

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.

Case No.: IPR2023-01281

Patent 10,715,878

**DECLARATION OF ERIK DE LA IGLESIA IN SUPPORT OF PATENT
OWNER'S RESPONSE TO THE PETITION**

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true.

Executed on May 29, 2024, at Mountain View, California.



Erik de la Iglesia

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VIII. IT IS ALSO MY OPINION THAT MR. SCHMANDT FURTHER FAILS
TO SHOW UNPATENTABILITY OF CLAIMS 6-7, 11-12, 17-18, 20-21, AND
23. 31

- A. The alleged “automatic action” of claim 1 (sending a user list) does not
“comprise[] selecting an advertisement” as claim 6 requires. 32
- B. Baig’s system as modified would not “select[] an advertisement, from
among a plurality of possible advertisements.” 33
- C. To the extent Baig’s system “select[s] an advertisement,” it does not do
so “based at least in part on at least a portion of . . . user profile
information” as required by claim 6. 36
- D. My opinions are also applicable to claims 7, 11-12, 17-18, 20-21, and
23. 38

I, Erik de la Iglesia, hereby declare as follows:

I. Introduction

1. I am over the age of eighteen (18) years and otherwise competent to make this declaration.

2. I have been retained as an expert witness on behalf of Patent Owner for the above-captioned *inter partes* review (“IPR”). I understand that the petition for *inter partes* review involves U.S. Patent No. 10,715,878 (“the ’878 Patent”).

3. I make this declaration based on my personal knowledge, educational background and training, consideration of the materials I discuss herein, and my expert opinions.

4. My work on this matter is being billed at my normal hourly consulting rate of \$750, with reimbursement for actual expenses. My compensation is not related to the outcome of any proceeding involving the ’878 Patent. I have no personal interest in the outcome of the case.

5. In preparing this Declaration, I have reviewed and considered the ’878 Patent, the ’878 Patent’s prosecution history, the Petition and prior art references submitted with the Petition, the declaration submitted by Mr. Schmandt in this proceeding, the deposition transcript of Mr. Schmandt in this proceeding, and each document cited in my declaration.

II. Background and Qualifications

6. My qualifications for forming the opinions given in this declaration are summarized here and are addressed more fully in my curriculum vitae, which is submitted as Exhibit 2002.

7. I hold a Bachelor of Science degree in Electrical Engineering from the University of Florida, and a Master of Science degree in Electrical Engineering from Stanford University. While at Stanford, I was an NSF Graduate Research Fellow. My graduate focus included VLSI CMOS architecture, high-speed circuit design, computer networks and protocols, and artificial intelligence. I have worked in several computer and electrical engineering related fields for over 25 years resulting in 68 issued U.S. patents that have been cited over 2850 times in USPTO patent applications. Since 2003, I have served in a number of chief architect and founder roles of companies that have been acquired or gone public. My experiences include the design or implementation of networks and network-based computation and protocol systems similar to the technology of the '878 Patent, including systems for content targeting based on user behavior across devices.

8. Between December 1997 and November 1999, I was a circuit design engineer at Intel Corporation within the Mobile and Handheld Products Group. My responsibilities included working on several aspects of mobile processors and chipsets including clock and power distribution, dynamic clock frequency

selection, and the circuit design, device simulation, and validation of such features. Until March of 2000, I worked on similar functionality within the Microprocessor Products Group for the Itanium 3 and 4 products.

9. My work in power distribution included thermal modeling and predictive control of silicon devices and their packaging such as multi-tiered cooling systems for embedded, mobile, and desktop environments. Such systems included multiple tiers of thermal sensors, active and passive thermal control systems, and the feedback and analytic firmware and software control. My models were part of the development of the Thermal Design Power (TDP) metrics used by OEM and system designers to plan thermal control solutions for consumer and industrial products.

10. Between March 2000 and September 2003, I worked as a logic designer and architect for WebStacks and, through acquisition, Extreme Networks. WebStacks built a fully hardware-based TCP and HTTP processing stack for network processing functions including load balancing, proxy processing, and content rewriting. I was responsible for the architecture and design of the HTTP processing engine including header extraction and processing.

11. Between August 2003 and August 2007, I worked as Founder, Chief Architect and Director of Engineering for Reconnex, later acquired by McAfee. Reconnex built a gigabit line-rate network security analyzer capable of

classification, heuristic analysis, and policy enforcement on arbitrary protocols and content types. The Reconnex product captured and analyzed content transmitted over the internet using HTTP and other protocols, including storage protocols. Design of the Reconnex system was based on a modified and customized version of the Linux kernel which included specifically designed driver source code and interfacing between the application and kernel domains. Reconnex technology was employed in the audit and compliance verticals based on its ability to quickly analyze and classify the content of transmissions and interact with protocols and communications crossing corporate and departmental boundaries.

12. Between August 2007 and September 2008, I founded Strangways, a company focused on addressing messaging security for webmail and internet messaging protocols. Products and technology developed by Strangways were sold to SendMail Inc., Iron Port (Cisco), and other companies. The Strangways product utilized a Squid caching server and ICAP content rewrite server to translate HTTP to SMTP.

13. Between September 2008 and April 2014, I worked as Chief Architect for Gridiron Systems and, through acquisition, Senior Director of Technology for Violin Memory. I held the Senior Director position with Violin Memory both before and after the company's IPO. My responsibilities included architecture and

design of flash media controllers, adaptive caching design, and machine learning for application storage behavior analytics.

14. The Gridiron product was a storage accelerator used in many analytic environments such as big data architectures with constant ingest and processing of financial, consumer and IoT data. In my role as Chief Architect, I often worked with customers to implement and accelerate their analytics environments and spoke on related topics at trade shows and industry user groups. During product development, I worked with the data science team at Shopzilla to improve database and storage performance for real-time shopping recommendation and user tracking for advertising.

15. Additional information regarding my employment history and prior expert testimony is included in Exhibit 2002. As reflected in Exhibit 2002, I have consulted on several matters involving intellectual property disputes including instances of alleged patent infringement requiring analysis of source code, reviewing and analyzing patents, writing expert reports, and testifying in court. I have testified at deposition and at trial in a number of these cases.

III. Legal Principles

A. Claim Construction

16. I understand that the first step in performing a validity analysis of the patent claims is to interpret the meaning and scope of the claims by construing the

terms and phrases found in those claims. I understand that the appropriate construction of a claim term is its ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent and the prosecution history.

17. I understand that standard for claim construction in an *inter partes* review is the same standard as is applied in district court proceedings.

18. I understand that a determination of the meaning and scope of the claims is a matter of law. I have been informed that to determine the meaning of the claims, one should consider the intrinsic evidence, which includes the patent's claims, written description, and prosecution history.

B. Burden of Proof

19. I understand that in an *inter partes* review, the petitioner has the burden of proving unpatentability by a preponderance of the evidence.

C. Anticipation

20. I have been instructed by counsel and understand that a reference is anticipated if a single prior art reference discloses each and every claim element, either explicitly or inherently, as arranged in the same way as in the claim. I understand that where even one claim element is not disclosed in a reference, a contention of anticipation fails.

21. I further understand that when a reference fails to explicitly disclose a claim element, that reference inherently discloses that element only if the reference must *necessarily* include the undisclosed claim element.

D. Obviousness

22. I have been instructed by counsel and understand that a combination of prior art references may render a claim obvious if, at the time of the invention, a person of ordinary skill in the art would have selected and combined those prior-art elements in the normal course of research and development to yield the claimed invention.

23. I understand that in an obviousness analysis, one should consider the *Graham* factors, including: the scope and content of the prior art; the differences between the claimed inventions and the prior art; and the level of ordinary skill in the art. I further understand the obviousness analysis is to be performed on a claim-by-claim basis. I understand that a person of ordinary skill in the art is a person of ordinary creativity, not an automaton.

24. I have been instructed by counsel and understand that obviousness requires more than a mere showing that the prior art includes separate references covering each separate limitation in a claim under examination. I understand obviousness requires the additional showing that a person of ordinary skill at the time of the invention would have been motivated to combine those references in a

manner that would include all limitations of the challenged claim, and, in making that combination, a person of ordinary skill in the art would have had a reasonable expectation of success.

25. I also understand that an obviousness analysis must be conducted with awareness of the distortion caused by hindsight bias and with caution of arguments reliant upon *ex post* reasoning. For instance, I understand that when considering obviousness, I should put myself in the position of a person of ordinary skill in the field at the time of the invention, rather than considering new information that is known today, but was not known before the priority date of the challenged patent.

IV. Person of Ordinary Skill in the Art

26. Mr. Schmandt alleges that a person of ordinary skill in the art, as of the priority date of the '878 Patent, “would have possessed 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 as a person of ordinary skill in the art with some combination of (1) more formal education (such as a master’s of science degree) and less technical experience, or (2) less formal education and more technical or professional experience.” Ex. 1002 at ¶12. For

purposes of this declaration, I adopt Mr. Schmandt's proposed level of skill in the art.

V. Overview of the '878 Patent

27. The challenged claims of the '878 Patent (claims 1-4 and 6-23) are directed to systems and methods for, e.g., “determining an association between device identifiers of two or more Internet-accessing electronic devices,” by “determin[ing] that the two or more Internet-accessing electronic devices have separately accessed the Internet through a router of the LAN during a predetermined period of time via a common IP address.” Ex. 1001 ('878 Patent) at claim 1.

28. A POSITA would understand that the '878 Patent's specification discloses two primary types of systems, a first in which a “common service provider that acts as both an internet service provider and a television provider” (ISP/TVP) provides data to associate devices (Ex. 1001 at 9:31-13:3 and Figs. 1-6), and a second in which “the user need not receive both television service and Internet access from a common service provider” and the devices are associated instead via common IP address (*id.* 13:4 et seq. and Figs. 7-12). The claims of this continuation patent concern the “common IP address” embodiments, and the type of device (e.g., STB) is introduced only in dependent claims.

29. Claim 1 is representative of all the independent claims (claims 1, 13, 22) challenged in the Petition. Claim 1 recites:

1. A method for identifying an association among multiple electronic devices of a group of devices connected through a common local area network (LAN) and using the association for cross-device action, the method comprising: (a) with a computer system, determining an association between device identifiers of two or more Internet-accessing electronic devices based on electronically stored association-detection information about a plurality of Internet-accessing electronic devices, wherein the stored association-detection information for each of the plurality of Internet-accessing electronic devices includes:

- (i) a device identifier;
- (ii) at least one dynamically assigned IP address assigned to a modem that connects a router of the LAN to the Internet; and
- (iii) at least one timestamp specifying a time when the Internet-accessing electronic device accessed the Internet via the router of the LAN;

(b) wherein determining the association in part (a) is done by using the stored association-detection information to determine that the two or more Internet-accessing electronic devices have separately accessed the Internet through a router of the LAN during a predetermined period of time via a common IP address;

(c) wherein the computer system determining the association in part (a) is outside the LAN and is connected to the LAN through the Internet; and

(d) with the computer system, using the association determined in part (a) to utilize user profile information associated with the device identifier of a first of the associated Internet-accessing electronic devices, and comprising behavioral or demographic data collected via the first of the associated Internet-accessing electronic devices, to take an automatic action with respect to a second of the associated Internet-accessing electronic devices using the device identifier of the second of the associated Internet-accessing electronic devices.

30. '878 Patent (Ex. 1001) at claim 1.

31. For purposes of this declaration, one important aspect of claim 1 is that it requires, in part “determining that the two or more Internet-accessing electronic devices have separately accessed the Internet through a router of the LAN during a predetermined period of time via a common IP address.” *Id.* This process is described by the '878 Patent, which explains that a central ad server (“CAS”) obtains date and time information directly from both (1) a set-top box (“STB”) and (2) an online site so that the system can determine if “the STB was connected to a modem that was assigned an IP address at a time and date when the online site was accessed from that IP address.” *Id.* at 16:12-48. In this way, a

POSITA would have recognized that the CAS can determine that two different Internet-accessing electronic devices (such as a STB and a laptop computer) separately accessed the Internet through a router of the LAN during a predetermined period of time (i.e., the period of time that the STB determines the IP address was assigned to STB, which is determined by the CAS due to the STB's reporting of that information).

32. Importantly, the period of time that the CAS determines the STB and other device (such as a laptop) have separately accessed the Internet during is *not* the DHCP lease time (*see* '878 Patent, Ex. 1001, at 4:22-26), at least because the CAS would not have information about what the DHCP lease time actually is. Instead, the CAS would only know the information that the STB has reported to the CAS, and there is no indication that an ISP assigning a DHCP lease would provide lease duration information to the CAS.

33. Dependent claim 6 further recites:

6. The method of claim 1 wherein the automatic action comprises selecting an advertisement, from among a plurality of possible advertisements, based at least in part on at least a portion of the user profile information associated with the device identifier of the first device.

34. Ex. 1001 at claim 6. This dependent claim requires that the “automatic action” recited in limitation 1(d) “comprises selecting an advertisement, from

among a plurality of advertisements.” Furthermore, the selection must be based at least in part on at least a portion of the claimed user profile information. *See id.*

These requirements of claim 6 are also contained in dependent claims 7, 11, 12, 17, 18, 20, 21, and 23 challenged in the Petition.

VI. Claim Construction

35. I am informed that claim construction is an exercise of interpreting disputed terms, to the extent needed to resolve any controversy between the parties. I do not believe that any terms need express construction, but instead apply the plain and ordinary meaning of each claim term in view of the specification of the '878 Patent.

VII. Mr. Schmandt sets forth no theory under which the independent claims are unpatentable.

36. Mr. Schmandt’s analysis of the independent claims of the '878 Patent (claims 1, 13, and 22) is limited to Ground 1. *See* Ex. 1002 ¶¶35. Under Ground 1, Mr. Schmandt asserts that claim 1 is rendered obvious based on the four-way combination of Baig, Laidlaw, Sitaraman, and Hahn (“Baig combination”). *Id.* Mr. Schmandt’s analysis for claims 13 and 22 merely rely on the analysis for claim 1. *See generally* Ex. 1002 ¶¶156-157 (claim 13 analysis relying almost exclusively on an assertion that “[c]laim 13 is substantially similar to claim 1”); *id.* at ¶¶160-161 (claim 22 analysis relying almost exclusively on an assertion that “[c]laim 22 is substantially similar to claim 1 and claim 13”).

37. As explained in further detail below, I disagree with Mr. Schmandt’s opinion that claims 1, 13, and 22 are obvious for two independent reasons.

A. Mr. Schmandt’s Baig combination at most determines an association between users, rather than determining an association between device identifiers as the claims require.

38. Claim 1 of the ’878 Patent requires “determining an association between device identifiers of two or more Internet-accessing electronic devices.” Ex. 1001 at claim elements 1(a). Mr. Schmandt alleges that, in his Ground 1 combination, the claimed “device identifiers” are satisfied by a “cookie containing a session token used to identify a mobile device 102 that is logged into [Baig’s] content server.” Ex. 1002 ¶81. Thus, in order for Mr. Schmandt to show that his proposed combination reads on claim 1, he must show that his proposed combination of references would “*determin[e] an association* between” cookies.¹

39. As I explain below, it is my opinion that Mr. Schmandt does not do so under either theory he advances.

1. I disagree with Mr. Schmandt’s first theory, which relies on each cookie referring to an allegedly associated device.

40. Mr. Schmandt’s first theory is that “the association is determined because the device identifiers are associated with each other by virtue of referring

¹ All emphases herein are my own unless otherwise specified.

to mobile devices logged-in using the same access point IP address, and thus, part of the same vicinity-based hotspot community.” Ex. 1012 ¶84.

41. I disagree with this opinion for several reasons. First, it is not clear how device identifiers merely “referring” to particular devices is would mean that there is a *determination* that those identifiers are associated. For instance, Mr. Schmandt does not allege that Baig as modified would *determine* whether two cookies refer to two allegedly associated devices.

42. Additionally, Mr. Schmandt’s logic relies upon “devices... [being] part of the same vicinity-based hotspot community.” *Id.* But Baig does not place *devices* into vicinity-based communities; rather, Baig places *users* into vicinity-based communities, as shown by Mr. Schmandt’s citations to Baig (as well as my more detailed review of Baig). *See* Ex. 1002 ¶84 (citing Ex. 1003 at ¶¶ 40, 56, 59, 76); *e.g.*, Ex. 1003 at ¶ 40 (“Once the *end-users* at a particular access point log into the website of the VCSP, *they are able to view other members* of the VCSP who have also logged in from the same access point associated with a particular wireless hotspot.”); *id.* ¶ 56 (“At step 306, the server 224 identifies all the *users* who have logged in from a common hot spot as having the same access point IP address.”); *id.* ¶59 (“In particular, *when a user at a hotspot logs into the website* of the VCSP 202, *the user automatically becomes part of the vicinity-based user group.*”).

43. Mr. Schmandt does not explain why Baig’s association of “*user[s]*” into a “*user group*” (see Ex. 1003 ¶ 59) constitutes a determination that any particular *devices* are associated together. And a POSITA would not understand Baig’s association of users into a user group to be a determination of an association between mobile devices because, of course, a user is not a device.

44. Furthermore, even if one were to *assume* that Baig (alone or in combination) discloses an association of *devices*, Mr. Schmandt’s conclusion still does not follow. This is because showing that two *devices* are associated does not establish a determination that corresponding device *identifiers* are associated. A helpful example of this principle is demonstrated by the reasoning of the Patent Trial and Appeal Board in *Yahoo! Inc. v. Intent IQ, Inc.*, IPR2017-01299, Paper No. 9 at 19 (Oct. 31, 2017) (“Yahoo! IPR”), in a proceeding which analyzed U.S. Patent No. 8,677,398 (the “’398 Patent”), which shares a common specification with the ’878 Patent. *Compare* Ex. 1001 (’878 Patent) *with* Ex. 2007 (’398 Patent).

45. Specifically, in the Yahoo! IPR, the alleged electronic identifiers were a “make, type or model of a computer, cell phone, or television.” *Id.* The Board did not dispute that these were electronic identifiers of two different devices and further did not dispute that the two devices were associated. *See id.* at 18-19 (“**Although Petitioner demonstrates that Julia teaches an electronic association between devices . . . [the claim] requires an electronic association**

between the first device *identifier* and the second device *identifier*.”) (italics in original). However, the Board nevertheless found that the Petition failed to identify an “association between the first device’s make, type, or model and the second device’s make, type, or model.” Yahoo! IPR at 19.

46. In my opinion, the logic of the PTAB in the *Yahoo!* IPR was correct; association of devices does not imply an association of particular device identifiers because devices are not device identifiers. And here, the claim further requires a *determination* that identifiers are associated, not merely an association of those identifiers in the abstract. Here, I have seen no evidence that Baig determines an association of the alleged device identifiers (cookies), rather than an association of devices (or users, which is what Baig actually teaches).

2. I disagree with Mr. Schmandt’s second theory—that cookies are associated because they are allegedly used to identify devices logged into the server.

47. Mr. Schmandt also states: “Second, the content server under the proposed combination with Laidlaw “‘determin[es] an association’ between the ‘device identifiers’ because it uses the cookie assigned to each device to identify the device as being logged into the server, in order to place it into a vicinity-based community.” Ex. 1002 ¶84.

48. However, like Mr. Schmandt’s first theory, this second theory relies on the false premise that a *device* (rather than merely a *user*) is placed into a

vicinity-based community, contrary to Baig’s teachings that the vicinity-based community is a “*user* group” to which “*users*” (not devices) are added. Ex. 1003 *id.* ¶59.

49. The second theory fails for an additional reason: using cookies to place a device a vicinity-based community does not equate to mean that the system would “determining an association between” the cookies. Using cookies to determine whether *devices* are associated is distinct from determining whether *cookies* are associated; there is no indication that Baig’s system cares about an association of cookies, much less determines an association between them.

50. By way of analogy, students may apply to a particular college using a social security number, which is used to enroll the students, each of whom are thereafter identified by a *different* student ID (analogous to Baig’s username). Then, the students are sorted into dorm rooms based on some methodology such as date of birth or common interests. A determination that two students are assigned to the same dorm room could equate to a determination those two students are associated together. But it is *not* a determination that their social security numbers have been associated together, even though their social security numbers were used previously in the process that led to the determination that the two students are associated. If the dorm room assignment system does not use (or even know) the

students' social security numbers, for example, then there would certainly be no determination that SSNs were associated.

51. Likewise, although Mr. Schmandt's proposed combination allegedly uses cookies to allow users to log into Baig's VCSP, after the users are logged into Baig's VCSP, he provides no evidence of the users being identified by anything other than their respective usernames. There is no evidence that Baig as modified would determine an association between any two cookies, and I am not aware of any reason why a determination that two cookies are associated in the context of the Baig combination would have been obvious.

B. Baig's system as modified would not "determine that the . . . devices have separately accessed the Internet . . . during" a DHCP lease period.

52. Claim limitation 1(b) requires "determining the association in part (a) is done by using the stored association-detection information to determine that the two or more Internet-accessing electronic devices have separately accessed the Internet through a router of the LAN during a predetermined period of time via a common IP address." Ex. 1001 at 24:44-49.

53. Even more simply, limitation 1(b) requires a "determin[ation] that . . . two . . . devices have separately accessed the Internet through a router of the LAN during a predetermined period of time." *Id.* A POSITA would understand that this limitation does *not* describe "when the determination is made"—i.e., the limitation

does not require that the “determination” is “during a predetermined period of time.” Rather, the limitation means that the determination is a determination as to whether the *accesses* by the two electronic devices *occurred within a predetermined period of time*. As explained below, I disagree that Mr. Schmandt has set forth any theory under which this limitation is satisfied.

1. I disagree with Mr. Schmandt’s DHCP lease theory.

54. Mr. Schmandt maps “a predetermined period of time” to “the lease time for the dynamic IP address used by access point 106.” Ex. 1002 ¶126. Thus, for Mr. Schmandt’s theory to succeed, Baig as modified would need determine whether or not the accesses by the two electronic devices occurred within the lease time for the dynamic IP address (i.e., a DHCP lease time).

55. In my opinion, Mr. Schmandt fails to make such a showing for at least two reasons.

56. **First**, Mr. Schmandt doesn’t actually allege the Baig combination *determines* whether or not accesses by the two electronic devices occurred within a DHCP lease time. Instead, he only alleges that the two devices (at least in certain cases) would happen to *perform* accesses during a given time period (the DHCP lease time)—i.e., Mr. Schmandt alleges only that “each mobile device has . . . separately accessed the Internet ‘during a predetermined period of time via a common IP address.’” See Pet. Ex. 1002 ¶126 (“[M]obile devices 102 accessing

the Internet via access point 106 would have accessed during ‘a predetermined period of time via a common IP address,’ *i.e.*, during the lease time for the dynamic IP address used by access point 106.’); *id.* (“Accordingly, when ‘the two or more Internet-accessing electronic devices have separately accessed the Internet through a router of the LAN,’ they would have done so during that predetermined lease period in which the dynamic IP address of access point 106 was valid.”).

57. A POSITA would understand that the question of whether two devices *happen to* access the Internet via an access point during a DHCP lease period is a different and separate question from the question of whether Baig’s content server would *determine* that those two devices accessed the Internet via access point 106 during a DHCP lease period. For example, if Baig’s content server makes no effort to determine whether two Internet accesses were within a DHCP lease period, a POSITA would readily understand that even if two Internet accesses happened to be within the DHCP lease period, Baig would not *determine* that the two accesses were within the DHCP lease period.

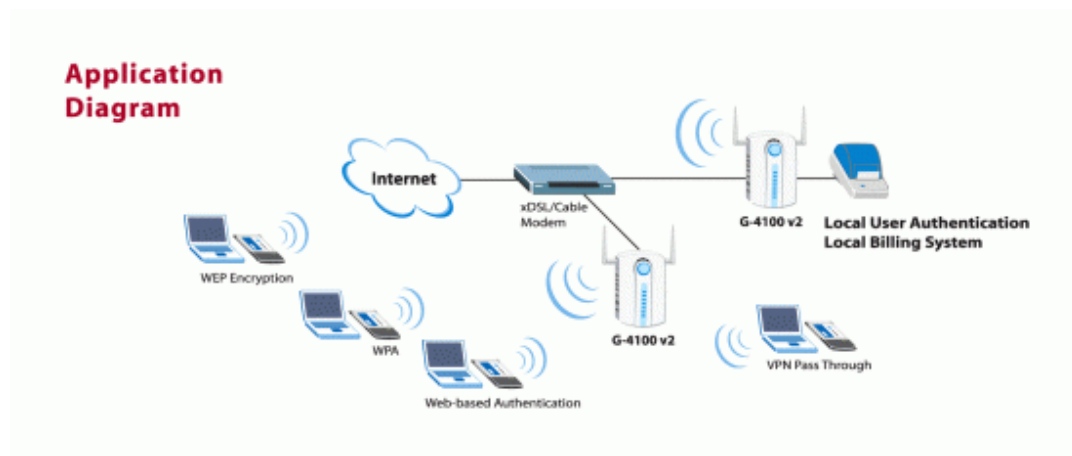
58. By way of analogy, two people entering a store may happen to have the same birthday, but that does not mean that the store has made a *determination* that they have the same birthday. The store manager, for example, likely has no idea whether individuals entering the store have the same birthday. Likewise, there is no evidence that Baig’s system (as Mr. Schmandt proposes it would be

modified) would have any idea as to whether two devices accessing Baig's content server would have done so within the duration of a DHCP lease period.

59. **Second**, it's my opinion that Baig's content server would have been able to determine whether two devices accessed the Internet via a common access point during a DHCP lease period for the simple reason that Baig's content server would have been unable to do so. This is because *Baig's content server would have no information at all about the DHCP lease period* applicable to a given access point.

60. A POSITA would understand that DHCP lease periods for an access point would have been determined by an internet service provider ("ISP"), and Baig's content server is not an ISP and would have no reason to use data from ISPs in running its content server (and would have also had no ability to obtain information from ISPs regarding access point lease duration).

61. For example, I was able to locate the below application diagram for a Zyxel Zyair G-4100 v2 Wireless Hotspot Gateway:



62. Ex. 2004 (G-4100 v2 Product Page, *available at* <https://wirelessnetworksupply.com/zyxel-zyair-g-4100-v2-80211g-wireless-hot-spot-in-a-box-p-3021.html>).² I use this diagram for illustration purposes, as this configuration is consistent with my understanding of how devices were often configured as of the priority date of the '878 Patent. Specifically, a POSITA would understand that the wireless access point (e.g., G-4100 v2 in the diagram above) will obtain a DHCP lease from the xDSL/Cable Modem of an ISP, and the uplink IP address to the Internet through the ISP will be fixed for a lengthy period of time (typically a week or more, based on my experience with networking configurations as of the priority date of the '878 Patent). Although it is difficult to obtain historical information regarding DHCP lease periods, as they differed from

² I note that the G-4100 v2 appears to have been available as of July 2006 based on a user's guide that I was able to locate via an Internet search. Ex. 2005 (G-4100 v2 User's Guide).

configuration to configuration, I found a message board posting from November of 2005 that indicates that DHCP lease times range from, e.g., “3 days” to “7 days, depending on how the network is set up.” Ex. 2006 (Forcing a Cable Modem to Get a New IP (November 2005), *available at* <https://www.chiefdelphi.com/t/forcing-a-cable-modem-to-get-a-new-ip/66067/8>). Based on my experience, for entities that provide public access points, the lease period would typically be 7 days or slightly more (e.g., 10 days). Notably, the above discussion applies only if the IP address was dynamically assigned; as Baig correctly notes, “the IP addresses of WiFi hotspots are mostly static IP addresses” (Ex. 1003 at ¶64) because WiFi hotspots maintain a connection for a lengthy period of time, relative to home networks.³

63. The information regarding IP assignment (including whether or not an IP address is dynamic or static, the default duration of a DHCP lease, and the start time of a DHCP lease) was (and still is) determined by the ISP, and wasn’t generally made available to third parties. Thus, the Baig content server would have had no way to access this information absent significant cooperation with all potential ISPs.

³ This is also why, to the extent an IP address *is* dynamically assigned, access points tend to have longer DHCP lease times than home networks.

64. Indeed, there is no evidence that an ISP would have been able to effectively provide a website server such as Baig's content server with information about DHCP lease periods for a large number of access points, as ISPs did not have established systems for ISPs to share that type of information with content servers. Even assuming an ISP would have had no objection to providing potentially sensitive access point DHCP lease duration information to third parties such as Baig's content server (an assumption that is almost certainly incorrect), actually implementing a process for sharing that information would have required a massive amount of complexity and experimentation. Mr. Schmandt does not even appear to consider the possibility that an ISP would have shared data with Baig's content server, much less provide any evidence that such an information-sharing scheme would have been motivated and would have had a reasonable expectation of success.

65. Accordingly, a content server such as Baig's would have had no insight into the operations of an access point, including when the lease period was first assigned, the duration of that lease period, or even whether there *is* a lease period in the first place (because Baig would not know whether a particular access point is assigned a static or dynamic IP address, and lease periods are only applicable to dynamic IP addresses), and would have had no way of obtaining that information.

2. Comments Regarding the Preliminary Statements in the Institution Decision

66. As I described above, Mr. Schmandt does not allege that (or explain why) Baig's content server would determine whether two devices accessed the Internet via a common access point during a DHCP lease period (i.e., the alleged "predetermined period of time"). I understand, however, that the Institution Decision reached a preliminary finding on this issue, and therefore address those statements below.

67. I first note that, to the extent the Board may applied an interpretation of the claim language such that limitation 1(b) is satisfied so long as there is a "determination during a predetermined period of time," (*see* Paper No. 7 at 18), I disagree with that interpretation. Rather than describing the timing of when the determination is made, limitation 1(b) requires that the determination that is made be a determination as to whether the accesses by the two electronic devices occurred within a predetermined period of time.

68. In my opinion, a POSITA would readily recognize as much, based on the plain claim language, as well as in view of the specification of the '878 Patent. The fact that this is a straightforward interpretation is confirmed by Mr. Schmandt, who readily agreed that limitation 1(b) relates to whether the accesses by the electronic devices occurred within a predetermined period of time:

6 Q So is it your opinion that the -- the
7 limitation 1B requires that the system determines
8 whether or not the accesses by the -- the two electronic
9 devices occurred within a predetermined period of time?
10 A Yes.

69. Ex. 2003 at 9:6-10.

70. The Institution Decision further states:

Baig used static IP addressing, but, based on the current record, Sitaraman's teachings would have taught one of ordinary skill in the art to replace those static addresses with Sitaraman's dynamic addressing, which would introduce the need . . . for the system to be aware of the lease time in which the dynamic addresses would be valid.

71. Paper No. 7 at 21. Below I provide several comments responsive to these preliminary statements.

72. *First*, the Board's statements appear to be unrelated to arguments actually advanced by the Petition or Mr. Schmandt's declaration. I did not see anything in either document, for example, articulating any need for Baig's system to be aware of a DHCP lease time (i.e., the "lease time in which the dynamic addresses would be valid"). Instead, as I discussed above, Mr. Schmandt merely alleges the two devices (at least in certain cases) would happen to *perform* accesses during a given time period (the DHCP lease time).

73. *Second*, the fact that the Petition and Mr. Schmandt did not articulate a need for Baig’s system to be aware of a DHCP lease period is unsurprising, because a POSITA would recognize that the use of dynamic IP addresses for access points would **not** “introduce the need ... for the system to be aware of the lease time in which the dynamic addresses would be valid.” *See* Paper No. 7 at 21. Indeed, a POSITA would understand that DHCP lease expiration happens relatively infrequently (as I discussed above, typically at most about once a week for access point IP addresses) such that the system would not need to know the lease time, because any “incorrect” assignment to a common hotspot would be relatively infrequent and would not significantly impact the operation of Baig’s content server. While some access points may have received shorter DHCP leases (perhaps as short as every 24 hours), that would not be typical, and mostly these shorter lease periods would have applied to home networks, not public access points. Thus, under a typical DHCP lease duration for an access point, the lease would stay valid for approximately a week. Accordingly, there would typically be only one moment in time over the course of a week when lease expiration would briefly and minimally impact the accuracy of Baig’s assignment of users into a common access point. A POSITA would recognize that this relatively minor amount of inaccuracy would have zero or *de minimis* effect on the operation of

Baig's system (and would indeed still be *de minimis* even if the lease duration were only 24 hours, which would be very rare for a public access point lease duration).

74. The limited nature of any purported benefit to Baig's system of "be[ing] aware of the lease time in which the dynamic addresses would be valid" is especially true because a POSITA would have understood (as Baig teaches) that the vast majority of access points use *static* IP addresses.⁴ Ex. 1003 at ¶64 (explaining that "the IP addresses of WiFi hotspots are mostly static IP addresses"). Thus, any potential benefit to increasing the accuracy of the system as applied to access points having dynamic IP addresses would only be applicable to a small minority of access points, thus further attenuating any hypothetical benefit of Baig's content server somehow using some undisclosed technique to obtain and keep track of DHCP lease durations.

75. *Third*, even if there *were* some purported need "for the system to be aware of the lease time in which the dynamic addresses would be valid" (Paper No. 7 at 21), Mr. Schmandt's proposed combination provides no solution to any such need. As I noted previously, Baig's content server would simply have no way of

⁴ Mr. Schmandt's theory is not that *all* IP addresses used to access Baig's content server would be dynamic. Nor could that be his theory, because as explained above Baig's content server has no control over (or even information regarding) whether specific access points used to access its website use dynamic or static IP addresses.

knowing the lease times for all of the possible access points from which users might connect to the server, because that would require obtaining information from the ISPs (e.g., Comcast) supplying Internet service to the access points, and the ISPs would have no incentive to provide that information to Baig's content server as it would pose potential privacy and security risks. To the extent ISPs could be convinced to provide that information to Baig's content server, Baig's content server would likely need to provide compensation to the ISPs for that information, and then make extensive modifications to its system to obtain updated DHCP lease times for each of numerous access points and incorporate that information into the system's logic. And the ISPs themselves would likely need to create additional functionality to share the DHCP lease times with third parties, which functionality would require a great deal of complexity and experimentation given that the number of access points with dynamic IP addresses is constantly changing, and that information would need to be shared in real time with Baig's content server.

76. Given the scale and complexity of the modifications described above, I am aware of no evidence that, and do not believe that, a POSITA would have reasonably expected success in making them. And even if a POSITA could somehow have accomplished these modifications without undue experimentation, a POSITA certainly wouldn't have been motivated to make those modification, because they would be extensive, costly, and provide no (or at most, negligible)

hypothetical benefit to Baig’s accuracy in assigning users to a minority of access points.

C. My opinions regarding claim 1 also apply to claims 13 and 17.

77. Mr. Schmandt relies on his analysis of independent claim 1 to show invalidity of the other independent claims (claims 13 and 17) based on the assertion that those claims are “substantially similar to claim 1.” Ex. 1002 ¶¶156, 160. My opinions regarding claim 1 thus similarly apply to claims 13 and 17.

VIII. It is also my opinion that Mr. Schmandt further fails to show unpatentability of Claims 6-7, 11-12, 17-18, 20-21, and 23.

78. Claim 6 recites “the method of claim 1 wherein the automatic action comprises selecting an advertisement, from among a plurality of possible advertisements, based at least in part on at least a portion of the user profile information associated with the device identifier of the first device.” Ex. 1001 at 25:11-15.

79. Mr. Schmandt alleges that this limitation is met by a system in “which advertisers can target advertisements to users at a particular hotspot based on (among other things) demographic information such as age and gender.” Ex. 1002 ¶182. Mr. Schmandt further alleges that “[a]dvertisements are selected based on a competitive bidding system,” wherein an advertisement is automatically selected “based on demographic user profile information of the second device user, such as the user[’]s age and/or gender.” Ex. 1002 ¶¶182-183. Mr. Schmandt further alleges

that a POSITA would be further motivated to combine this system with Gerace, such that profile information of the *first* device user would be used in this process. See Ex. 1002 ¶¶184-186.

80. I disagree with Mr. Schmandt's theory for several reasons, explained in further detail below.

A. The alleged “automatic action” of claim 1 (sending a user list) does not “comprise[] selecting an advertisement” as claim 6 requires.

81. Claim 6 recites, in part “the method of claim 1 wherein *the automatic action comprises selecting an advertisement.*” Ex. 1001 at 25:11-15. The phrase “the automatic action” derives antecedent basis from the “automatic action” recited in claim limitation 1(d) (*see* Ex. 1001 at 24:59), because that is the only “automatic action” recited in claim 1. Thus, in order for claim 6 to be satisfied, the “automatic action” of limitation 1(d) must “comprise[] selecting an advertisement.”

82. Mr. Schmandt is explicit in mapping only one action to the “automatic action” for limitation 1(d), namely the action of “sending [user] list 606 as part of a webpage to the second mobile device.” Ex. 1002 ¶132. I further understand that he confirmed this fact at his deposition:

7 In your declaration, what do you allege to be
8 the, quote, automatic action, unquote, of claim
9 limitation 1D?
10 **A The sending of the information that's in**
11 **panel -- box 606 in Figure 6, which is a list of other**
12 **users -- other users who are in the vicinity of that**
13 **access point and their genders.**

Ex. 2003 at 13:7-13 (annotated); *id.* at 15:1-9 (confirming that he did not identify any other actions as constituting the “automatic action” of limitation 1(d)).

83. Accordingly, for claim 6, Mr. Schmandt must show that sending Baig’s user list 606 comprises selecting an advertisement. However, he does not provide any such showing (or even allegation). *See generally* Ex. 1002 ¶¶182-192 (no discussion of transmitting Baig’s user list 606). And a POSITA would readily recognize that sending a list of users does not logically include (or “comprise”) selecting an advertisement.

84. I note that this distinction also applies to claims 7, 11-12, 17-18, and 20-21, which have parallel requirements.

B. Baig’s system as modified would not “select[] an advertisement, from among a plurality of possible advertisements.”

85. Mr. Schmandt’s claim 6 opinion further fails because he does not show how Baig’s system “select[s] an advertisement, from among a plurality of possible advertisements” as required by claim 6.

86. As noted above, Mr. Schmandt contends that “[a]dvertisements are selected based on a competitive bidding system,” wherein Baig’s selection of a winning advertisement is “based on user profile information of the second device user, such as the user[’]s age and/or gender.” Ex. 1002 ¶¶182-183. Mr. Schmandt further alleges that a POSITA would be further motivated to combine this system with Gerace, such that the combined system would use profile information of the *first* device user in this process. *See* Ex. 1002 ¶¶184-186.

87. Under Mr. Schmandt’s claim 6 theory, then, it is necessary for Baig’s auction to select a winning *advertisement* (as opposed to merely selecting a winning *advertiser*), because only if Baig’s auction selects a winning *advertisement* from among a plurality of submitted advertisements could Baig “*select an advertisement*[] from among a plurality of possible advertisements” as claim 6 requires.

88. However, Mr. Schmandt’s obviousness theory is based on the false premise that Baig’s system automatically selects which *advertisement* will be displayed out of a plurality of advertisements submitted by a plurality of different advertisers. *See* Ex. 1002 ¶¶182-183. To the contrary, Baig’s system determines which *advertiser* will have the right to select an advertisement for display to a user. *See* Ex. 1002 ¶182 (“[T]he winner of the bidding contest [i.e., the winning advertiser] *receives exclusive rights to advertise* on the VCSP website for the

selected hotspot at a particular time of day, for example between 6-8pm to female end-users who are 18-25 years old at a particular location.”) (quoting Ex. 1003 ¶104); *see also* Ex. 1003 at Claim 13 (reciting “selecting an entity associated with the highest bid” and subsequently “providing advertisements associated with said selected entity,” and providing no indication that Baig’s system—rather than the winning entity—selects which advertisement to display).

89. Accordingly, there is no indication that Baig (alone or in combination with any other reference) discloses or renders obvious “selecting an advertisement from among a plurality of advertisements.” Rather, the clear implication of Baig is that selection of an advertisement is performed by the *advertiser* after they have won the “exclusive rights to advertise on the VCSP website,” and *not* performed automatically by Baig’s system as the claim would require under Mr. Schmandt’s mapping.

90. In sum, Baig teaches that its system does *not* select an advertisement from among a plurality of advertisements in an auction but instead simply displays an advertisement provided by the advertiser. To the extent this can constitute Baig’s system “selecting an advertisement” at all, it is not “selecting an advertisement from among a plurality of possible advertisements”—instead, Baig’s system would simply select whatever advertisement for display that the advertiser

provides to the Baig system, and a POSITA would understand that no “plurality of advertisements” would be necessary for Baig’s system to select from.

C. To the extent Baig’s system “select[s] an advertisement,” it does not do so “based at least in part on at least a portion of . . . user profile information” as required by claim 6.

91. Baig makes clear that it is the *advertisers* who determine how to target their advertisements based on profile data. E.g., Ex. 1003 at ¶93. But even assuming—contrary to Baig’s teachings as discussed above—that Baig’s auction system chooses between *advertisements* (as opposed to choosing between which *advertiser* is given the right to select an advertisement for display), Mr. Schmandt does not show that Baig as modified would choose between advertisements “based at least in part on at least a portion of the user profile information” as required by claim 6. Instead, under that scenario, Baig would most logically select the winning advertisement based on a highest bid price, consistent with Baig’s teachings that the highest price is used to determine the winner of the auction.

92. More specifically, Mr. Schmandt contends that in Baig, “[a]dvertisements are selected based on a competitive bidding system.” Ex. 1002 ¶182. As a profit-maximizing company, the only role Baig would have in actually *selecting* a winning advertisement from a plurality of advertisements submitted by different advertisers would be to determine which advertisement corresponds to the highest bid price; it is the *advertisers* who would select which ads to submit with

their bids. In other words, under Mr. Schmandt’s characterization of Baig (assuming Baig selects an advertisement), selecting the winning advertisement would be based *solely* on which advertisement had the highest bid, not based even in part on profile information.

93. Indeed, Baig explicitly teaches selecting the winner of the auction based solely on “the highest bid.” *See* Ex. 1003 at Claim 13 (“receiving bids to advertise” and “*selecting an entity associated with the highest bid*”); *see also id.* at Claim 25 (similarly “selecting an entity associated with the highest bid”). Baig does not disclose any other logic for selecting which advertiser wins the auction, and Mr. Schmandt sets forth no motivation to modify Baig to select the winner of the auction based (even in part) on anything *other* than the highest bid price.

94. Accordingly, there would be no motivation for any auction-based selection of an advertisement out of a plurality of possible advertisements to be “*based at least in part on at least a portion of... user profile information*” as claim 6 recites. Although *advertisers* may select which advertisement to include in their bid response using profile information, there is no indication that *Baig’s system* as modified would choose which advertisement to select based in part on any profile information. Mr. Schmandt refers to age and gender influencing advertising decisions, but provides no reason why *Baig’s system*—rather than an advertiser—would select an advertisement based on that information.

D. My opinions are also applicable to claims 7, 11-12, 17-18, 20-21, and 23.

95. Claim 7 depends from claim 6; thus, my disagreement with Mr. Schmandt's claim 6 analysis extends to his claim 7 analysis as well. Mr. Schmandt additionally merely incorporates by reference its analysis of claims 6-7 in his allegation that claims 17-18 are obvious. *See* Ex. 1002 ¶¶193-194. Additionally, Mr. Schmandt relies on his analysis of claims 6-7 to support his obviousness allegations regarding claims 11-12, 20-21, and 23. *See* Ex. 1002 ¶¶195-202 (relying on claims 6-7 for claims 11-12, and relying on claims 11-12 for claims 20-21 and 23). Thus, Mr. Schmandt has not shown that any of claims 6-7, 11-12, 17-18, 20-21, and 23 are obvious for the additional reasons presented herein.