy. This limits true mobility of the devices within a wide geographic area.

Id. at 1:61–2:2.

As described in the reference, Patel-225’s invention substantially eliminates or reduces problems and disadvantages associated with previous methods and systems by brokering “wireless bandwidth in a region . . . to consumers for specified periods of time at agreed upon terms. This allows discreet segments of bandwidth to be commercialized and bandwidth use in the network to be maximized.” *Id.* at 2:6–14. Further, “consumers may specify resource location, price, QoS policy and other parameters to bandwidth providers.” *Id.* at 2:45–47.

Figure 1 of Patel-225 illustrates a wireless communications network according to an embodiment (*id.* at 3:33–35) and is reproduced below:

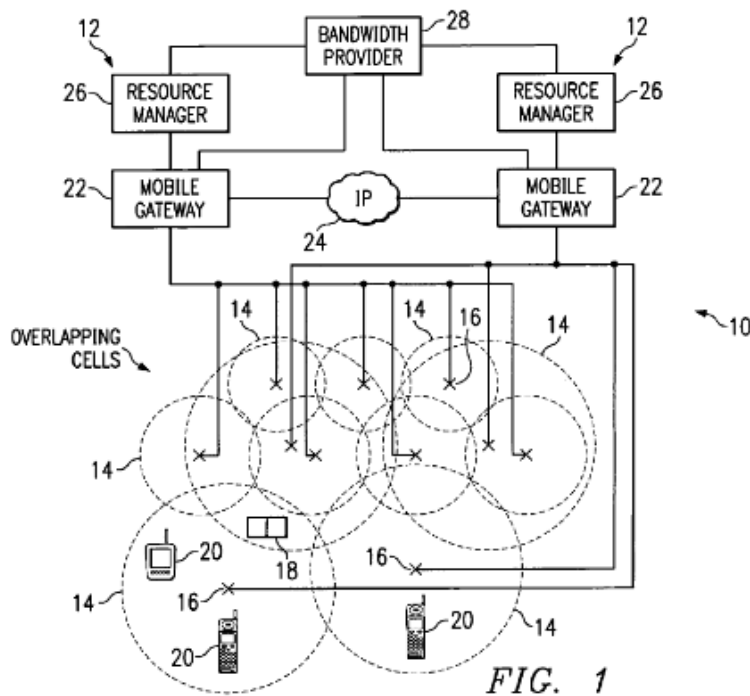


Figure 1 shows wireless network 10 having two overlapping cellular networks 12, each covering a contiguous area that is broken down into a series of overlapping cells 14. *Id.* at 3:59–4:12. Each cell 14 has a base station, or server, 16, which provides a radio frequency (RF) link for mobile devices 20 in a corresponding cell 14. *Id.* at 4:1–28.

Patel-225 describes “mobile gateways 22 in each cellular network 12 provide connectivity from the wireless portion of the cellular network 12 to a wireline portion 24 of the wireless network 10 . . . [t]he wireline portion 24 may be the Internet . . . [f]or the Internet, the mobile gateways 22 provide an access, or entry point for all transport control protocol/Internet protocol (TCP/IP) data connections to the wireless portion of the network 12.” *Id.* at 5:6–15. In each cellular network 12:

a service level agreement (SLA), or resource manager 26 manages bandwidth and other suitable network resources of the network provider. . . . the resource manager 26 receives requests

for wireless services from a consumer, service provider, bandwidth broker or other requester, determines resource availability based on the request, generates a response based on resource availability, and sends the response to the requester.

Id. at 5:31–51. Figure 2 illustrates service terms for a service level agreement. *Id.* at 6:22–23.

One or more bandwidth providers 28:

communicate with the resource managers **26** of the cellular networks **12** and/or mobile gateways **22** within the cellular networks **12** to intelligently broker bandwidth and other suitable wireless resources of the network providers to third parties based on time and space considerations such as geo-location of the demand and supply within the networks **12**. The bandwidth providers may be a service provider such as an Internet Service Provider (ISP) or a bandwidth broker.

Id. at 5:61–6:2.

2. *Schelén-1999 (Ex. 1011)*

Schelén-1999 relates to “performance measurements for resource provisioning in a prototype QoS agent.” Ex. 1011, abstract. Schelén-1999 describes a “topology-aware QoS agent (also known as a bandwidth broker) responsible for admission control.” *Id.*¹¹ Schelén-1999 further describes a prototype including functionality for “performing path-sensitive end-to-end admission control.” *Id.* at 18. A resource map may be used for admission control. *Id.* The prototype supports both immediate and advance reservations with a starting time and finishing time. *Id.*

¹¹ Unless otherwise noted, we use the original page numbers in the references.

3. *Schelén-1997 (Ex. 1031)*

Schelén-1997 relates to “an architecture where clients can make advance reservations through agents responsible for advance admission control.” Ex. 1031, Abstract. Schelén-1997 describes a lookahead time as a “pre-allocation time, i.e., the time for starting to set aside resources for advance reservations.” *Id.* at 268. Schelén-1997 states:

by monitoring advance reservations for the near future when admitting immediate requests, we can to some extent control the risk of preemption. If there are insufficient resources available in the near future, the request could be rejected instead of serviced. It is up to the provider to decide whether rejection or preemption is preferable in these cases.

Id.

4. *Patel-764 (Ex. 1007)*

Patel-764 relates to a “method and system for allocating bandwidth in a wireless communications network.” Ex. 1007, code (57). Patel-764 describes a bandwidth broker or QoS manager 320:

intelligently broker[s] bandwidth based on time and space considerations such as the geo-location of the demand and supply. The QoS manager **320** interacts with QoS managers **332** of other network domains **334** to negotiate various QoS provisioning **336**. . . . the allocation algorithms and functions may be distributed to various network elements such as application servers, routers and/or IP gateways, or cell sites to effectively allocate bandwidth.

Id. at 16:46–67.

5. *Degermark (Ex. 1019)*

Degermark relates to “advance reservations for predictive service in the Internet.” Ex. 1019, 1 (title) (capitalization omitted). Degermark describes measurement-based admission wherein an “admission decision for

advance reservations is based on information about flows that overlap in time. For flows that have not yet started, the requested values are used, and for those that have already started measurements are used.” *Id.* at 177 (Abstract). Degermark further describes “[a]dmission control is performed in each switch along the path of a flow. Admission requests will be carried to the switches by an end-to-end resource reservation protocol.” *Id.* at 178.

6. *Patel-185 (Ex. 1008)*

Patel-185 relates to a “method and system for queuing traffic in a wireless network.” Ex. 1008, code (57). Patel-185 states that the invention of Patel-185 provides “improved wireless services . . . [and] end-to-end QoS is assured.” *Id.* at 3:54–59.

7. *Patel-624 (Ex. 1010)*

Patel-624 relates to a “wireless router and method for processing traffic in a wireless communications network.” Ex. 1010, code (54) (title) (capitalization omitted). Patel-624 describes “cellular and other wireless networks [] implemented with wireless routers that provide an all-Internet protocol (IP) access network, distribute traffic processing functionality to the cells, and seamlessly interwork with the core IP network.” *Id.* at 2:7–11. Patel-624 further describes a “wireline router network forms the core IP network and may be the Internet, intranet, extranet, or other suitable local, wide area network, or combination of networks.” *Id.* at 5:57–60.

D. *Obviousness Over Patel-225, Schelén-1999, and Schelén-1997*

Petitioner asserts that claims 1–8 are unpatentable under 35 U.S.C. § 103 as obvious over Patel-225, Schelén-1999, and Schelén-1997, citing the Declaration of Dr. R. Michael Buehrer for support. Pet. 13–67 (citing Ex. 1003). In reply, Patent Owner argues that the prior art is missing two

elements of independent claim 1. *See, e.g.*, Prelim. Resp. 1–2. As to the first missing element, Patent Owner argues the prior art is missing “communicating resource information between the NRM and the radio resource manager” (Ex. 1001, 10:18–39 (claim 1)). *See, e.g.*, Prelim. Resp. 1–2. As to the second missing element, Patent Owner argues the prior art is missing “end-to-end QoS [Quality of Service]” (Ex. 1001, 10:18–39 (claim 1)). *See, e.g.*, Prelim. Resp. 1–2. We discuss Petitioner’s and Patent Owner’s arguments below.

1. Independent Claim 1

Petitioner’s contentions regarding the teachings of Patel-225, Schelén-1999, and Schelén-1997 in regards to claim one are summarized as follows: Patel-225 teaches “a method and system for brokering bandwidth in a wireless communications network” for “mobile devices.” Pet. 22 (citing Ex.1005, 2:5–42, code (57)). Petitioner argues that “Patel-225’s wireless communications network 10 supports ‘different class or quality of service (QoS) types such as gold, silver, bronze, premium, assured, and best effort.’” *Id.* at 23 (citing Ex.1005, 6:32–35). Petitioner contends one of ordinary skill in the art would have looked to Schelén-1999, and Schelén-1997 to provide details as to how to implement elements such as premium QoS and end-to-end admission control. *Id.* at 26–27.

As to the CN and RAN with IP protocol-based transmission, Petitioner contends that Patel-225’s mobile wireless communications network 10 includes those elements because it supports the WCDMA standard. *Id.* at 31 (citing Ex. 1005, 4:20–28; Ex.1003, ¶¶145–147); *see also id.* at 33 (directing us to Patel-225’s discussion of wireless communication networks using IP protocol). Petitioner asserts that the recited radio resource

manager is taught by Patel-225's resource manager 26. *Id.* at 34 (citing Ex.1005, 5:31-39). According to Petitioner, "Patel-225 discloses that 'the resource manager 26' ('*radio resource manager*') 'receives requests for wireless services from a ... bandwidth broker' ('*NRM*') and engages in 'additional negotiations' for 'bandwidth and other suitable wireless resources.'" *Id.* at 53 (citing Ex.1005, 5:33–6:2).

As to the NRM, Petitioner contends that "Patel-225's system includes a "bandwidth provider[that] may be...a bandwidth broker." *Id.* at 36 (citing Ex.1005, 5:61–6:2). Petitioner notes that Patel-225's "bandwidth brokers manage the allocations of bandwidth within their network domain and communicate with bandwidth brokers of other network domains to negotiate QoS parameters." *Id.* at 38 (citing Ex.1005, 1:56–61). Further, Patel-225 discloses that its bandwidth broker "control[s] and allocate[s] Internet or other network bandwidth" and this bandwidth may be allocated "for immediate use" or in advance for use "at a specified future time" and location. Pet. 45 (citing Ex.1005, 1:52–66, 7:49–56, 8:60–62). Petitioner states that "Schelén-1999 expressly discloses that a bandwidth broker (called QoS 'agent') uses a 'resource-map' to perform 'end-to-end admission control' within its IP network domain." *Id.* at 39 (citing Ex.1011, 17–18). Petitioner further argues that Schelén-1999 discloses that performing admission control at call initiation and it "further discloses that the bandwidth broker 'performs path-sensitive admission control,' including using a 'resource map to perform admission control in [its] domain.'" *Id.* at 41 (citing Ex.1011, 17–18; Ex. 1003 ¶ 177). Petitioner also asserts that "Schelen-1997 discloses that 'end-to-end reservations... involving several routing domains are handled by cooperation between the involved'

bandwidth brokers.” Pet. 27 (citing Ex. 1031, 265–66; Ex. 1003 ¶¶137–140).

Petitioner contends that one of ordinary skill in the art would have combined the teachings of Patel-225, Schelén-1999, and Schelén-1997 because these analogous references “address the same problem of performing admission control for immediate and advanced reservations.” *Id.* at 19. Further, Petitioner argues that Patel-225 discloses a bandwidth broker performing admission control services, however, it does not provide sufficient detail as to how the bandwidth broker performs these services. *Id.* at 20. As such, the ordinarily skilled artisan would have looked to Schelén-1999 and Schelén-1997 to “provide implementation details regarding how a bandwidth broker performs admission control to manage allocation of IP network resources as (already) suggested by Patel-225.” *Id.* at 20. Petitioner contends that the proposed combination would have yielded predictable results and any changes necessary to implement this system would have been within the skill of the person of ordinary skill in the art. *Id.* at 21.

Patent Owner argues “the challenged claims are not obvious in view of the proposed combinations because the prior art fails to disclose or render obvious ‘communicating resource information between the NRM and the radio resource manager’” as recited in claim 1. Prelim. Resp. 8–14 (capitalization and bold omitted). In more detail, Patent Owner argues “Petitioner’s mapping of the claimed NRM to Patel’s Bandwidth Provider 28 is incorrect” (Prelim. Resp. 8–12) and “Petitioner fails to identify any ‘communication of resource information’” (Prelim. Resp. 12–14). Additionally, Patent Owner argues “the prior art fails to disclose or render

obvious ‘End-to-End QoS,’” another recited limitation of claim 1. Prelim. Resp. 14–15 (capitalization and bold omitted). We address Patent Owner’s arguments in turn.

Patent Owner argues that Patel-225’s bandwidth broker cannot teach the recited NRM because “Bandwidth Provider 28 is not aware of any underlying networks and may not even be software or hardware implemented. In particular, Patel-225 describes the Bandwidth Providers as a person, such as a ‘travel . . . agent’ or ‘other’ human agent.” *Id.* at 4 (citing Ex. 1005, 2:60–65). According to Patent Owner, Patel-225’s bandwidth broker is either a person or a computer implementation that “simply tak[es] what a person does and do[es] it on a computer.” *Id.* at 5. Thus, Patel-225’s bandwidth broker cannot render obvious the recited NRM because “the claimed NRM is performing functions not capable of being performed by a person” and “it would be impracticable and completely unrealistic to permit the Bandwidth Provider 28 to have access to the resource information required by the claimed NRM for performing path-sensitive call admission control given the business and security concerns.” *Id.* at 8, 10.

On this record, we are not persuaded that this is a proper reading of Patel-225’s teachings. First, the language Patent Owner relies on from Patel-225’s specification does not appear to be limited to “a person, such as a ‘travel . . . agent’ or ‘other’ human agent.” *See id.* at 4.” Patel-225 states

The wireless resources may be reserved from a service provider, bandwidth broker, travel or other agent, or directly from the network provider and may be reserved through the Internet or other network, a kiosk or other terminal, a phone line, a handset by data input, Voice or other commands.

Ex. 1005, 2:60–65. The cited language explains that resource reservations may be performed by (1) a service provider, (2) a bandwidth broker or (3) a

travel or other agent. This description does not appear to equate the bandwidth broker with the “travel or other agent.” Further, Petitioner asserts and, on this record, we agree that Patel-225 states that a “bandwidth broker may correspond to a service provider 28.” Pet. 17 (citing Ex. 1005, 5:61–6:4) (“The bandwidth providers may be a service provider such as an Internet Service Provider (ISP) or a bandwidth broker.”).

In addition, the surrounding language does not support viewing a bandwidth broker as a human agent as Patent Owner asserts. Patel-225 explains that “[r]ecent proposals for the IP QoS architecture include supporting bandwidth brokers that control and allocate Internet or other network bandwidth. The *bandwidth brokers can be programmed* with an organization’s policies, current allocation traffic, and new requests for allocations.” *Id.* at 1:52–56 (emphasis added). We are not persuaded that a person of ordinary skill in the art would understand programming a bandwidth broker to be something that would be performed on a person. As an additional finding, we note that claim 51 of Patel-225 recites, in relevant part “available wireless services are determined at the *centralized brokerage device* based on the service criteria.” *Id.* at 16:34–38 (emphasis added). Thus, on this record, we do not find Patent Owner’s argument to be persuasive.

Patent Owner further argues that “Petitioner fails to identify any ‘communication of resource information,’ as required by the claims.” Prelim. Resp. 12. According to Patent Owner, Petitioner relies on Patel-225’s disclosure of a bandwidth broker that communicates with the resource managers “to intelligently broker bandwidth and other suitable wireless resources.” *Id.* (citing Ex. 1005, 5:61–67). Patent Owner argues that the

“brokering in the passage from Patel-225 above likely refers to price considerations communicated on behalf of third parties rather than resource information itself.” *Id.* at 13.

On the current record, we are persuaded that Petitioner’s allegations and evidence are of a broader nature than one would be led to believe based on Patent Owner’s above description of Petitioner’s evidence. Petitioner asserts

Patel-225 discloses that “the resource manager 26” (“radio resource manager”) “receives requests for wireless services from a ... bandwidth broker” (“NRM”) and engages in “additional negotiations” for “bandwidth and other suitable wireless resources.” The resource manager 26 “generates a response based on resource availability, and sends the response” to the bandwidth broker. The resulting agreed upon terms “define a SLA and may specify a wireless region, price, time, type of service, bandwidth and other suitable conditions of service.”

Pet. 53–54 (citing Ex. 1005, 5:25–6:2; Fig. 2; Ex. 1003 ¶¶ 212–215) (internal citations omitted). As noted in Patel-225, the bandwidth broker is used to request wireless service and in response to that request a response is sent from the resource manager. “The request and reply may each be an offer to accept or provide services, an acceptance of an offer, or a partial offer to accept or provide services including both specified and open terms.” Ex. 1005, 5:39–42. “The agreed upon terms define a SLA and may specify a wireless region, price, time, type of service, bandwidth and other suitable conditions of service.” *Id.* at 5:45–48. As further described in Patel-225, “the SLA 30 includes access region parameters 32, price parameters 34, service type parameters 35, time parameters 36, and bandwidth parameters 38.” *Id.* at 6:24–27. The ’601 patent indicates that “resource information” would at least include information about bandwidth. Ex. 1001, 7:4–9. Thus,

Patel-225's bandwidth broker communicates information that could be fairly characterized as "resource information," such as bandwidth and type of service.

Finally, Patent Owner asserts that the challenged claims require "end-to-end QoS," but "Petitioner relies primarily on Patel-225 [and] provides several illogical leaps to reach 'end-to-end QoS.'" Prelim. Resp. 14. According to Patent Owner, Petitioner "engages in a series of method gymnastics" in order to "extrapolate[] the disclosure of 'different class' to mean a standard known as 'differentiated services'" and then to extrapolate that "differentiated services" inherently requires end-to-end QoS. *Id.* 14–15 (citing Pet. 23).

Patent Owner's arguments, however, do not address the combination of the teachings of Patel-225, Schelén-1997, and Schelén-1999. Petitioner asserts that

the Schelen references teach how the bandwidth broker performs end-to-end admission control to manage IP network resources (limitations [1.2]-[1.5]), performs scheduling for immediate and advance reservations (limitation [1.6], and ***reserve end-to-end IP network resources for end-to-end QoS*** (limitation [1.8])). A person of skill would have found it obvious, when implementing Patel-225's system, to look to and apply the teachings of Schelén-1999 and Schelén-1997 because they provide more implementation details for achieving the results that Patel-225 is already describing.

Pet. 20 (emphasis added). Schelén-1999 provides "a prototype implementation of a QoS agent . . . [that] includes functionality for: . . . ***performing path-sensitive end-to-end admission control.***" Ex. 1011, 18. In addition, Schelén-1997 teaches that "'end-to-end reservations... involving several routing domains are handled by cooperation between the involved' bandwidth brokers." Pet. 27 (citing Ex. 1031, 265–66; Ex. 1003 ¶¶ 137–

140). Petitioner argues that a person of ordinary skill in the art would have understood that the bandwidth broker of Schelén-1999 and Schelén-1997 “performs end-to-end admission control to reserve end-to-end resources. And, because end-to-end resources are reserved in each network domain toward the destination, end-to-end QoS service commitments can be met when providing better than best-effort service (e.g., premium QoS) across multiple network domains.” *Id.* at 27–28 (citing Ex. 1003 ¶ 141). On this record, we find Petitioner’s evidence and argument persuasive.

Upon consideration of Petitioner’s evidence and argument in light of Patent Owner’s opposition, we are persuaded that Petitioner has shown sufficiently for purposes of this Decision that the combination of Patel-225, Schelén-1999, and Schelén-1997 teaches or suggest all of the limitations recited in claim 1.

2. *Dependent Claims 2–8*

Petitioner asserts that claims 2–8 are unpatentable under 35 U.S.C. § 103 as obvious over Patel-225, Schelén-1999, and Schelén-1997, citing the Declaration of Dr. R. Michael Buehrer (Ex. 1003) for support. Pet. 59–67 (citing Ex. 1003). Patent Owner’s Preliminary Response does not separately address these dependent claims. *See* Prelim. Resp.

Based on the evidence in the present record, we are persuaded that Petitioner has shown sufficiently for purposes of this Decision that the combination of Patel-225, Schelén-1999, and Schelén-1997 teaches or suggest all of the limitations recited in claims 2–8.

E. Obviousness Over Patel-225, Schelén-1999, Schelén-1997, and Patel-764

Petitioner asserts that claims 2–5 are unpatentable under 35 U.S.C. § 103 as obvious over Patel-225, Schelén-1999, Schelén-1997, and Patel-764, citing the Declaration of Dr. R. Michael Buehrer for support. Pet. 67–75 (citing Ex. 1003). Patent Owner’s Preliminary Response does not separately address these dependent claims. *See* Prelim. Resp.

Based on the evidence in the present record, we are persuaded that Petitioner has shown sufficiently for purposes of this Decision that the combination of Patel-225, Schelén-1999, Schelén-1997, and Patel-764 teach or suggest all of the limitations recited in claims 2–5.

F. Obviousness Over Patel-225, Schelén-1999, Schelén-1997, and Degermark

Petitioner asserts that claim 9 is unpatentable under 35 U.S.C. § 103 as obvious over Patel-225, Schelén-1999, Schelén-1997, and Degermark, citing the Declaration of Dr. R. Michael Buehrer for support. Pet. 76–80 (citing Ex. 1003). Patent Owner’s Preliminary Response does not separately address this dependent claim. *See* Prelim. Resp.

Based on the evidence in the present record, we are persuaded that Petitioner has shown sufficiently for purposes of this Decision that the combination of Patel-225, Schelén-1999, Schelén-1997, and Degermark teach or suggest all of the limitations recited in claim 9.

G. Obviousness Over Patel-225, Schelén-1999, Schelén-1997, Patel-185, and Patel-624

Petitioner asserts that claims 1–8 are unpatentable under 35 U.S.C. § 103 as obvious over Patel-225, Schelén-1999, Schelén-1997, Patel-185, and Patel-624, citing the Declaration of Dr. R. Michael Buehrer for support.

Pet. 80–84 (citing Ex. 1003). Patent Owner’s Preliminary Response does not separately address these dependent claims. *See* Prelim. Resp.

Based on the evidence in the present record, we are persuaded that Petitioner has shown sufficiently for purposes of this Decision that the combination of Patel-225, Schelén-1999, Schelén-1997, Patel-185, and Patel-624 teach or suggest all of the limitations recited in claims 1–8.

H. Obviousness Over Patel-225, Schelén-1999, Schelén-1997, Patel-185, Patel-624, and Patel-764

Petitioner asserts that claims 2–5 are unpatentable under 35 U.S.C. § 103 as obvious over Patel-225, Schelén-1999, Schelén-1997, Patel-185, Patel-624, and Patel-764 citing the Declaration of Dr. R. Michael Buehrer for support. Pet. 85 (citing Ex. 1003 ¶ 303). Patent Owner’s Preliminary Response does not separately address these dependent claims. *See* Prelim. Resp.

Based on the evidence in the present record, we are persuaded that Petitioner has shown sufficiently for purposes of this Decision that the combination of Patel-225, Schelén-1999, Schelén-1997, Patel-185, Patel-624, and Patel-764 teach or suggest all of the limitations recited in claims 2–5.

I. Obviousness Over Patel-225, Schelén-1999, Schelén-1997, Patel-185, Patel-624, and Degermark

Petitioner asserts that claim 9 is unpatentable under 35 U.S.C. § 103 as obvious over Patel-225, Schelén-1999, Schelén-1997, Patel-185, Patel-624, and Degermark citing the Declaration of Dr. R. Michael Buehrer for support. Pet. 85 (citing Ex. 1003 ¶ 304). Patent Owner’s Preliminary Response does not separately address these dependent claims. *See* Prelim. Resp.

Based on the evidence in the present record, we are persuaded that Petitioner has shown sufficiently for purposes of this Decision that the combination of Patel-225, Schelén-1999, Schelén-1997, Patel-185, Patel-624, and Degermark teach or suggest all of the limitations recited in claim 9.

J. Compelling Merits

“Compelling, meritorious challenges are those in which the evidence, if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence.” *Fintiv* Memo, 4. We determine that on this record, Petition’s obviousness challenge of claim 1 meets this standard. As set forth in the previous sections, Petitioner demonstrates at this stage that the disclosures of Patel-225, Schelén-1999, and Schelén-1997 clearly teach all elements of claim 1. If unrebutted at trial, we would conclude by a preponderance of the evidence that at least claim 1 is obvious based on Patel-225, Schelén-1999, and Schelén-1997.

On the current record, Patent Owner has not identified sufficient evidence that would tip the balance of evidence in a different direction. Patent Owner’s arguments are premised on its assertion that Patel-225’s bandwidth broker is a person. *See e.g.*, Prelim. Resp. 5 (“Being a person, however, the Bandwidth Provider 28 does not have awareness of network characteristics, nor can Bandwidth Provider 28 have the ability to provide ‘path-sensitive call admission control.’”). As described above, we do not find that to be a persuasive reading of the asserted references, which we, on this record, find to disclose a bandwidth broker that is software or hardware based. *See e.g.*, Ex. 1001, 1:52–56 (noting that “***bandwidth brokers can be programmed*** with an organization’s policies, current allocation traffic, and new requests for allocations”). None of Patent Owner’s arguments at this

time provide sufficient evidence that Petitioner’s factual basis for the patentability challenge would not succeed under the preponderance of evidence standard imposed at trial absent additional supporting evidence.

In sum, we determine that Petitioner’s challenge to claim 1 meets the “compelling merits” standard as set forth in the Interim Procedure. For this reason, we decline to exercise our discretion to deny institution under Section 314 (a). *See* Interim Procedure 2 (“[T]he PTAB will not rely on the *Fintiv* factors to discretionarily deny institution in view of parallel district court litigation where a petition presents compelling evidence of unpatentability.”).

V. CONCLUSION

For the foregoing reasons, we determine that the arguments and evidence presented in the Petition establish that there is at least a reasonable likelihood that Petitioner would prevail with respect to at least one of challenged claims 1–9 of the ’601 patent. We therefore institute trial on all challenged claims and grounds raised in the Petition. At this stage of the proceeding, we have not made a final determination as to the patentability of any challenged claim or as to the construction of any claim term. Any final determination will be based on the record developed during trial. We place Patent Owner on express notice that any argument not asserted in a timely-filed Response to the Petition, or in another manner permitted during trial, may be deemed waived, even if that argument was presented in the Preliminary Response.

VI. ORDER

For the foregoing reasons, it is

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review is hereby instituted for the asserted grounds:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–8	103(a)	Patel-225, Schelén-1999, Schelén-1997,
2–5	103(a)	Patel-225, Schelén-1999, Schelén-1997, Patel-764
9	103(a)	Patel-225, Schelén-1999, Schelén-1997, Degermark
1–8	103(a)	Patel-225, Schelén-1999, Schelén-1997, Patel-185, Patel-624
2–5	103(a)	Patel-225, Schelén-1999, Schelén-1997, Patel-185, Patel-624, Patel-764
9	103(a)	Patel-225, Schelén-1999, Schelén-1997, Patel-185, Patel-624, Degermark

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial; the trial will commence on the entry date of this Decision.

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Patent 7,616,601 B2

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