

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HEWLETT PACKARD ENTERPRISE COMPANY,
Petitioner,

v.

INTELLECTUAL VENTURES II, LLC,
Patent Owner.

IPR2021-01378
Patent 6,816,464 B1

Before KEN B. BARRETT, NABEEL U. KHAN, and
STEPHEN E. BELISLE, *Administrative Patent Judges*.

KHAN, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background and Summary

Hewlett Packard Enterprise Company (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1, 2, 4, 5, 19, and 20 (“the challenged claims”) of U.S. Patent No. 6,816,464 B1 (Ex. 1001, “the ’464 patent”). Intellectual Ventures II LLC (“Patent Owner”) timely filed a Preliminary Response (Paper 6, “Prelim. Resp.”).

We have authority to institute an *inter partes* review only if the information presented in the Petition shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2018). Upon consideration of the papers and evidence of record, we conclude that Petitioner has shown a reasonable likelihood of prevailing against at least one of the challenged claims. For the reasons explained below, we institute an *inter partes* review on the challenged claims of the ’464 patent.

B. Related Matters

The parties identify the following matter as related to this case: *Intellectual Ventures I LLC et al. v. Hewlett Packard Enterprise Company*, Case No. 6:21-cv-00226 (W.D. Tex.). Pet. 1; Paper 4, 1.

C. The ’464 Patent

The ’464 patent, titled “Method, System, and Computer Program Product for Route Quality Checking and Management,” relates to voice over Internet protocol [“VoIP”] technology and specifically “route testing and selection over packet switched networks . . . like the Internet.” Ex. 1001, code (54), 1:9–16. The ’464 patent describes that to ensure the quality of

VoIP service over the Internet, route checking and selection are necessary, because “voice data is extremely time dependent,” especially for “latency” and “jitter,” which is variation in latency. *Id.* at 1:19–28. The patent describes a need for a product for route quality checking and management which can test and score routes on a network based on criteria provided by a user. *Id.* at 2:10–15.

The patent discloses a system in which a routing manager accesses information about other gateways and candidate routes to those gateways, sometimes tracing operations to determine the candidate routes to gateways. Ex. 1001, 5:56–61.

When the system receives a call request from the user, the system accesses user-specific information (route ordering) and the destination address (i.e., the number being called/requested) to determine the candidate routes to use in connecting the call. The system tests the candidate routes to ensure call quality. The system may use route quality statistics, along with user specific information, to determine the proper route.

Id. at 6:12–19. “Candidate routes are assigned scores (also known as a level).” *Id.* at 5:64–65.

Figure 4, reproduced below, is a flow chart for determining route quality.

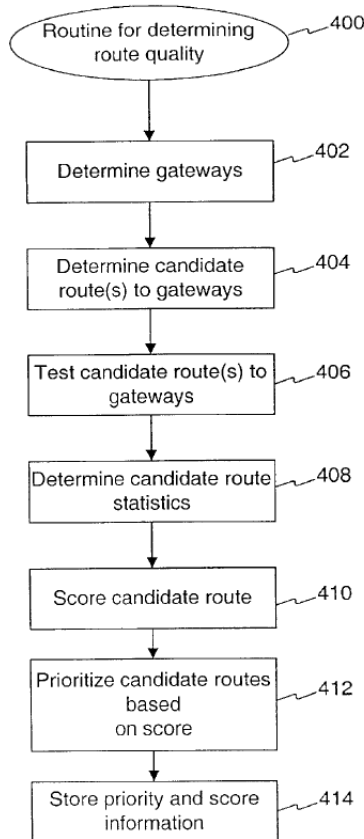


Figure 4 shows a flowchart 400 showing the steps for determining route quality. Ex. 1001, 7:15–17.

The '464 patent also describes a routing manager 306 which configures a scoring table, consisting of hierarchical levels assigned to specific values for the parameters being tested. *Id.* at 8:41–44. “The results (latency, jitter, etc.) of the candidate route testing (see below) are then compared to the values assigned to the levels of the scoring table. Candidate routes are assigned a score based on the level that matches their results.” *Id.* at 8:45–49. Each route is assigned a level, and the route ordering is determined by user set values, which prioritize routes based on factors that include a route’s level. *Id.* at 8:51–54.

D. Illustrative Claim

Claim 1, the only independent claim among the challenged claims, and reproduced below, is illustrative.

1. A method for assessing network routes for use in establishing a communications link within a communications network, comprising the steps of:

- (1) identifying a plurality of candidate routes that can be used to establish said communication link, wherein a terminating gateway associated with each of said plurality of candidate routes is identified;
- (2) transmitting quality measurement packets for each of said candidate routes, wherein said quality measurement packets can be used to determine at least one route quality metric;
- (3) receiving returned quality measurement packets for each of said candidate routes, wherein said returned quality measurement packets can be used to determine route statistics;
- (4) determining route statistics, wherein said route statistics are based on routing information contained within said quality measurement packets;
- (5) configuring a route ordering schedule based on user set levels of route characteristics; and
- (6) scoring each of said candidate routes based on route statistics and said route ordering schedule, wherein a scoring table is configured that includes a quality score and one or more of packet loss, average delay, and average jitter.

Ex. 1001, 13:15–40.

E. Prior Art and Asserted Grounds

Petitioner asserts that claims 1, 2, 4, 5, 19, and 20 would have been unpatentable on the following grounds:

Ground	Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1	1, 2, 4, 5, 19, 20	103(a) ¹	Yaakov ² , Hultgren ³ , Bordonaro ⁴
2	19	103(a)	Yaakov, Hultgren, Bordonaro, Pitts ⁵

In addition, Petitioner relies on the Declaration of Matthew B. Shoemake, Ph.D. (Ex. 1003) in support of the asserted grounds of unpatentability. *See generally* Pet.

II. ANALYSIS

A. Discretionary Denial of Petition under § 325(d)

Patent Owner contends the “Board should deny this Petition because the combination of Yaakov, Hultgren, and Bordonaro and the alleged knowledge of a POSITA is also substantially the same as the combination of several references cited by the Examiner during prosecution the ’464 patent.” Prelim. Resp. 64. Specifically, Patent Owner contends “Petitioner here relies on Hultgren as a reference to describe a conventional routing table, which is the same or substantially the same as art previously presented to the Office (e.g., Zonoun, Bruno, Dalton) and yet fails to make any attempt

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103, effective March 16, 2013. Because the ’464 patent was filed before this date, the pre-AIA version of § 103 applies.

² Yaakov, US 6,748,433 B1, June 8, 2004 (Ex. 1004).

³ Hultgren, WO 98/58474, Dec. 23, 1998 (Ex. 1005).

⁴ Bordonaro, et al., US 6,868,094 B1, Mar. 15, 2005 (Ex. 1008, “Bordonaro”).

⁵ D. Pitts et al., “Red Hat Linux 6 Unleashed: From Knowledge to Mastery”, SAMS, 1999. (Ex. 1007, “Pitts”).

to demonstrate that the Office erred in any way.” *Id.* at 65–66. Also, Patent Owner argues “[s]imilar to Yaakov, the references cited during prosecution are capable of selecting routes that minimally comply with a pre-determined quality of service threshold, but these references were unable to order routes based on a derived quality score,” referring to Thorton, Zonoun, Dalton, Bruno, as well as Alperovich and Mizuta. *Id.* at 66–68.

Petitioner argues “neither the same prior art nor the same arguments previously before the Office are presented in this petition.” Pet. 5. Specifically, Petitioner argues that none of the references relied upon in its Petition (Yaakov, Hultgren, Bordonary, Pitts) “were identified, considered, or cited during prosecution of the ’464 patent.” *Id.* Petitioner also argues that its references disclose limitations that the examiner found to be missing in the prior art. *Id.* Thus, Petitioner argues, the Petition does not present the same or substantially the same prior art or arguments previously presented to the Office.

In evaluating arguments under § 325(d), we use a 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 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). In applying the two-part framework, we consider the non-exclusive factors set forth in *Becton, Dickinson and Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017)

(precedential in relevant part), which “provide useful insight into how to apply the framework” under § 325(d). *Advanced Bionics*, Paper 6 at 9.

Those non-exclusive factors include:

- (a) the similarities and material differences between the asserted art and the prior art involved during examination;
- (b) the cumulative nature of the asserted art and the prior art evaluated during examination;
- (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;
- (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;
- (e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and
- (f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Becton, Dickinson, Paper 8 at 17–18. “If, after review of factors (a), (b), and (d), it is determined that the same or substantially the same art or arguments previously were presented to the Office, then factors (c), (e), and (f) relate to whether the petitioner has demonstrated a material error by the Office.”

Advanced Bionics, Paper 6 at 10.

Under the first part of the § 325(d) framework, the evidence demonstrates none of the references relied upon in the Petition were previously presented to the Office. *See generally*, Ex. 1002. Patent Owner does not dispute this fact. Instead, Patent Owner argues the art presented to the Office during prosecution is similar to the asserted art in at least two respects: (1) that art before the examiner, such as Bruno (Ex. 2002), Zonoun

(Ex. 2003), and Dalton (Ex. 2004) disclose conventional routing tables similar to that of Hultgren and (2) that art before the examiner, such as Thornton (Ex. 2005), teaches a routing system minimally compliant with pre-determined Quality of Service levels but does not order routes based on a derived quality score. Prelim. Resp. 64–69.

As we explain further below in our analysis, however, Petitioner argues, and we agree, Yaakov does disclose both a quality score and a route ordering schedule based on a quality score. *See infra* §§ II.D.6.e–f. Thus, even assuming Patent Owner is correct that Thornton “describes a route selection method that derives a quality score to determine whether a connection is not lower than pre-defined threshold” (Prelim. Resp. 67) there are material differences between Yaakov and Thornton, and the asserted art is not cumulative to the art evaluated during examination. *Becton Dickinson* factors (a) and (b), therefore, do not favor exercising our discretion to deny institution.

Moreover, Petitioner combines Yaakov’s objective quality score with Hultgren’s connection parameter table to argue that the combination teaches a scoring table that includes a quality score and route statistics, such as one or more of packet loss, delay and jitter. *See infra* § II.D.6.f. No such argument, combining the purported “conventional routing tables” of Bruno, Zonoun, and Dalton, with the quality score of Thornton, for example, was made during examination. *See* Ex. 1002, 111–118. *Becton Dickinson* factor (d) also does not favor exercising our discretion to deny institution.

Because there is no overlap between the asserted art and the art previously presented to the Office, and because of the aforementioned reasons, factors (a), (b), and (d) of *Becton, Dickinson* indicate that the same

or substantially the same prior art or arguments were not presented previously to the Office. The first part of the *Advanced Bionic* framework is, therefore, not satisfied, and we need not consider the second part of the framework.

Accordingly, we determine that § 325(d) is not sufficiently implicated such that its statutory purpose would be undermined by institution on all challenges. We, therefore, decline to deny the Petition under § 325(d).

B. Level of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art at the time of the invention “would have had at least a bachelor’s degree in computer science or electrical engineering, plus two years of experience in the field of networking/communications. Additional education in the fields of computer science and/or electrical engineering such as a masters or doctorate degree may serve as a substitute for experience in the field.” Pet. 9. (citing Ex. 1003 ¶¶ 33–38). Patent Owner does not contest Petitioners’ proffered definition, and Patent Owner does not propose its own definition of the level of ordinary skill in the art at this stage of the proceeding. *See generally* Prelim. Resp. Neither Petitioner nor Patent Owner indicates that the outcome of any arguments made in this case would change depending on the level of ordinary skill in the art. For purposes of this Decision, we adopt Petitioner’s description, which we determine to be consistent with the level of skill reflected in the asserted prior art references. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

C. Claim Construction

In this case, we apply the claim construction standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). 37 C.F.R.

§ 42.100(b); *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). Under the *Phillips* standard, claim terms must be given “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Phillips*, 415 F.3d at 1313.

Neither Petitioner nor Patent Owner propose constructions for any claim terms. Pet. 9; Prelim. Resp. 23.

Given the issues presented by the Petition and the Preliminary Response, we determine that express constructions for the aforementioned terms are not necessary at this stage of the proceeding. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017); *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”). To the extent the scope of any claim terms are implicated by the parties’ arguments, we address those issues in the relevant sections of our analysis below.

D. Ground 1 – Obviousness over Yaakov, Hultgren, and Bordonaro

Petitioner contends that claims 1, 2, 4, 5, 19, and 20 are unpatentable as obvious over the combination of Yaakov, Hultgren, and Bordonaro. Pet. 15–73.

We provide a brief overview of the asserted prior art and then analyze the parties’ arguments. As explained below, we determine based on the present record that Petitioner has shown a reasonable likelihood it would

prevail in establishing that claims 1, 2, 4, 5, 19, and 20 are obvious over Yaakov, Hultgren, and Bordonaro.

1. Overview of Yaakov

Yaakov relates to controlling quality of service over a packet switched data network, such as over IP (Internet Protocol), and describes that in order to ensure a given quality of the Voice Signal, a service provider in the packet switched network must assure both a minimum bandwidth at all times, and keep packet loss, packet delay, and packet delay variation within given limits. Ex. 1004, 1:8–12, 1:33–44. Yaakov describes several “intrusive” approaches for measuring quality, including the PQSM and PAMS models, and “non-intrusive” approaches, such as the “E-model of ITUT standard body and a CCI (Call Clarity Index) developed” by British Telecom. *Id.* at 1:62–2:11. However, Yaakov describes that none of the known systems “describes or suggests any combined Quality of Service estimation mechanism for a network, which would enable integral monitoring of the quality of service, and control of the quality of service to be provided.” *Id.* at 2:24–28.

Yaakov improves on present methods with a method of determining quality of telecommunication service over a telecommunication network, which obtains data on quality of service over a number of routes in a network, “by determining, for each route, N of parameters p_i , each of said parameters p_i , reflecting either a quality of transmission of a particular service (transmission type) through said route or a statistical characteristics of said routes availability to a Subscriber,” and then “building an objective quality score (OQS) for each of said routes, the OQS being a multi-profile

quality estimation equation presenting a sum of N said parameters p_i , taken with respective weight functions $W_i(p_i)$ thereof.” Ex. 1004, 2:41–58.

2. Overview of Hultgren

Hultgren relates to obtaining quality connections over “tele/datacommunications networks,” with an object of “dynamic optimization of quality assured connections when such quality service is requested.” Ex. 1005, 1:8–10, 2:21–23.

At commencement of a network session, an “originating node provides (i) an address of the destination node, and (ii) a set of prescribed quality connection parameters,” and “the set of prescribed quality connection parameters is used by a quality connection server to determine an acceptable sequence of links between the originating node and the destination node.” Ex. 1005, 2:29–3:2. In Hultgren, a “quality connection server determines the acceptable sequence of links by consulting a link current status database and/or sending solicitations for bids to a plurality of nodes intermediate the origination node and the destination node.” *Id.* at 3:8–12.

3. Overview of Bordonaro

Bordonaro “relates to Internet protocol (IP) network systems in which voice or other time-sensitive data are sent in packets from a server to a client or vice versa, and more specifically to method and apparatus for measuring data packet delay, jitter and loss in such systems.” Ex. 1008, 1:15–19.

Bordonaro discloses monitoring IP network performance by sending a “timing probe data packet,” which includes a “send time of day stamp,” to a receiver, which writes into the packet a “receive time of day stamp,” and sending the packet back to the sender, who can analyze the difference

between the stamps. Ex. 1008, 1:40–56. The method repeats this process and compares the difference between send and receive for each packet to the other packet. *Id.* at 2:1–9.

4. Petitioner’s Proposed Combination of Yaakov, Hultgren, and Bordonaro and Reason to Combine

Petitioner argues that Yaakov “discloses much of the claims” but that it does not describe, in detail, features such as network routing tables and intrusive network monitoring to determine route quality. Pet. 15–16.

Petitioner argues Hultgren and Bordonaro do describe these features in detail and therefore relies on them in combination with Yaakov to teach using a route map and/or table with Yaakov’s system. Pet. 16. Similarly, Petitioner argues that although Yaakov discloses using packet delay, packet loss, and jitter to calculate and display a route score it does not disclose displaying the packet delay, packet loss, and jitter with the score. Petitioner argues Hultgren does so. *Id.*

Petitioner provides a detailed description of the combination of Yaakov, Hultgren and Bordonaro and the reason one of ordinary skill would combine the teachings of the references. Pet. 15–31. Petitioner supports its assertions with evidence from the references and with credible testimony from Dr. Shoemake. Patent Owner does not dispute Petitioner’s proposed reasons to combine the references. At this stage of the proceeding, we are persuaded Petitioner has provided a sufficient reason to combine the references in the manner described in the Petition.

For example, Petitioner argues that, in view of Hultgren, it would have been obvious to use route maps/tables with Yaakov’s system. Pet. 16. Petitioner argues that Yaakov provides an example of how a packet switched

network cooperates with gateway circuitry to route voice signals end to end using QoS parameters using “information on defined transmission paths.” *Id.* at 16–17 (quoting Ex. 1004, 6:8–20). A person of skill in the art would recognize this “information on defined transmission paths” to indicate the use of routing maps/tables, according to Petitioner. *Id.* at 17 (citing Ex. 1003 ¶¶ 80–81). Petitioner argues that Hultgren also relates to routing data over packet switched networks. *Id.* at 17 (citing Ex. 1005, 1:6–10, 2:1–23, 30:25–32:14). Petitioner argues that Hultgren uses route maps stored in a route map database to ascertain all possible routes between two end nodes and then dynamically determines an acceptable route. *Id.* at 19–21 (citing Ex. 1005, 6:26–28, 7:11–19, 15:6–, 15:12–17, 20:3–9, 22:23–28, 24:32–25:1, Table 1, FIG. 5A, step E4; Ex. 1003 ¶¶ 85–86). Thus, Petitioner argues that a person of ordinary skill would have found it obvious to use Hultgren’s route map teachings with Yaakov’s system because Yaakov already suggests the use of route maps and Hultgren discloses the use of route maps in a similarly situated VoIP network setting.

Petitioner’s argument is supported by Dr. Shoemake’s testimony who testifies that it would have been obvious to use route maps as taught by Hultgren with Yaakov’s system because Yaakov already suggests that route maps should be used and Hultgren expressly discloses the use of route maps in a similarly-situated VoIP network setting to provide listings of available nodes in a network for packet switched communications. Ex. 1003 ¶¶ 88–89 (citing Ex. 1004, 4:61–62, 6:10–12).

Petitioner additionally argues that it would have been obvious to use Bordonaro’s SAA/jitter probe teachings with Yaakov. According to Petitioner, to gather the data necessary to build an OQS for each route,

Yaakov uses Remote Test Units (RTUs) that intrusively monitor its networks by transmitting message probes back and forth and also uses Monitoring System (MSs) to collect data. Pet. 23 (citing Ex. 1004, 7:15–44, 8:7–23, 9:20–47; Ex. 1003 ¶ 93). Yaakov, however, omits the details of its probes, which Bordonaro provides. *Id.* at 24 (citing Ex. 1003 ¶ 94). According to Petitioner, Bordonaro gathers data regarding the network by injecting data packets, such as jitter probes or jitter probe packets, into the network to determine latency, packet loss, and jitter. *Id.* at 25 (citing Ex. 1008, 2:59–67, 4:12–23, 4:66–5:1, 6:46–55, 9:47–67, 10:21–31, 14:13–29). Petitioner argues that it would have been obvious to use Bordonaro’s jitter probe packets to implement Yaakov’s RTUs because Bordonaro’s jitter probe packets actively sample the network, which is the same as Yaakov’s desired mode of operation (intrusive monitoring) and the jitter probe packets provide a simple way to achieve the Yaakov’s requirement of comparing transmitted signals to received ones. *Id.* at 26 (citing Ex. 1003 ¶ 97; Ex. 1004, 7:22–23). Bordonaro’s jitter probe packets also provide a simple way of determining jitter, packet loss, and packet delay, which, according to Petitioner, are parameters Yaakov uses to calculate OQS. *Id.* at 26 (Ex. 1003 ¶ 98; Ex. 1008, 7:6–15, 10:32–12:60; Ex. 1004, 3:26–31, 3:38–42). Thus, according to Petitioner, a person of ordinary skill in the art would have been motivated to combine Bordonaro’s jitter probe packet teachings with Yaakov’s RTU teachings, with the predictable result being a network that used Bordonaro’s jitter probe packets for providing accurate packet related data for the purpose of calculating OQS values. *Id.* at 27–28 (citing Ex. 1003 ¶ 103).

5. *Whether Yaakov and Hultgren are Analogous Art*

Patent Owner argues that Yaakov and Hultgren are unlike the '464 patent. Prelim. Resp. 73. Specifically, Patent Owner argues Yaakov and Hultgren are directed to highly managed, centralized networks while the '464 patent has no such control over or access to the network. *Id.* at 73–74. Thus, according to Patent Owner, Yaakov and Hultgren would not form the basis of a proper obviousness combination. *Id.* at 74.

A reference qualifies as prior art for an obviousness determination under 35 U.S.C. § 103 only when it is analogous to the claimed invention. *In re Klein*, 647 F.3d 1343, 1348 (Fed. Cir. 2011); *see also Innovention Toys, LLC, v. MGA Entertainment, Inc.*, 637 F.3d 1314, 1321 (Fed. Cir. 2011); *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004); *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992). Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed or, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. *Klein*, 647 F.3d at 1348.

Petitioner argues Yaakov and Hultgren are in the same field of endeavor as the '464 patent. Pet. 10, 11. We agree. The '464 patent “relates to route testing and selection over packet-switched networks.” Ex. 1001, 1:8–11. Yaakov “relates to a method and system for controlling quality of service over a network, an in particular—over a packet switched data network.” Ex. 1004, 1:8–11. Hultgren “pertains to tele/datacommunications networks, and particularly to obtaining quality connections over such networks.” Ex. 1005, 1:8–10. As can be seen, all

three references are in the same field of endeavor. Each relate to telecommunications over a packet switched or data network and to improving the quality of connections in those networks. Dr. Shoemaker provides credible testimony that Yaakov and Hultgren each relate to routing data over packet-switched networks, including VoIP, as does the '464 patent and that therefore, Yaakov and Hultgren are in the same field of endeavor. Ex. 1003 ¶¶ 51, 64, 68.

Even if it were true that Yaakov and Hultgren are directed to centralized networks while the '464 patent is not, as Patent Owner argues (Prelim. Resp. 73–74), Patent Owner does not sufficiently demonstrate why such a distinction would mean that Yaakov and Hultgren are not in the same field of endeavor as the '464 patent.

Because we determine that the cited references are in the same field of endeavor as the '464 patent we need not determine whether they are pertinent to the problem in which the inventor is involved. Accordingly, we determine that Yaakov and Hultgren are analogous art to the '464 patent.

6. Analysis of Claim 1

Below we analyze Petitioner's allegations with respect to independent claim 1, and Patent Owner's responses thereto.

a) [1-PRE] A method for assessing network routes for use in establishing a communications link within a communications network, comprising the steps of:

Petitioner argues that Yaakov obtains and analyzes data to establish a communication link in a packet switched network. Pet. 32 (citing Ex. 1004, 1:7–12, 3:38–40, Figs. 2, 3). Petitioner argues that Yaakov assesses network routes by obtaining QoS data corresponding to certain parameters of the

route and then builds an objective quality score for each route based on a weighted formula which is then used to select an appropriate route. *Id.* at 32 (citing Ex. 1004, 2:42–3:61).

Patent Owner does not dispute Petitioner’s arguments regarding the preamble of claim 1. Generally, a preamble does not limit a claim. *Allen Eng’g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1346 (Fed. Cir. 2002). Here, we need not decide whether the preamble limits the claims because Petitioner establishes that Yaakov teaches the preamble of claim 1 for the reasons outlined above.

b) [1.1] (1) identifying a plurality of candidate routes that can be used to establish said communication link, wherein a terminating gateway associated with each of said plurality of candidate routes is identified

Petitioner argues that Yaakov “discloses selecting which route of a plurality of candidate routes to a terminating VoIP gateway should be used for any particular VoIP call.” Pet. 35. For example, Petitioner relies on Yaakov’s disclosure that it obtains data on quality of service over a number of routes in the network, builds an objective quality score (OQS) for each of these routes and then selects one or more of these routes having an OQS that is not lower than a predetermined threshold. *Id.* (citing Ex. 1004, 2:41–3:4). Petitioner also relies on Yaakov’s disclosure that its QMS defines a number of voice transmission paths in the network where each path is characterized with a particular level of voice quality of service as teaching that Yaakov identifies a plurality of candidate paths. *Id.* at 36 (citing Ex. 1004, 9:36–48). According to Petitioner, Yaakov explains that its VoIP Gateway packetizes voice signals and routes it to a remote VoIP Gateway where the voice signal is de-packetized, and that one of ordinary skill in the art would know that a

VoIP gateway that de-packetizes a voice signal is a terminating gateway. *Id.* at 34–35 (citing Ex. 1004, 6:21–25, 8:46–9:12, 7:52–62, 8:66–9:13, Fig. 3).

Alternatively, Petitioner argues that Yaakov also discloses limitation 1.1 by collecting data in real time and by identifying candidate routes based on collected data and real-time probe data. Pet. 37 (citing Ex. 1004, 2:30–57, 8:45–53, 9:20–47).

Finally, Petitioner argues that Hultgren also teaches limitation 1.1. Specifically, Petitioner relies on Hultgren’s disclosure of route maps that it argues identifies terminal gateways and candidate routes. Pet. 38 (citing Ex. 1005, 15:6–29, Fig. 1, Table 1). Thus, Petitioner argues a person of ordinary skill in the art “would have known a route map ‘identif[ies] a plurality of candidate routes that can be used to establish said communication link, wherein a terminating gateway associated with each of said plurality of candidate routes is identified.’” *Id.* (citing Ex. 1003 ¶ 124).

Patent Owner contends the cited references fail to identify candidate routes, in that “Yaakov’s and Hultgren’s selected routes are not candidate routes because the selected routes are not a further refinement of a list of candidate routes.” Prelim. Resp. 25. According to Patent Owner, “the routes the Petition incorrectly describes as candidate routes are actually the final selection of compliant routes derived from all available routes. A final selection of compliant routes from among available routes are not candidate routes.” *Id.* Patent Owner argues that “Yaakov’s system applies its routing method to *all* available routes” and “identifies compliant routes from *all* available routes.” *Id.* at 26. Therefore, according to Patent Owner, “Yaakov’s system does not contemplate separately identifying candidate routes before selecting the final compliant routes.” *Id.*

Patent Owner argues that Hultgren also does not disclose identifying candidate routes. Pet. 31–33. Instead, like Yaakov, Hultgren identifies all possible routes between the end nodes, according to Patent Owner. Pet. 32 (citing Ex. 1005, Table 1).

At this stage of the proceeding, we are persuaded that Yaakov teaches identifying a plurality of candidate routes, as Petitioner contends.

Petitioner’s arguments are supported by the cited evidence. For example, Yaakov explains that it obtains data on quality of service “over a number of routes in the network” and then builds an OQS for each of these routes and then selects “one or more routes having the OQS value not lower than a predetermined OQS value.” Ex. 1004, 2:41–3:4. Thus, before it selects routes with the appropriate OQS value, Yaakov identifies a plurality of candidate routes by obtaining data on quality of service over a number of routes. Furthermore, Yaakov explains that its “QMS defines a number of voice transmission paths in the data network, wherein each path is characterized with a particular level of voice quality of service QoS.” *Id.* at 9:36–39. Yaakov then “select[s] therefrom paths suitable for routing voice.” *Id.* at 9:45–46. Thus, by defining a number of paths, Yaakov identifies a plurality of candidate routes, from which the final routes are selected.

The Petition makes clear that it relies on Yaakov’s description of defining a number of voice transmission paths as identifying candidate routes (*see* Pet. 36 (citing Ex. 1004, 9:36–48)) rather than relying on the final routes themselves as the candidate routes. We therefore disagree with Patent Owner’s argument that the Petition “describes as candidate routes . . . the final selection of compliant routes.” Prelim. Resp. 25.

Patent Owner does not present sufficient evidence that the “number of voice transmission paths” considered in Yaakov necessarily includes all available paths in the network. Moreover, Patent Owner has not provided sufficient evidence or reasoning that the recited set of candidate routes must be a subset of the available routes between two end nodes.

c) [1.2] (2) transmitting quality measurement packets for each of said candidate routes, wherein said quality measurement packets can be used to determine at least one route quality metric [1.3] (3) receiving returned quality measurement packets for each of said candidate routes, wherein said returned quality measurement packets can be used to determine route statistics

Petitioner presents evidence that Yaakov, Hultgren, and Boldonaro teach limitations 1.2 and 1.3. Pet. 39–54. Patent Owner does not separately dispute Petitioner arguments regarding these two claim limitations. *See* Prelim. Resp. 23–63. At this stage of the proceeding we are persuaded by Petitioner’s arguments which we find are supported by the cited evidence.

For example, Petitioner relies on Yaakov’s disclosure of collecting data both intrusively through its RTUs and non-intrusively through its MSs.⁶ Pet. 42 (citing Ex. 1004, 7:25–35, 7:55–56, 8:58–59, 8:7–, 9:20–47, Figs. 2, 3). This data is provided to the QMS so that the QMS can calculate the OQS for each route and ensure compliance with a Service Level Agreement (SLA) between the service provider and the subscriber of the service. *Id.* at 45 (citing Ex. 1004, 9:14–57; Ex. 1003 ¶ 135). According to Petitioner, one

⁶ Petitioner relies on both intrusive and non-intrusive collection of data in anticipation of a potential claim construction dispute. Pet. 39. Patent Owner, however, does not raise the claim construction dispute anticipated by Petitioner. We, therefore, do not decide the merits of the claim construction issue raised by Petitioner.

of ordinary skill in the art would have understood that Yaakov's MSs transmit their collected QoS measurement data to the QMS in packetized form. *Id.* (citing Ex. 1003 ¶ 136). Similarly, Petitioner argues that one of ordinary skill in the art would have understood that Yaakov's RTUs injected intrusive test messages in the form of data packets in the data network. *Id.* at 46 (citing Ex. 1003 ¶ 137).

Petitioner argues that Yaakov omits implementation details regarding how its RTUs collect data, other than explaining that they do so intrusively, but that Boldonaro provides the details that Yaakov omits. Pet. 50. Specifically, Petitioner relies on Boldonaro's jitter probe packets, which Petitioner argues are sent back and forth across the network and contain information that can be used to calculate latency, jitter, and packet loss. *Id.* at 50–51 (citing Ex. 1008, 4:12-15, FIGS. 1A-1B; 4:39-59, 10:50–11:32, 7:6-9:45). Petitioner argues that the jitter probe packets are sent and received and thus a person of ordinary skill in the art would have recognized that Boldonaro transmits and receives quality measurement packets and returned quality measurement packets respectively. Pet. 51–51 (citing Ex. 1003 ¶¶ 149–150).

Dr. Shoemake provides credible testimony supporting Petitioner's arguments, testifying that Boldonaro's sender 18a sends jitter probe data packets with information that can be used to calculate latency, jitter, and packet loss and that Boldonaro's responder 18b receives the jitter probe packets and places information in the packets that are relevant to calculating the aforementioned latency, jitter, and packet loss and transmits the jitter probe packets back to sender 18a. Ex. 1003 ¶¶ 149–150. Dr. Shoemake

testifies that in light of Boldonaro's disclosure, one of ordinary skill would recognize Boldonaro as disclosing limitations 1.2 and 1.3. *Id.*

Similarly, Petitioner argues that the transmission of non-intrusive measurement information by Yaakov's MSs and their reception by Yaakov's QMS also teaches transmitting and receiving quality measurement packets and returned quality measurement packets respectively. Pet. 53–54 (citing Ex. 1003 ¶¶ 155–156). Dr. Shoemake supports Petitioner's arguments with credible testimony. Ex. 1003 ¶¶ 155–156.

For the aforementioned reasons, at this stage of the proceeding we are persuaded that Yaakov, Hultgren, and Bordonaro teach limitations 1.2 and 1.3.

d) [1.4] (4) determining route statistics, wherein said route statistics are based on routing information contained within said quality measurement packets

Petitioner argues that Bordonaro sends routing information, such as a sequence number and a timestamp, in the jitter probe packets to the responder and receives similar information back. Pet. 55–56 (citing Ex. 1008, 10:52–65). This information, according to Petitioner, is used to calculate latency, jitter, and packet loss. Pet. 55 (citing Ex. 1008, 11:28–30). Thus, Petitioner argues that Bordonaro teaches routing information contained within both said quality measurement packets and within returned quality measurement packets. Pet. 55–56 (citing Ex. 1003 ¶¶ 161–162). Petitioner relies on Yaakov's QMS, which it argues calculates route statistics based on information provided by the RTUs and MSs. Pet. 57 (citing Ex. 1004, 2:41–3:60, 5:33–6:47, 7:14–50, 8:7–38, 8:57–9:12, 9:20–60).

Patent Owner argues “the relied-upon references do not teach ‘determining route statistics,’ as required by claim 1, because ‘route

statistics’ derived on a link-by-link basis are not the same as ‘route statistics’ derived on an end-to-end route basis.” Prelim. Resp. 54–55. Patent Owner argues that based on disclosures from the ’464 patent route statistics within the context of the ’464 patent are determined on an end-to-end route basis. *Id.* at 55–58 (citing Ex. 1001, 1:30–32, 9:37–42, Fig. 7, Tables 1, 2). Patent Owner argues that by determining route statistics on a link-to-link basis, time would not be of the essence which would be against the spirit of the ’464 patent which strives to allow a network administrator to quickly select a route for a particular call. *Id.* at 55, 58.

Patent Owner acknowledges that Boldonaro’s jitter probe packets include information on an end-to-end basis, but that because Yaakov and Hultgren are limited to link-by-link information, the combination of the references would also be limited to route statistics on a link-by-link basis and not an end-to-end basis. Prelim. Resp. 59–60 (citing Ex. 1005, 33:6–11, Table 4).

At this stage of the proceeding we are persuaded by Petitioner’s arguments. Bordonaro teaches that its jitter probe packets include routing information such as sequence numbers and timestamps which are used to calculate routing statistics such as latency, jitter and packet loss. Ex. 1008, 10:52–65, 11:28–30.

We disagree with Patent Owner’s argument that the references do not teach route statistics because they are derived on a link-by-link basis rather than an end-to-end basis. First, Petitioner relies on Bordonaro’s teaching of calculating routing statistics such as latency, jitter, and packet loss, which Patent Owner acknowledges are determined on an end-to-end basis. Prelim. Resp. 59–60. Moreover, Patent Owner does not provide sufficient evidence

why the recited “route statistics” would exclude link-by-link statistics considering those links form the route from one end point to the other.

e) [1.5] (5) configuring a route ordering schedule based on user set levels of route characteristics

Petitioner argues that a person of ordinary skill would have understood the term “route ordering schedule” to refer to a program or plan for ordering routes based on a user’s preferred prioritization of certain route characteristics or a preferred route score. Pet. 58 (citing Ex. 1001, 8:52–59; Ex. 1003 ¶ 166). In light of this understanding, Petitioner identifies Yaakov’s Service Level Agreement (SLA) as comprising a schedule based on user preferences which the service provider would follow to provide service to the user. *Id.* at 59 (citing Ex. 1004, 2:42–57, 4:1–20, 6:1–7, 9:32–60; Ex. 1003 ¶¶ 167–168). Petitioner argues that Yaakov’s SLA discloses a route ordering schedule based on user set levels of route characteristics because the user selected the parameters of interest with corresponding weighting function for each parameter that would score routes based on the user’s selections and the user would require its services be provided based on those preferences and scores. *Id.* at 59–60 (citing Ex. 1003 ¶ 169).

Patent Owner contends “Yaakov teaches a routing plan that permanently routes traffic that minimally complies with a set of requirements set forth in an SLA. This is not the same as the claimed ‘route ordering schedule’ that enables the user to provide parameters to rank or order routes.” Prelim. Resp. 34. Patent Owner argues that the ’464 patent provides a solution to check and select routes on a “per-call basis” whereas Yaakov permanently routes data based on comparing its OQS with those in the SLA. *Id.* at 34–35 (citing Ex. 1001, 1:66–67, 8:52–53; Ex. 1004, 7:44–

47, 8:24–39). According to Patent Owner, unlike Yaakov, the '464 patent not only identifies compliant routes, but also orders them hierarchically, which Patent Owner argues is an “ordering schedule.” *Id.* at 36. Patent Owner argues that “the routing manager further improves route selection by clearly displaying the order of optimal routes amongst already qualifying routes for transmission.” *Id.* at 38. Patent Owner argues Yaakov does not hierarchically rank compliant routes based on a configured route ordering schedule. *Id.*

At this stage of the proceeding, we are persuaded by Petitioner’s arguments that Yaakov teaches “configuring a route ordering schedule based on user set levels of route characteristics.” Petitioner’s arguments are supported by Yaakov’s description of the user selecting the weighting of various route parameters in the OQS. Ex. 1004, 3:8–57, 4:1–20. Yaakov discloses that an SLA between the user and the service provider that comprises the selected weights and parameters. *Id.* at 4:6–9. Yaakov further explains that its system is able to rank the paths according to certain parameters or to their current or agreed QoS values. *Id.* at 6:1–7, 9:35–47. Dr. Shoemake testifies that Yaakov’s SLA comprises a schedule based on user preferences, further providing support for Petitioner’s contentions. Ex. 1003 ¶¶ 167–169.

We disagree with Patent Owner’s argument that Yaakov’s SLA does not teach a route ordering schedule because it does not select routes on a per-call basis. Patent Owner does not provide sufficient evidence or support that the recited route ordering schedule should be limited to one that selects routes on a per-call basis. Similarly, we find Patent Owner has not sufficiently supported its argument that the route ordering schedule must

order routes hierarchically. Moreover, Petitioner has presented evidence that Yaakov is able to rank its paths based on user selected parameters or based on QoS value, which indicates that Yaakov does hierarchically order its routes. Pet. 59 (citing Ex. 1004, 2:42–57, 4:1–20, 6:1–7, 9:32–60; Ex. 1003 ¶¶ 167–168).

f) [1.6] (6) scoring each of said candidate routes based on route statistics and said route ordering schedule, wherein a scoring table is configured that includes a quality score and one or more of packet loss, average delay, and average jitter.

Petitioner argues that Yaakov's QMS scores each route based on route statistics including based on packet loss, packet delay, and jitter. Pet. 60 (citing Ex. 1004, 1:62–2:6, 3:26–32, 8:62–66). According to Petitioner, Yaakov's OQSs (quality scores) are based on the route ordering schedule, because they are based on route statistics corresponding to a user's chosen parameters and weights. *Id.* (citing Ex. 1003 ¶ 173). Petitioner acknowledges that Yaakov does not explicitly disclose a scoring table, but argues that Yaakov displays OQS values and ranks network paths according to parameters. *Id.* at 61 (citing Ex. 1004, 6:1–7, 7:42–44, 8:21–22). Thus, according to Petitioner, Yaakov has the information recited in the claim but does not use a table to display it. *Id.* (citing Ex. 1003 ¶ 174).

Petitioner, argues that configuring information in a table format was a simple, known, and conventional storage/display option for a POSITA as demonstrated by Hultgren which discloses constructing a table of route assessments and displaying these results to users. Pet. 62–63 (citing Ex. 1005, 21:26–29, 24:4–17, Table 4). Thus, Petitioner argues that a person of ordinary skill would have found it obvious to configure a scoring table that included Yaakov's OQS and related parameters such as packet loss, packet

delay, and jitter, each of which were recognized by Yaakov as being important to providing voice/data services. *Id.* at 63 (citing Ex. 1004, 1:33–36, 2:3–6, 3:23–61, 4:10–20, 7:38–51, 8:21–38, 9:20–60, Figs. 2, 3; Ex. 1003 ¶ 178). Petitioner argues that Yaakov explicitly discloses packet loss and Bordonaro explicitly discloses average jitter and thus it would have been obvious to include either one or both of these parameters in the scoring table. *Id.* at 64–65 (citing Ex. 1003 ¶ 180, Ex. 1008, 11:13–28).

Patent Owner disputes several aspects of Petitioner’s contentions. For example, Patent Owner contends “Yaakov does not teach a quality score at all,” instead Yaakov’s “objective quality score” is just a term that it uses for referring to the route statistics themselves. Prelim. Resp. 39. Thus, Patent Owner argues “Yaakov never derives a separate ‘quality score’ based on both the ‘route statistics’ and ‘route ordering schedule.’” *Id.* at 39–40.

Patent Owner also contends that “Hultgren’s prior art routing table is not the claimed scoring table.” Prelim. Resp. 46. This is because, according to Patent Owner, (1) Hultgren’s routing table does not include a quality score (*Id.* at 47–49) and (2) the ’464 patent distinguishes the claimed scoring table from conventional routing tables like Hultgren’s routing table (*Id.* at 49–53).

At this stage of the proceeding we are persuaded by Petitioner’s arguments that Yaakov describes scoring candidate routes with an OQS and that this OQS is based on route statistics and route scheduling order. Petitioner argues that Yaakov’s QMS scores each candidate route based on route statistics including based on packet loss, packet delay, and jitter. Pet. 60 (citing Ex. 1004, 1:62–2:6, 3:26–32, 8:62–66). Petitioner’s argument is supported by Yaakov’s description of “obtaining data on quality of service

over a number of routes” and “building an objective quality score (OQS) for each of said routes the OQS being a multi-profile quality estimation equation presenting a sum of N said parameters p_i taken with respective weight functions $W_i(p_i)$ thereof.” Ex. 1004, 2:45–57. These parameters include voice quality of service parameters and data quality of service parameters the latter of which can be packet delay, packet loss, and packet delay variation (jitter). *Id.* at 3:26–42. Yaakov further describes that the weights of the parameters can be selected by a user and can be agreed upon in a service level agreement (SLA) between the user and service provider. *Id.* at 4:1–9. Petitioner also supports its argument with Dr. Shoemake’s testimony. Ex. 1003 ¶¶ 171–182. Dr. Shoemake credibly testifies that the OQS values were generated based on route ordering schedule and based on route statistics corresponding to a user’s chosen parameters and assigned weights. Ex. 1003 ¶ 173.

We disagree with Patent Owner’s argument that the OQS is not a quality score and is instead just the route statistics themselves. As explained above, Petitioner demonstrates that the OQS is a summation of weighted parameters, not just the parameters themselves. Ex. 1004, 2:53–57, 3:8–57.

At this stage of the proceeding, we are also persuaded that Yaakov, Hultgren, and Bolsonaro teach the recited “scoring table [that] is configured that includes a quality score and one or more of packet loss, average delay, and average jitter.” Petitioner supports its argument with Dr. Shoemake’s testimony that Yaakov displays the OQS values for each route and that in light of Hultgren’s disclosure of a table displaying route information to users including certain parameters, a person of ordinary skill in the art would have

found it obvious to configure a table that includes Yaakov's OQS and related network performance parameters and metrics. Ex. 1003 ¶¶ 177–178.

We disagree with Patent Owner's argument that Hultgren's routing table does not include a quality score because it misunderstands Petitioner's proposed combination. Petitioner's proposed combination involves displaying Yaakov's OQS and route parameters in a table such as Hultgren's. Pet. 62–63 (citing Ex. 1005, 21:26–29, 24:4–17, Table 4; Ex. 1003 ¶ 178).

We also disagree with Patent Owner's argument that Hultgren's routing table does not teach the claimed scoring table. Prelim. Resp. 46, 49–54. Specifically, Patent Owner argues that Hultgren's routing table stores the results of route tests, route checking parameters, and route information while a scoring table uses the aforementioned information to score candidate routes and consists of hierarchical levels assigned to specific values for the parameters being tested. *Id.* at 51–52 (citing Ex. 1001, 8:41–44). Again, Petitioner's proposed combination consists of displaying Yaakov's OQS in the table not necessarily only the information in Hultgren's routing table. Pet. 62–63 (citing Ex. 1005, 21:26–29, 24:4–17, Table 4; Ex. 1003 ¶ 178). Moreover, Patent Owner does not provide sufficient evidence that the recited scoring table be limited to consisting of hierarchical levels assigned to specific values for the parameters being tested.

g) Summary of Claim 1

For the aforementioned reasons, at this stage of the proceeding, we determine Petitioner has demonstrated that Yaakov, Hultgren, and Bordonaro teach the limitations of claim 1 and has demonstrated a

reasonable likelihood that claim 1 would have been obvious over the combination of the cited references.

h) Claims 2, 4, 5, 19, and 20

Claims 2, 4, 5, 19, and 20 depend directly from independent claim 1. Petitioner contends these claims of the '464 patent are unpatentable under 35 U.S.C. § 103 as obvious over Yaakov, Hultgren, and Bordonaro and provides specific arguments for each challenged claim, relying on the same evidence and reasoning as those relied upon in the previous grounds. *See* Pet. 65–74. Patent Owner does not separately dispute Petitioner's arguments with respect to these claims.

On the current record and for purposes of this Decision, we determine Petitioner presents sufficient evidence to establish a reasonable likelihood it would prevail in showing that claims 2, 4, 5, 19, and 20 are obvious over Yaakov, Hultgren, and Bordonaro.

i) Ground 1 - Conclusion as to Obviousness over Yaakov, Hultgren, and Bordonaro

Accordingly, having considered the arguments and evidence, we are persuaded that Petitioner has shown a reasonable likelihood of prevailing on its assertion that claims 1, 2, 4, 5, 19, and 20 of the '464 patent are unpatentable as obvious over Yaakov, Hultgren, and Bordonaro.

E. Ground 2 – Obviousness over Yaakov, Hultgren, Bordonaro, and Pitts

Petitioner contends that claim 19 is obvious over the combination of Yaakov, Hultgren, Bordonaro, and Pitts. Pet. 73. We provide a brief overview of Pitts, and then analyze whether this combination teaches the limitations of claim 19 in the sections below.

1. Overview of Pitts

Pitts is a book about the Red Hat Linux operating system. Pitts describes among “TCP/IP Troubleshooting Tools” the “ping” program, explaining that the program sends packets to another computer host, and waits for the host to reply. Ex. 1007, p. 520. Ping gathers statistics on number of packets transmitted and received, and average and maximum round-trip times. *Id.* at 521.

2. Analysis of Claim 19

A method of claim 1, wherein step (5) further comprises configuring a scoring table that includes a quality score, packet loss, average delay, and average jitter.

As explained above, Petitioner asserts that claim 19 is obvious over Yaakov, Hultgren, and Bordonaro as challenged under Ground 1. Alternatively, Petitioner also asserts that claim 19 is obvious in light of the above references combined additionally with Pitts, which Petitioner argues “expressly discloses the calculation of average packet delay.” Pet. 73 (citing Ex. 1007, 521). Petitioner argues that it would have been obvious “that Yaakov’s ‘packet delay’ should be the average packet delay as it would ‘help [Yaakov] find out how congested the path to the destination host is at the moment.’” Pet. 73 (citing Ex. 1003 ¶¶ 208–209).

Patent Owner does not separately dispute Petitioner’s arguments regarding claim 19.

At this stage of the proceeding we are persuaded that the combination of Yaakov, Hultgren, Bordonaro and Pitts teaches configuring a scoring table that includes average packet delay. Pitts discloses that seeing the average round trip time of a packet (packet delay) “will help you find out how congested the path to the destination host is at the moment.” Ex. 1007,

521. Thus, we agree with Petitioner that one of ordinary skill would have included average packet delay in the scoring table.

III. CONCLUSION

For the foregoing reasons and on the present record, we determine that the information presented in the Petition demonstrates a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of at least one of the challenged claims of the '464 patent.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review of the '464 patent is hereby instituted commencing on the entry date of this Decision, and 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; and

FURTHER ORDERED that the *inter partes* review is instituted on all challenged claims on all grounds of unpatentability asserted in the Petition.

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Patent 6,816,464 B1

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