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Paper No. 6
Entered: October 21, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

META PLATFORMS, INC.,
Petitioner,

v.

ALMONDNET, INC and INTENT IQ, LLC,
Patent Owner.

IPR2022-00773
Patent 8,677,398 B2

Before KRISTEN L. DROESCH, THOMAS L. GIANNETTI, and STACEY G. WHITE, *Administrative Patent Judges.*

DROESCH, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background

Meta Platforms, Inc. ("Petitioner") filed a Petition requesting *inter partes* review ("IPR") of claims 36 and 37 of U.S. Patent No. 8,677,398 B2 (Ex. 1001, "'398 Patent"). Paper 2 ("Pet."). Petitioner filed a Declaration of Christopher M. Schmandt with its Petition. Ex. 1002. AlmondNet Inc. and Intent IQ, LLC (collectively "Patent Owner") did not file a preliminary response.

We have authority to determine whether to institute review under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a). An *inter partes* review may not be instituted unless it is determined that "the information presented in the petition filed under section 311 and any response filed under section 313 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." 35 U.S.C. § 314(a).

For the reasons provided below, we determine, based on the record before us, there is a reasonable likelihood Petitioner would prevail in showing at least one of the challenged claims is unpatentable.

B. Related Matters

The parties indicate the '398 Patent is or was the subject of the following proceedings:

AlmondNet, Inc., v. Oath Holdings Inc., 1–19-cv-00247 (D. Del.);
Roku, Inc. v. AlmondNet, Inc., 1:21-cv-01035 (D. Del.);
AlmondNet, Inc., v. Roku, Inc., 6:21-cv-00731 (W.D. Tex.);
AlmondNet, Inc., v. Samsung Elecs. Co., 6:21-cv-00891 (W.D. Tex.);
AlmondNet, Inc., v. Facebook, Inc., 6:21-cv-00896 (W.D. Tex.);

AlmondNet, Inc., v. Microsoft Corp., 6:21-cv-00897 (W.D. Tex.);
AlmondNet, Inc., v. Amazon.com, Inc., 6:21-cv-00898 (W.D. Tex.);
Pet. 1; Paper 4, 1.

Petitioner also indicates that the '398 Patent was the subject of *Yahoo! Inc. v. Intent IQ, LLC*, Case No. IPR2017-01299, in which institution was denied. Pet. 1.

C. The '398 Patent (Ex. 1001)

The '398 Patent discloses a method for delivering targeted television advertisements based on online behavior. *See* Ex. 1001, Abstract.

Figure 7 of the '398 Patent is reproduced below:

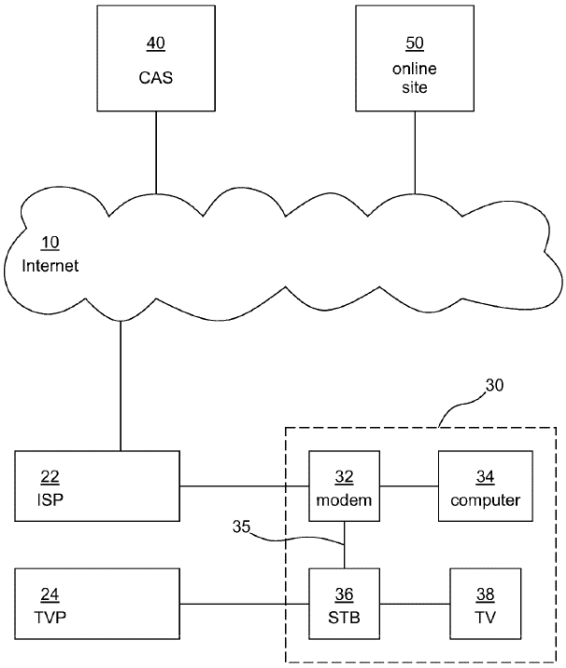

Figure 7 depicts central ad server (CAS) 40 and online site 50 connected to Internet 10, modem 32 connected to Internet service provider (ISP), computer 34 and set-top box (STB) 36, and TV 38 connected to STB 36 and television provider (TVP) 24. *See* Ex. 1001, 12:47–13:21. An identifier can be assigned to STB 36, such as an equipment serial number, a device MAC address, a username, a pseudonym, a tag, or other identifying code or data

element, and may include the IP address STB 36 is using when in contact with CAS 40. *See id*. at 15:1–14.

> Once a STB is confirmed to have been using a certain IP address at a certain date and time (for example by having a uniquely tagged STB consecutively communicate with the CAS using the same IP address . . .), the CAS database can be searched to find all computers, mobile devices, and other STBs that used the same IP address at the same date and time, and those will be assumed to be devices that are part of the same household and same LAN. Then, an association or link is created among the devices, by linking the device identifiers or tags with the STB's identifier in the CAS database . . . .
>
> Once the association is created, profile information (both behavioral and demographic) collected about the computers and mobile devices before and after the association was created could be used to target ads to the STB, regardless of the IP addresses used by the computers and mobile devices (such as cell phones) to access the web at the time the profiles were collected.

Ex. 1001, 18:24–50.

D. Illustrative Claim

Claim 36 is independent, and claim 37 depends therefrom. *See* Ex. 1001, 26:57–27:15. Claim 36 is illustrative and reproduced below.

> An article comprising a non-transitory tangible medium encoding computer-readable instructions that, when applied to one or more computers, instruct the one or more computers to perform a method comprising:
>
> (a) receiving at one or more of the computers an electronic identifier of a first device;
>
> (b) automatically generating and storing electronic indicia of an association between the first device identifier and an electronic identifier of a second device based on automatically recognizing that each of the first and second devices was connected, independently of the other, to a common local area network, wherein the computer system is connected to the local area network

through the Internet but is not in the local area network; and

(c) based on the electronic indicia of the association between the first and second device identifiers, automatically sending an electronic transmission that causes another programmed hardware computer system to take an action, based on first electronic profile data associated with the first device identifier, with respect to the second device, which is indicated at the time of the action by the second device identifier.

Ex. 1001, 26:57–27:11.

E. Asserted Challenges to Patentability and Asserted Prior Art

Petitioner asserts that claims 36 and 37 would have been unpatentable based on the following grounds (Pet. 3):

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
36, 37	103(a)[1]	Baig[2], Zwicky[3], Satapati[4], Hahn[5]
36, 37	103(a)	Baig, Zwicky, Satapati, Hahn, Appelman[6]
36, 37	103(a)	Baal-Haness[7] and Appelman
36, 37	103(a)	Baal-Haness, Appelman, Zwicky, Satapati

[1] The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011), amended 35 U.S.C. §§ 102 and103 effective March 16, 2013. Because the '398 Patent has a filing date prior to the effective date of the applicable AIA amendment, we refer to the pre-AIA versions of §§ 102 and 103.

[2] US 2008/0113674 A1, published May 15, 2008 (Ex. 1003).

[3] Building Internet Firewalls, Elizabeth D. Zwicky et al., 2000 (Ex. 1006).

[4] US 7,356,045 B2, issued Apr. 8, 2008 (Ex. 1007).

[5] Internet Complete Reference, Harley Hahn, 1996 (Ex. 1008).

[6] US 7,899,862 B2, issued Mar. 1, 2011 (Ex. 1009).

[7] US 2007/0067459 A1, published March 22, 2007 (Ex. 1010).

II. ANALYSIS

A. Claim Construction

In an *inter partes* review proceeding, the Board applies the same claim construction standard as applied in federal courts in a civil action under 35 U.S.C. § 282(b), which is generally referred to as the *Phillips* standard. *See* 37 C.F.R. § 42.100(b); *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). Under the *Phillips* standard, "words of a claim 'are generally given their ordinary and customary meaning.'" *Phillips*, 415 F.3d at 1312.

Petitioner asserts that it "does not believe an express claim construction is necessary at this stage of the proceeding." Pet. 7. As demonstrated in the analysis below, at this stage of the proceeding, we need not construe any claim terms and phrases. *See, e.g.*, *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) ("[W]e need only construe terms 'that are in controversy, and only to the extent necessary to resolve the controversy.'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

B. The Level of Ordinary Skill in the Art

Petitioner asserts:

> [a] person of ordinary skill in the art as of April 17, 2007 (the earliest priority date for the '398 patent) would have possessed at least a bachelor's degree in electrical engineering or computer science, and two years of work experience in the field of network-based computer systems, such as systems for sending and receiving information over local networks and wide area networks (such as the Internet or World Wide Web). A person could also have qualified with more formal education and less technical experience, or vice versa.

Pet. 4–5 (citing Ex. 1002 ¶¶ 10–14). For the purpose of institution, we adopt Petitioner's definition of a person of ordinary skill in the art because it is consistent with the level of skill reflected by the '398 Patent Specification and the asserted prior art.

C. Principles of Law

A claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) if in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).[8]

D. Challenge to Claims 36 and 37 over Baig, Zwicky, Satapati, and Hahn

1. Overview of Baig (Ex. 1003)

Baig is directed to an apparatus and method for providing services for mobile devices which are in communication with local area network wireless access points. *See* Ex. 1003 ¶ 2.

[8] Petitioner does not present evidence related to secondary considerations.

Figure 1 of Baig is reproduced below.

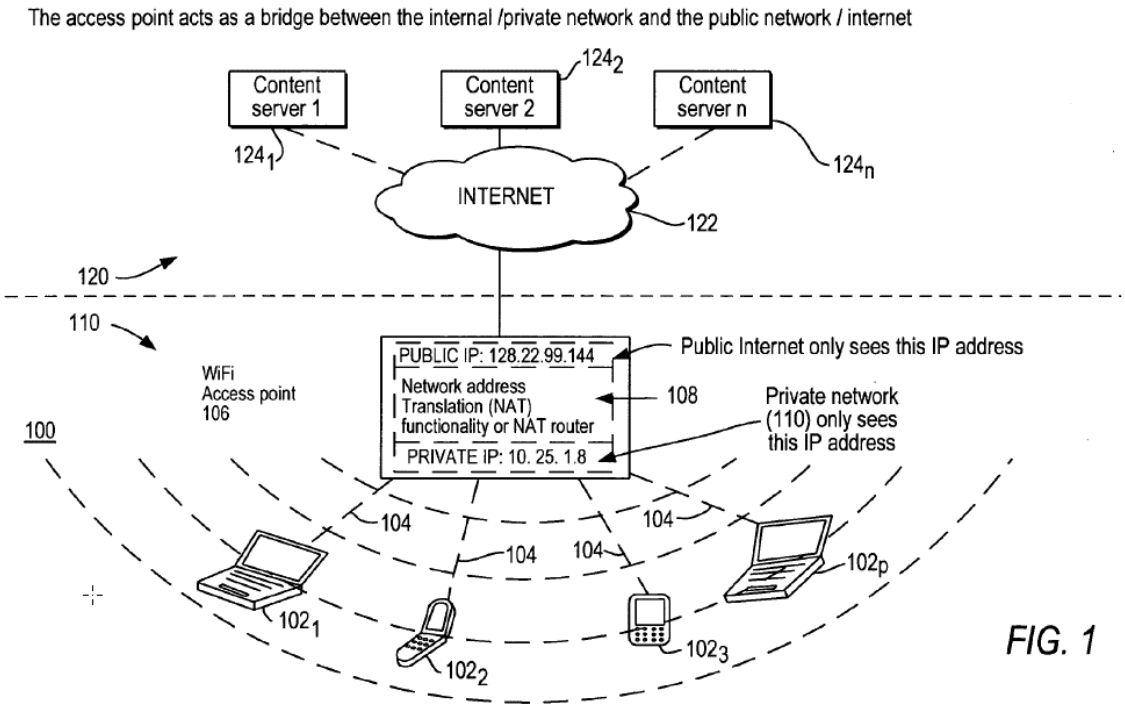

Figure 1 depicts a block diagram of communications network 100 including public wireless hotspot 110 communicatively coupled to public network 120 via access point 106. *See* Ex. 1003 ¶¶ 13, 42. Public network 120 includes content servers 124_1, 124_2, 124_n that store and host information from websites. *See id.* ¶ 42. WiFi hotspot 110 enables at least one mobile device 102_1 through 102_p to communicate over local private network 104 and communicate with content servers 124_1, 124_2, 124_n over Internet 122. *See id.* ¶ 43.

Access point 106 includes a network address translation (NAT). router 108 that provides network address translation. *See* Ex. 1003 ¶ 43. Access point 106 utilizes a unique public IP address which relays data between public network 120 and wireless mobile devices 102 connected to local private wireless network 104. *See id.* ¶¶ 44–45. When mobile device 102 requests information from public network 120, it sends data

packets containing a local IP address to access point 106. *See id.* ¶ 45. All devices on local private network 104 use local IP addresses that are not visible to public networks. *See id.* Access point 106 interacts with public network 120 with a public IP address, which is visible to all devices on public internet 122. *See id.* Access point 106, which includes NAT router 108, replaces the local IP address with its own public IP address and forwards the packets to content server 124 on public network 120. *See id.* ¶¶ 46, 51. When public network 120 sends packetized information back to requesting mobile device 102, NAT router 108 replaces the public IP address with the local IP address for mobile device 102 and routs the packetized information to the requesting mobile device 102. *See id.* ¶ 51.

Baig also discloses a vicinity-based community service provider (VCSP) having at least one content server that discovers wireless users within physical vicinity of each other at a WiFi hotspot. *See* Ex. 1003 ¶¶ 38, 52. The VCSP content server includes programs and data for hosting a VCSP website. *See id.* ¶ 53. The VCSP server receives a login request from a user that is connected to a particular WiFi access point (hotspot), identifies the unique IP address of each WiFi access point, and identifies all users who have logged in from a common hotpot as having the same access point IP address, and forms a vicinity-based user group at each hotspot. *See id.* ¶¶ 38, 52, 55–59, Fig. 3. When a user at a hotspot logs onto the VCSP website, the user automatically becomes part of the vicinity-based user group, and then can access VCSP webpages to participate in or receive an offered service and communicate with other VCSP users via a chat room. *See id.* ¶ 59. Once the user logs into the VCSP website, the server presents a webpage to the user on his or her mobile device. *See id.* ¶ 74.

Figure 6 of Baig is reproduced below.

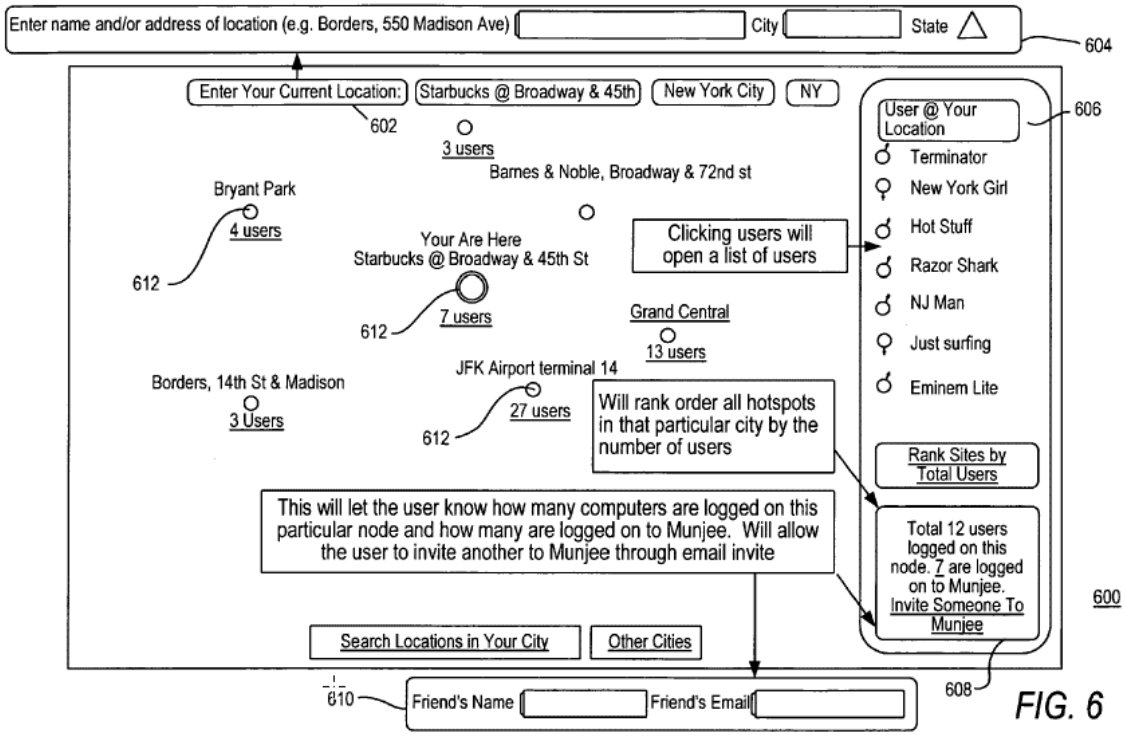

FIG. 6

Figure 6 depicts a graphical user interface displaying a webpage. *See* Ex. 1003 ¶¶ 18, 75. The webpage includes list 606 of other users by username (e.g., "Terminator," "Just surfing") at the present hotspot. *See id.* ¶ 76. List 606 includes gender symbols for each username. *See id.* at Fig. 6.

2. Entitlement of Baig to Earlier Effective Filing Date

Petitioner asserts that Baig is entitled to the November 10, 2006, earlier effective filing date of Provisional Application No. 60/858,204 (Ex. 1004, "'204 Provisional"), and is prior art to the '398 Patent under pre-AIA 35 U.S.C. § 102(e). *See* Pet. 10. Petitioner asserts that the '204 Provisional provides support for the disclosure of Baig and provides § 112 support for at least one claim in Baig. *See id.* More specifically, Petitioner asserts that there are no material differences between Baig and the '204 Provisional. *See id.* (citing Ex. 1002 ¶ 43 (citing Ex. 1005 (redline

comparison of Ex. 1003 and Ex. 1004))). Petitioner further contends that the ’204 Provisional includes 17 claims that are identical to the claims in Baig, and, therefore, provide written description support for the corresponding claims in Baig. *See id.* Petitioner also asserts the ’204 Provisional provides enablement. *See id.*

For the purpose of institution only, Petitioner has shown sufficiently that Baig is entitled to the earlier effective filing date of the ’204 Provisional Application. Although the burden of production may shift between the parties during trial, the burden of persuasion to show that Baig is entitled to an earlier effective filing date always remains with Petitioner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1379–80 (Fed. Cir. 2015).

3. Overview of Zwicky (Ex. 1006)

Zwicky is a textbook titled “Building Internet Firewalls,” which includes a section disclosing Network Address Translation (NAT). Ex. 1006, 3, 36. Zwicky discloses that NAT allows a network to use one set of network addresses internally and a different set of addresses with dealing with external networks. *See id.* at 36. When an internal machine sends a packet to the outside, a NAT system of a router modifies the source address of the packet to make the packet look like it is coming from a valid address. *See id.* at 37. When an external machine sends a packet to the inside, the NAT system modifies the destination address to turn the externally visible address into the correct internal address. *See id.* The NAT system also can modify the source and destination port numbers, known as Port and Address Translation (PAT). *See id.* at 37–38, Figs. 5–3, 5–4. The use of port mapping enables multiple internal machines to use the same external address. *See id.* at 38. The main purpose of NAT is to economize on

address space. *See id.* NAT also has security advantages, such as, helping to enforce the firewall's control over outbound connections, restricting incoming traffic, and concealing the internal network's configuration. *See id.* at 38–39.

4. Overview of Satapati (Ex. 1007)

Satapati is directed to a method for transparently sharing at least one Internet Protocol version 4 (IPv4) address among a plurality of hosts, where at least a first host uses IPv4 protocol and at least a second host uses Internet Protocol version 6 (IPv6) protocol. *See* Ex. 1007, code (57). Satapati discloses a system that allows a network address translator to provide network address translation between a private IPv4 network with a plurality of IPv4 users and a public network such as the Internet, which is connected to a plurality of web servers using IPv4 protocol. *See id.* at 1:49–54. The network address translator is able to provide a plurality of users Internet access using a small number of IPv4 addresses. *See id.* at 1:54–56. The network address translator uses port address translation (PAT) to multiplex a single Internet public address by port number, thereby providing user definable ports 1025–65,535. *See id.* at 1:63–2:3.

5. Overview of Hahn (Ex. 1008)

Hahn is a textbook titled "Internet Complete Reference," which includes a description of updating information automatically. *See* Ex. 1008, 3, 48. Hahn discloses that it is desirable to display information on a webpage that can be updated automatically. *See id.* at 48. The webpage can be set up so that it tells the browser to reload itself automatically, which is called CLIENT PULL. *See id.* In the alternative, the server is allowed to send new data on its own, without the browser making a request, which is

called SERVER PUSH. *See id.* Client pull and server push are useful in situations where data changes, such as financial market data. *See id.*

6. Analysis of Independent Claim 36

For the reasons that follow, we are persuaded that, for the purpose of institution, Petitioner establishes sufficiently that the combination of Baig, Zwicky, Satapati, and Hahn teaches or suggests all of the limitations recited in independent claim 36.

a. Preamble

Petitioner contends that Baig teaches "[a]n article comprising a non-transitory tangible medium encoding computer-readable instructions that, when applied to one or more computers, instruct the one or more computers to perform a method, comprising: . . ." based on Baig's disclosure of a computer memory within one or more of the content servers 124_1, 124_2, 124_n. *See* Pet. 12–13 (reproducing Ex. 1003 Fig. 1 (with annotations); citing Ex. 1002 ¶¶ 72–73; Ex. 1003 ¶ 52; Ex. 1004, 12–13).

At this stage of the proceeding, we determine Petitioner shows sufficiently that Baig teaches or suggests the preamble[9] recitation.

b. (a) receiving at one or more of the computers an electronic identifier of a first device;

Petitioner asserts that Baig in view of Zwicky and Satapati teach or suggest "receiving at one or more of the computers an electronic identifier of a first device." *See* Pet. 13–24. Petitioner asserts that Baig's discloses WiFi access point 106 that connects mobile devices 102_1 through 102_5 to content server 224 through public Internet 122, and that any one of mobile

[9] We need not decide whether the preamble recitation is limiting because Petitioner establishes a reasonable likelihood that the cited art teaches it.

devices 102_1 through 102_5 corresponds to the claimed first device. *See id.* at 13–14 (reproducing Ex. 1003, Fig. 2 (with annotations)). Petitioner contends that Baig's first mobile device has an electronic identifier which includes an IP address transmitted by the access point 106 to content server 224 over Internet 122. *See id.* at 14–15. According to Petitioner, Baig discloses that "[a]ll outgoing traffic from this hotspot will carry the IP address of the access point M, as the source IP address for all users (the access point will then sort out this traffic when it reaches the hotspots)." *Id.* at 15 (quoting Ex. 1003, Fig. 2, step 3; citing Ex. 1002 ¶ 76).

Petitioner asserts that Baig discusses NAT, which is widely known and enables an intermediary device such as an access point to receive network communications between a local device and a remote device connected to the Internet and then modify or translate their IP addresses. *See* Pet. 15–16 (quoting Ex. 1003 ¶¶ 44–46; citing Ex. 1002 ¶¶ 48, 77, 78; Ex. 1003 ¶ 43; Ex. 1006, 36–37). Petitioner contends that Baig's public IP address of access point 106 discloses an electronic identifier of a first device based on the industry standard NAT techniques mentioned in Baig. *See id.* at 17 (quoting Ex. 1003 ¶ 43; citing Ex. 1003 ¶¶ 46, 49–51).

Petitioner acknowledges that the industry standard NAT techniques are not described in detail in Baig. *See* Pet. 17 (quoting Ex. 1004 ¶ 43; citing Ex. 1004 ¶¶ 46, 49–51). Petitioner asserts that Zwicky and Satapati provide details about standard NAT techniques, including the use of a port number to identify an endpoint associated with the source and destination addresses. *See id.* at 17–19 (reproducing Ex. 1006, p. 38, Fig. 5–4; citing Ex. 1002 ¶¶ 79–82). According to Petitioner, "[t]he port number [] allows multiple distinct devices to use a single IP address yet be uniquely identified by port number when communicating over the Internet." *Id.* at 19–20 (citing

Ex. 1002 ¶ 50; Ex. 1007, 2:66–67). Petitioner asserts that the claimed "electronic identifier of a first device" is taught by the combination of the IP address of the access point or hotspot to which a first mobile device was connected and the TCP/IP port number associated with the first device, as taught by Zwicky and Satapati. *See id.* at 20 (citing Ex. 1002 ¶ 83).

For the purpose of institution and based on Petitioner's citations to Baig, Zwicky, Satapati, and Mr. Schmandt's testimony (Ex. 1002), we are persuaded Petitioner sets forth sufficient articulated reasoning with rational underpinning to support the conclusion that it would have been obvious to one of ordinary skill in the art to use the NAT port translation techniques of Zwicky and Satapati in the system of Baig. *See* Pet. 21–24; *KSR*, 550 U.S. at 418. According to Petitioner, a person of ordinary skill in the art "would [] have appreciated that the port translation techniques of Zwicky and Satapati would likely have been *required* to enable the system of Baig to function properly. . . . to uniquely identify, differentiate[,] and properly route traffic between individual mobile devices when communicating over the Internet." *Id.* at 23 (quoting Ex. 1007, 1:34–36; citing Ex. 1002 ¶ 89). According to Petitioner, "[p]ort translation would have conserved IP addresses by allowing multiple devices to communicate over the Internet while sharing a single public IP address." *Id.* at 23–24 (quoting Ex. 1006, 38; citing Ex. 1002 ¶ 90; Ex. 1007, 1:63–2:3). Petitioner also points out that "NAT provides security benefits by facilitating greater monitoring and control of incoming network traffic from the Internet, providing a further motivation to combine." *Id.* at 24 (citing Ex. 1002 ¶ 91; Ex. 1006, 38–39).

Petitioner further asserts that Baig discloses receiving at one or more of the computers the claimed first electronic identifier of the first device, based on Baig's disclosure of the content server receiving the IP address of

the access point or hotspot when the mobile device attempts to connect. *See* Pet. 20–21 (quoting Ex. 1003 ¶ 44, Fig. 2; citing Ex. 1002 ¶ 85; Ex. 1003 ¶¶ 55–57). Petitioner contends that, based on the combined teachings of Baig, Zwicky, and Satapati, the content server also would receive, along with the IP address of the access point, the port number assigned to the mobile device. *Id.* at 21.

At this stage of the proceeding, we determine Petitioner shows sufficiently that the combined teachings of Baig, Zwicky, and Satapati teaches or suggests this limitation of claim 36.

c. (b) automatically generating and storing electronic indicia of an association between the first device identifier and an electronic identifier of a second device based on automatically recognizing that each of the first and second devices was connected, independently of the other, to a common local area network, wherein the computer system is connected to the local area network through the Internet but is not in the local area network;

Petitioner contends that Baig teaches or suggests "automatically generating and storing electronic indicia of an association between the first device identifier and an electronic identifier of a second device" based on Baig's disclosure of the server determining if multiple mobile devices are connected to the same access point, as shown in Figure 3, step 306. *See* Pet. 24–26 (reproducing a portion of Ex. 1003, Fig. 3 (with annotations); quoting Ex. 1003 ¶ 56; citing Ex. 1002 ¶¶ 93–94). Petitioner asserts that it would have been apparent and obvious that Baig's content server generates and stores electronic indicia of this association as evidenced by the fact that Baig maintains a list of users whose devices are connected using the same access point IP address. *See id.* at 26 (quoting Ex. 1003 ¶ 52; citing Ex. 1002 ¶ 95; Ex. 1003 ¶ 38). Petitioner asserts that Baig's Figure 6depicts

webpage 600 presented on a mobile device that shows list 606 of users connected to the same access point. *See id.* at 26–28 (reproducing Ex. 1003, Fig. 6 (annotations added); citing Ex. 1002 ¶¶ 95–96; Ex. 1003 ¶¶ 74, 76). According to Petitioner, "[i]t would [] have been apparent and obvious that the content server will 'generate' and 'store' such electronic indicia [of the association] in order to keep track of the users that belong to a vicinity-based user group and produce list 606." *Id.* at 28 (emphasis omitted, citing Ex. 1002 ¶ 96). Petitioner also asserts Baig's process is performed automatically because the user did not take specific action to cause it to occur. *See id.* at 28–29 (quoting Ex. 1003 ¶ 59; citing Ex. 1002 ¶¶ 98–99; Ex. 1003 ¶¶ 55–56, Fig. 3).

Petitioner further contends that the automatic generation of the electronic indicia of the association is "based on automatically recognizing that each of the first and second devices was connected independently to a common local area network," because Baig's content server can detect when two or more mobile devices are connected via the same access point IP address, which means that the two or more mobile devices are connected to a common local area network. *See* Pet. 29–30 (reproducing Ex. 1003, Fig. 1 (with annotations); quoting Ex. 1003 ¶ 43 citing Ex. 1002 ¶¶ 100–101). According to Petitioner, "[i]t would [] have been obvious that the first and second mobile devices in Baig were connected 'independently of the other' to the common local area network" because "each mobile device connected to the local network has its own local or private IP address," "a mobile device can wirelessly connect to a particular access point and make a login request," and "mobile devices can connect at different times." *Id.* at 30–31 (emphasis omitted, citing Ex. 1002 ¶¶ 102–103; Ex. 1003 ¶¶ 49, 55–56, Fig. 2, step 1; Fig. 3 steps 301, 302, 306).

Petitioner also asserts that Baig teaches or suggests "wherein the computer system is connected to the local area network through the Internet but is not in the local area network." *See* Pet. 31–32. Petitioner contends that Baig's Figure 1 discloses content servers 124_1, 124_2, 124_n communicating through public Internet 122 in order to connect to local network 104 through access point 106. *See id.* (reproducing Ex. 1003, Fig. 1; citing Ex. 1002 ¶ 104; Ex. 1003 ¶ 43).

At this stage of the proceeding, we determine Petitioner shows sufficiently that Baig teaches or suggests this limitation of claim 36.

d. (c) based on the electronic indicia of the association between the first and second device identifiers, automatically sending an electronic transmission that causes another programmed hardware computer system to take an action, based on first electronic profile data associated with the first device identifier, with respect to the second device, which is indicated at the time of the action by the second device identifier.

Petitioner contends that Baig in combination with Hahn teaches or suggests

> based on the electronic indicia of the association between the first and second device identifier . . . sending an electronic transmission that causes another programmed hardware computer system to take an action, based on first electronic profile data associated with the first device identifier, with respect to the second device, which is indicated at the time of the action by the second device identifier.

See Pet. 32–40. Petitioner asserts that Baig discloses sending list 606 to the second user's mobile device, where the second mobile device displays list 606 of vicinity-based group of users connected to the same hotspot, which includes a user logged in using the first mobile device. *See* Pet. 33 (reproducing Ex. 1003, Fig. 6 (with annotations); citing Ex. 1003 ¶¶ 38, 52, 74), 34–35 (quoting Ex. 1003 ¶ 76). Petitioner points out that list 606

includes the first electronic profile data associated with a first device, including the user's username and gender symbol. *See id*. at 33–34 (reproducing Ex. 1003, Fig. 6 (with annotations); citing Ex. 1003 ¶ 80, Fig. 7), 35–36. Petitioner further points out that Baig also discloses that a user decides whether or not it wishes to be visible to other users, and, therefore, the transmission and display of list 606 is based on the first electronic profile data. *See id.* at 36–37 (quoting Ex. 1003 ¶¶ 80, 124). Petitioner asserts that that the action with respect to the second device is indicated at the time of the action by the second device identifier because the webpage with list 606 is transmitted to and displayed on the second device, which, at that point in time, is identified and connected using the access point IP address and the TCP/IP port number associated with the second device. *See id.* at 37 (citing Ex. 1002 ¶ 113).

Petitioner acknowledges that it is unclear if Baig alone discloses "automatically sending an electronic transmission," because it is unclear as to the timing and triggering with respect to how list 606 gets updated. *See* Pet. 35 (citing Ex. 1002 ¶¶ 110, 114), 37 (citing Ex. 1002 ¶ 115). Petitioner asserts that Hahn teaches displaying information which can be updated automatically by using a "CLIENT PULL" technique or a "SERVER PUSH" technique. *See id.* at 38–39 (citing Ex. 1002 ¶¶ 117–118; Ex. 1008, 48–49).

For the purpose of institution and based on Petitioner's citations to Baig, Hahn, and Mr. Schmandt's testimony (Ex. 1002), we are persuaded Petitioner sets forth sufficient articulated reasoning with rational underpinning to support the conclusion that it would have been obvious to one of ordinary skill in the art to implement Baig's list 606 such that it gets automatically updated in order to present an up-to-date and accurate list of

members of the vicinity-based group. *See* Pet. 37–40 (citing Ex. 1002 ¶¶ 114, 119–124, 185, 187, 189; Ex. 1008, 48–49, 69); *KSR*, 550 U.S. at 418. Petitioner asserts that Hahn teaches there are times when it is desirable to display information which can be updated automatically, and the CLIENT PULL and SERVER PUSH techniques are useful in situations where data changes. *See id.* at 40 (quoting Ex. 1008, 48). Petitioner contends that Baig is designed to work with locations where users commonly gather for short periods such as coffee shops and airport terminals. *See id.* (citing Ex. 1003 ¶¶ 39, 78). Petitioner also asserts that Hahn explains that automatic updates are suitable for "web-based talk facilities," in which users send messages back and forth, which is similar to Baig's chat feature. *See id.* (citing Ex. 1002 ¶ 123; Ex. 1008, 48–49, 69).

At this stage of the proceeding, we determine Petitioner shows sufficiently that Baig, Zwicky, Satapati, and Hahn teaches or suggests this limitation of claim 36.

e. Summary

For all of the foregoing reasons, for the purpose of institution and based on the record before us, Petitioner establishes sufficiently that the subject matter of claim 36 would have been obvious over Baig, Zwicky, Satapati, and Hahn.

7. Analysis of Dependent Claim 37

Claim 37 depends from claim 36. *See* Ex. 1001, 27:12–16. Petitioner asserts that Baig teaches or suggests "wherein the electronic association is recognized based on a common IP address, or portion thereof," as recited in claim 37, based on Baig's disclosure of determining that two mobile devices are connected through the common IP address of the access point. *See* Pet. 41 (citing Ex. 1003 ¶¶ 38, 52, 56). Petitioner contends that Baig teaches

or suggests "wherein network traffic is routed via the common IP address for each of the first and second devices when each is connected to the local area network," as recited in claim 37, based on Baig's disclosure of access point 106 that includes NAT router 108 that routes network traffic using the access point's public IP address, when each mobile device is connected to the local area network. *See id.* (citing Ex. 1002 ¶ 126; Ex. 1003 ¶¶ 46–47).

At this stage of the proceeding, we determine Petitioner shows sufficiently that Baig teaches or suggests the limitations of claim 37. For the purpose of institution and based on the record before us, including the reasons explained above addressing claim 36, Petitioner establishes sufficiently that the subject matter of claim 37 would have been obvious over Baig, Zwicky, Satapati, and Hahn.

8. Summary

For all of the foregoing reasons, based on the record before us, we determine there is a reasonable likelihood Petitioner would prevail in showing that claims 36 and 37 are unpatentable under 35 U.S.C. § 103 over Baig, Zwicky, Satapati, and Hahn. Although Patent Owner elected not to file a preliminary response, we note that the burden remains on Petitioner to demonstrate unpatentability. *See Dynamic Drinkware*, 800 F.3d at 1378.

E. Challenge to Claims 36 and 37 over Baal-Haness and Appelman

1. Overview of Baal-Haness (Ex. 1010)

Baal-Haness is directed to internet web-based personal communications, applications, and services, wherein visitors participate in chat rooms and instant messaging. *See* Ex. 1010 ¶ 1. Entrants to a website are divided into segments or area networks (ANs) based upon common interests, locations, business, or other factors, and permits segmentation by

network IP address, subnetwork IP address, or any other categorization or identification data. *See id.* ¶ 35. Segmentation of users into LANs can be achieved by utilizing the network IP address during the login process. *See id.* ¶¶ 36–39. During the login process, the user inserts a username or nickname and clicks on the login button. *See id.* ¶ 39. The user's network address is automatically sent to the application server, and if there is a database for that IP address, the username is added to that database. *See id.* ¶ 39, Fig. 3. If there is no database for that IP address, a database is created for that IP address and the username is added to that database. *See id.*

Figure 1 of Baal-Haness is reproduced below.

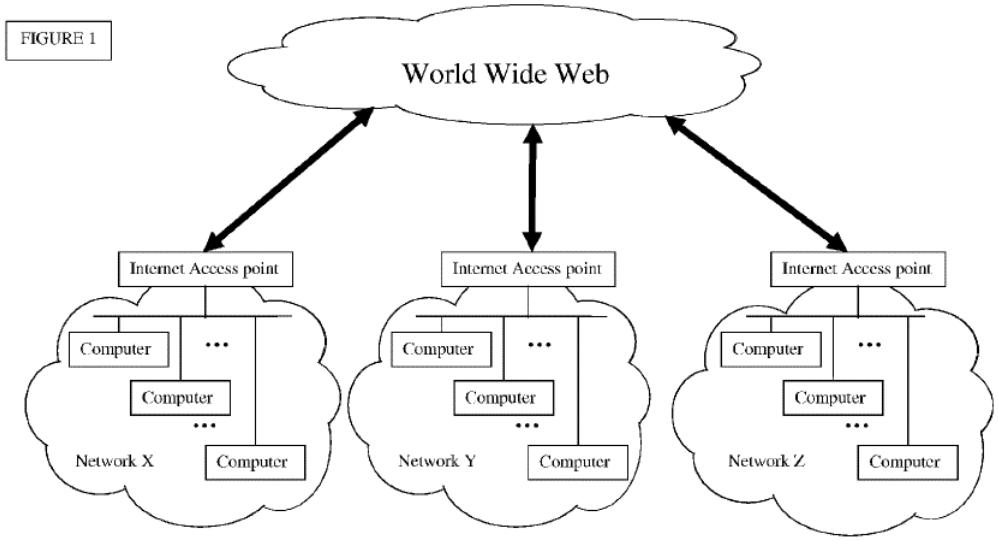

Figure 1 depicts the separation of area networks and the access from internal area networks to the World Wide Web. *See* Ex. 1010 ¶¶ 49–50.

2. Overview of Appelman (Ex. 1009)

Appelman is directed to dynamically informing a user of a large-scale network of other users including dynamically determining an online context of other users. *See* Ex. 1009, code (57). The online context may be based on the online presence of the user, such as presence at a particular URL, chat room, message board, or newsgroup. *See id.* at 2:30–33. An identification

service identifies individuals within an online context and includes mechanisms to log an individual's entry within and exit from the online context. *See id.* at 2:40–44, 4:1–6. An information storage service stores trait information, identification information and/or contact information indicative of the other users identified within an online context of the user. *See id.* at 2:48–52, 4:7–11.

Figure 3 of Appelman is reproduced below.

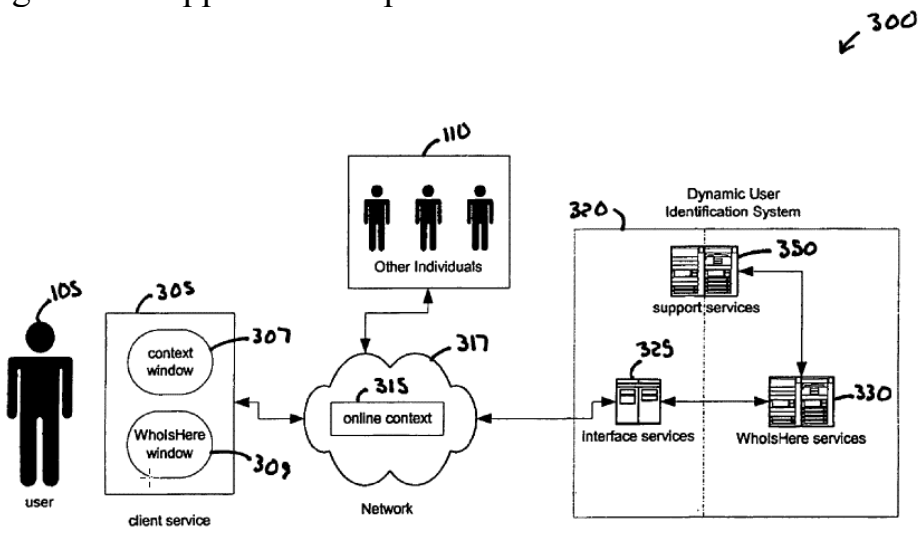

Figure 3 depicts a schematic diagram of a user identification system. *See* Ex. 1009, 1:41–42, 4:24. Generalized system 300 includes dynamic user identification system 320 having a WhoIsHere service 330 to dynamically identify to user 105 at client service 305 at least one other individual 110 also within online context 315 of large-scale network 317. *See id.* at 4:24–28, 7:59–62, 8:10–12. Client service 305 is configured to provide user 105 online access to network 317 and includes context window 307 associated with online context, and WhoIsHere window 309 associated with WhoIsHere service 330. *See id.* at 4:31–35.

Dynamic user identification system 320 includes front-end 321 and back-end 323 that may or may not be incorporated within the same hardware or software device. *See* Ex. 1009, 7:17–22. Front-end 321 includes one or

more interface services that communicate online activity of the user or other individuals to one or more WhoIsHere services 330 or support services 350 of back-end 323. *See id.* at 7:29–34. Interface services 325 communicate service requests from client service 305 to back-end 323 and to client service 305 informing user 105 of one or more other individuals 110. *See id.* at 7:34–37. Interface services 325 communicates information to the WholsHere services 330 identifying the online context 315 of the user 105 and information based upon a current online location or online activity of user 105. *See id.* at 7:38–45.

Figure 6 of Appelman is reproduced below.

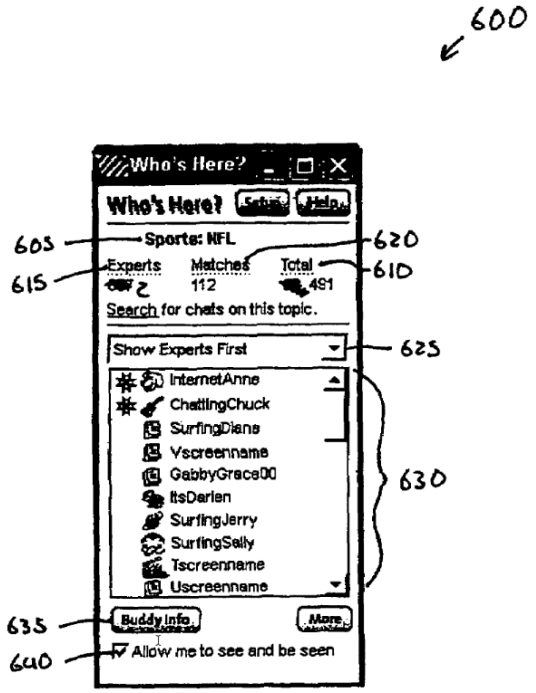

Figure 6 depicts an exemplary graphical user interface (GUI) window to dynamically and in real time identify a list of other users currently accessing the same online NFL sports channel as the online user viewing the GUI window. *See* Ex. 1009, 1:48–50, 2:6–9, 12:58–60. GUI window includes WhoIsHere window 600 that indicates a Sports:NFL context 605, total count 610 of other individuals within Sports:NFL context 605, number of

individuals 615 within the Sports:NFL context 605 who are NFL experts, and other individuals 620 within context 605 whose interests match a specified interest of user 105. *See id.* at 12:60–67.

3. Analysis of Independent Claim 36

For the reasons that follow, we are persuaded that, for the purpose of institution, Petitioner establishes sufficiently that the combination of Baal-Haness and Appelman teaches or suggests all of the limitations recited in independent claim 36.

a. Preamble

Petitioner contends that Bal-Haness teaches "[a]n article comprising a non-transitory tangible medium encoding computer-readable instructions that, when applied to one or more computers, instruct the one or more computers to perform a method, comprising: . . ." based on Baal-Haness's disclosure of a computer memory within an application server that stores software for operating a website that separates users into different area networks and provides services to the users. *See* Pet. 50–51 (quoting Ex. 1010 ¶¶ 16, 39, 40, 46; citing Ex. 1002 ¶ 146). At this stage of the proceeding, we determine Petitioner shows sufficiently that Baal-Haness teaches or suggests the preamble[10] recitation.

b. (a) receiving at one or more of the computers an electronic identifier of a first device;

Petitioner asserts that Baal-Haness teaches or suggests "receiving at one or more of the computers an electronic identifier of a first device," based on Baal-Haness's disclosure in Figure 1 of three networks each containing

[10] We need not decide whether the preamble recitation is limiting because Petitioner establishes a reasonable likelihood that the cited art teaches it.

an Internet Access point connected to computers within each respective network, where each computer within a particular area network has an electronic identifier which is a user's username and the network IP address. *See* Pet. 51–54 (reproducing Ex. 1010, Fig. 1; quoting Ex. 1010 ¶¶ 37–39; citing Ex. 1002 ¶ 149; Ex. 1010 ¶¶ 49–50). At this stage of the proceeding, we determine Petitioner shows sufficiently that Baal-Haness teaches or suggests this limitation of claim 36.

c. (b) automatically generating and storing electronic indicia of an association between the first device identifier and an electronic identifier of a second device based on automatically recognizing that each of the first and second devices was connected, independently of the other, to a common local area network, wherein the computer system is connected to the local area network through the Internet but is not in the local area network;

Petitioner contends that Baal-Haness teaches or suggests "generating and storing electronic indicia of an association between the first device identifier and an electronic identifier of a second device" based on Baal-Haness's disclosure of a server, after receiving a login request, determining whether the IP address of the user's area network already exists in the database, and if, so, adding the logging-on user to that database. *See* Pet. 54–57 (reproducing Ex. 1010, Fig. 3 (with annotations); quoting Ex. 1010 ¶¶ 37–39; citing Ex. 1010 ¶¶ 36, 38). Petitioner asserts that a person of ordinary skill in the art would have understood that, when a database for an IP address already exists, another user may have already logged in using the network IP address, in which case a new user's username is added to the existing database. *See id.* at 57 (quoting Ex. 1010 ¶ 51; citing Ex. 1002 ¶ 151; Ex. 1003 ¶¶ 37, 47). Petitioner further contends that Baal-Haness's process is performed automatically because the user does not take

specific action to cause it to occur. *See id.* at 57–58 (quoting Ex. 1010 ¶ 40; citing Ex. 1002 ¶¶ 99, 152–153; Ex. 1010 ¶ 39).

Petitioner also contends that the generation of the electronic indicia of the association is "based on automatically recognizing that each of the first and second devices was connected . . . to a common local area network," based on Baal-Haness' disclosure of using the network IP address to determine that two users are on the same local area network. *See* Pet. 58–59 (quoting Ex. 1010 ¶¶ 36–38; citing Ex. 1002 ¶ 154; Ex. 1010 ¶¶ 30, 35). According to Petitioner, "[i]t would [] have been obvious that each of the first and second devices in Baal-Haness was connected 'independently of the other' to the common local area network" based on Baal-Haness's Figure 1 "which shows three area networks (ANs) and computers connected within those networks," and because the "computers in Baal-Haness need not be logged into the website at the same time." *Id.* at 59–60 (emphasis omitted, reproducing Ex. 1010, Fig. 1; citing Ex. 1002 ¶¶ 155–156).

Petitioner asserts that Baal-Haness teaches or suggests "wherein the computer system is connected to the local area network through the Internet but is not in the local area network," based on Baal-Haness's Figure 1 showing computers in each network that can connect to the World Wide Web which sits outside the local area networks. *See* Pet. 60 (citing Ex. 1002 ¶ 157; Ex. 1010, Fig. 1). According to Petitioner, "[i]t would have been apparent and obvious that the server in Baal-Haness ('the computer system'), which creates the website, is connected to the local area network via the World Wide Web as depicted in Figure 1." *Id.* (emphasis omitted, citing Ex. 1002 ¶ 157; Ex. 1010 ¶¶ 16–17, 28).

At this stage of the proceeding, we determine Petitioner shows sufficiently that Baal-Haness teaches or suggests this limitation of claim 36.

d. (c) based on the electronic indicia of the association between the first and second device identifiers, automatically sending an electronic transmission that causes another programmed hardware computer system to take an action, based on first electronic profile data associated with the first device identifier, with respect to the second device, which is indicated at the time of the action by the second device identifier.

Petitioner contends that Baal-Haness in combination with Appelman teaches or suggests

> based on the electronic indicia of the association between the first and second device identifier automatically sending an electronic transmission that causes another programmed hardware computer system to take an action, based on first electronic profile data associated with the first device identifier, with respect to the second device, which is indicated at the time of the action by the second device identifier.

See Pet. 60–68. Petitioner asserts that, after the user is logged in using Baal-Haness's process, the user can access particular services and interact with other users who are also connected to the same local area network. *See id.* at 61 (citing Ex. 1010 ¶¶ 40–43). Petitioner acknowledges that Baal-Haness does not describe these features in detail, and relies on the teachings of Appelman to provide details. *See id.*

Petitioner contends that Appelman determines an online context for a user and identifies other users present with the same online context. *See* Pet. 61–62 (reproducing Ex. 1009, Fig. 6; citing Ex. 1009, 2:27–42). Petitioner asserts that Appelman discloses that users can be identified based on a wide variety of online contexts including viewing the same webpage or being present in a particular chat room. *See id.* at 62 (citing Ex. 1009, 1:61–63, 2:30–33). Petitioner contends that Appelman discloses dynamic user identification system 320 that includes WhoIsHere services 330 and interface services 325. *See id.* at 62–63 (reproducing Ex. 1009, Fig. 3).

Petitioner asserts that WhoIsHere services 330 forms part of back-end 323 and is responsible for determining the other individuals presently within the online context and informing the user of at least one of the other individuals. *See id.* (quoting Ex. 1009 7:59–62; citing Ex. 1009, 7:17–19). Petitioner contends WhoIsHere services 330 do not directly send the information to the user, but rely on interface services 325 which form part of front-end 321 and are responsible for communicating information to the client. *See id.* (quoting Ex. 1009, 7:36–37 citing Ex. 1009, 7:17–18, 7:29–30, 7:34–37, 8:1–4). Petitioner asserts that the user at the client device, in turn, can be informed of the other users via a list, pop-up window or other means. *See id.* at 63–64 (citing Ex. 1009, 4:15–23). According to Petitioner, "Appelman [] makes clear that WhoIsHere services 330 and interface services 325 can be implemented using two separate computer systems." *Id.* at 64 (quoting Ex. 1009, 7:18–22; citing Ex. 1009 7:22–29). Petitioner contends that Appelman discloses that the communication of the list to interface services 325 is done automatically, such as, when the membership to the list changes, or at a particular interval. *See id.* (quoting Ex. 1009, 8:12–22). Petitioner further asserts that Appelman teaches the ability to identify not only users within the same online context as the user, but to filter those users based on traits or characteristics of the users. *See id.* at 64–65 (citing Ex. 1002 ¶ 165; Ex. 1009, 1:63–2:5, 2:62–3:2, 3:32–4:26).

Petitioner asserts that, based on the combined teachings of Baal-Haness and Appelman, after the first user in Baal-Haness logs in and is assigned to the appropriate area network, the second user connected to the same area network would have been informed of the presence of the first user, for example, by showing the first user in a list or pop-up window as disclosed by Appelman. *See* Pet. 65 (citing Ex. 1002 ¶ 166; Ex. 1009,

4:15–23). Petitioner also contends that, based on the combined teachings of Baal-Haness and Appelman, Appelman's back-end system, such as WhoIsHere services 330, automatically communicates a list of other users from the same network to front end system, such as interface services 325, which in turn sends the list to the second device for display. *See id.* at 65–66 (citing Ex. 1002 ¶ 167). Petitioner further asserts that, based on the combined teachings of Baal-Haness and Appelman, the first user in Baal-Haness would only have been displayed to the second user if the first user met the criteria specified by the second user, and would have been based on first electronic profile data associated with the first device identifier. *See id.* at 66 (citing Ex. 1002 ¶ 168; Ex. 1009, 1:63–2:5)

For the purpose of institution and based on Petitioner's citations to Baal-Haness, Appelman, and Mr. Schmandt's testimony (Ex. 1002), we are persuaded Petitioner sets forth sufficient articulated reasoning with rational underpinning to support the conclusion that it would have been obvious to one of ordinary skill in the art to combine the teachings of Baal-Haness with Appelman to enhance the system of Baal-Haness to include the features of Appelman. *See* Pet. 65–67; *KSR*, 550 U.S. at 418. Petitioner asserts that a person of ordinary skill in the art would have been motivated to enhance Baal-Haness to allow for automatic notification of other users logged into an area network website. *See id.* at 66–67 (citing Ex. 1002 ¶ 170). Petitioner asserts that Baal-Haness teaches the ability of users in an area network to participate in a chat room or instant message exchanges, and these features would have benefited from the enhancement taught by Appelman by notifying users of the area network of other users who are available for interaction. *See id.* at 67 (quoting Ex. 1009, 2:30–33; citing Ex. 1002 ¶ 170; Ex. 1009, 4:15–23; Ex. 1010 ¶¶ 41–43). Petitioner further contends that a

person or ordinary skill in the art would have been motivated to use demographic information of the first user to decide whether to inform the second user of the first user's presence, because "identifying users who have 'a common age grouping or common demographic identifier' can provide a 'more focused and relevant disclosure' to the user." *Id.* (quoting Ex. 1009, 3:25–32 (emphasis omitted); citing Ex. 1002 ¶¶ 141, 171; Ex. 1010 ¶¶ 44–45). According to Petitioner, "Appelman's targeting features would have allowed a user of Baal-Haness to locate and focus its attention on other users in the area network who have common or desired characteristics." *Id.* (citing Ex. 1002 ¶ 171).

At this stage of the proceeding, we determine Petitioner shows sufficiently that the combined teachings of Baal-Haness and Appelman teaches or suggests this limitation of claim 36.

e. Summary

For all of the foregoing reasons, for the purpose of institution and based on the record before us, Petitioner establishes sufficiently that the subject matter of claim 36 would have been obvious over Baal-Haness and Appelman.

4. Analysis of Dependent Claim 37

Claim 37 depends from claim 36. *See* Ex. 1001, 27:12–16. Petitioner asserts that Baal-Haness teaches or suggests "wherein the electronic association is recognized based on a common IP address, or portion thereof," as recited in claim 37, based on Baal-Haness's disclosure of a server recognizing the electronic association based on two or more computers having the IP address associated with a particular area network and creates the electronic association by storing the usernames associated with the first

and second devices in the common database assigned to the network IP address used by both devices. *See* Pet. 68–69 (quoting Ex. 1010, Fig. 3, ¶ 39; citing Ex. 1002 ¶ 175). Petitioner further contends that Baal-Haness teaches or suggests "wherein network traffic is routed via the common IP address for each of the first and second devices when each is connected to the local area network," as recited in claim 37. *See id.* at 69 (quoting Ex. 1010 ¶ 39 (step 3); citing Ex. 1002 ¶ 175).

At this stage of the proceeding, we determine Petitioner shows sufficiently that Baal-Haness teaches or suggests the limitations of claim 37. For the purpose of institution and based on the record before us, including the reasons explained above addressing claim 36, Petitioner establishes sufficiently that the subject matter of claim 37 would have been obvious over Baal-Haness and Appelman.

5. Summary

For all of the foregoing reasons, based on the record before us, we determine there is a reasonable likelihood Petitioner would prevail in showing that claims 36 and 37 are unpatentable under 35 U.S.C. § 103 over Baal-Haness and Appelman. Although Patent Owner elected not to file a preliminary response, we note that the burden remains on Petitioner to demonstrate unpatentability. *See Dynamic Drinkware*, 800 F.3d at 1378.

F. Remaining Challenges to Patentability

As set forth in the above detailed analysis, after considering the evidence and arguments presented in the Petition, we determine that Petitioner demonstrates a reasonable likelihood of prevailing in showing claims 36 and 37 are unpatentable under 35 U.S.C. § 103 as obvious over Baig, Zwicky, Satapati, and Hahn, as well as over Baal-Haness and

Appelman. *See* 35 U.S.C. § 314; 37 C.F.R. § 42.4(a). Accordingly, we institute an *inter partes* review of all of the challenged claims on all grounds articulated in the Petition, including the patentability challenges to claims 36 and 37 based on Baig, Zwicky, Satapati, Hahn, and Appelman, and based on Baal-Haness, Appelman, Zwicky, and Satapati. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348 (2018); Guidance on the Impact of SAS on AIA Trial Proceedings (Apr. 26, 2018), https://www.uspto.gov/patents-application/process/patent-trial-and-appeal/board/trials/guidance-impact-sas-aia-trial.

III. CONCLUSION

For the foregoing reasons, we determine there is a reasonable likelihood that Petitioner would prevail in showing at least one of the challenged claims of the ’398 Patent is unpatentable.

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 claims 36 and 37 of the ’398 Patent is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the ’398 Patent shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

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