

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AMAZON.COM, INC., AMAZON WEB SERVICES, INC.,
and AMAZON.COM SERVICES LLC,
Petitioner,

v.

ALMONDNET, INC.,
Patent Owner.

Case IPR2025-00545
Patent 8,494,904

**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 January 20, 2026, at Dallas, Texas.



Erik de la Iglesia

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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. 8,494,904 (“the ’904 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 ’904 Patent. I have no personal interest in the outcome of the case.

5. In preparing this Declaration, I have reviewed and considered the ’904 Patent, the ’904 Patent’s prosecution history, the Petition and prior art references submitted with the Petition, the declaration submitted by Dr. Houh in this proceeding and its citations and exhibits, the deposition transcript of Dr. Houh 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 '904 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. My work at Reconnex included architecting and deploying software to analyze and classify relationships within HTTP transmissions and sessions including cookie tracking, temporal analysis, user identification and attribution and other identity-based analyses.

13. 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.

14. 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.

15. 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 and later commercial deployment, I worked with teams at Shopzilla to improve database and storage performance for real-time shopping recommendation and user tracking for online advertising.

16. 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.

This has included cases involving online and targeted advertising, and I have testified at deposition and at trial in a number of cases.

III. Legal Principles

A. Claim Construction

17. 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.

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

19. 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. I am further informed that, other than in cases of "lexicography" (where a patentee provides a definition for a term) or "disclaimer" (where a patentee makes clear, such as explicitly states, that a term excludes a certain scope), a claim term is to be given its plain and ordinary meaning to a POSITA at the time of the invention in view of the intrinsic evidence.

B. Burden of Proof

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

C. Anticipation

21. 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.

22. 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

23. 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.

24. 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.

25. 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.

26. 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

27. Dr. Houh alleges that a person of ordinary skill in the art, as of the priority date of the '904 Patent, “would have experience in online advertising and computer science.” Ex. 1002, ¶33. His description of the qualifications is generally vague, however, as he does not quantify how much experience in online advertising and computer science is needed. In my opinion, a POSITA would have had a bachelor’s degree in computer science or similar degree (such as electrical or computer engineering) and approximately two years of experience in computer science with at least some experience in online network communication (which could include online advertising more specifically), as well as HTTP protocol analysis and online identity tracking including the use of cookies. More education could substitute for less work experience, or vice versa.

28. I have at least this level of skill in the art, as detailed in my experience summarized above and my *curriculum vitae* (Ex. 2002).

V. Overview of the '904 Patent

29. The challenged claims of the '904 Patent (claims 1-30) are directed to systems and methods for, e.g., collecting profiles of Internet users and allowing those profiles to be used to target advertisements across the Internet. The invention, at a high level, allows disjoint parties to effectively transfer information for advertising purposes in the specified manner. E.g., Ex. 1001, 8:24–29.

30. Dr. Houh treats claim 1 as representative of all the independent claims (claims 1, 11, 21) challenged in the Petition. Claim 1 recites:

1. An automated method of collecting profiles of Internet-using entities, the method comprising:

(a) electronically receiving at a programmed computer system coupled to a global computer network, from at least one server controlled by one of a plurality of unaffiliated third parties, an electronically URL-redirected partial profile of an entity that uses a user computer coupled to the global computer network to access a website, which partial profile is available to one of the third parties and contains at least one profile attribute related to the entity, which partial profile is received along with an identification of the one of the third parties that contributed the partial profile, and automatically with the computer system storing the received partial profile;

(b) automatically with the computer system electronically adding the received partial profile to a maintained profile believed to be related to the same entity;

(c) automatically with the computer system generating and storing an electronic record of which of the plurality of unaffiliated third parties contributed to the maintained profile particular profile attributes; and

(d) wherein the maintained profile, including the added partial profile, comprises data used in targeting third-party

advertisements to the user computer over the global computer network.

'904 patent (Ex. 1001) at claim 1.

VI. Claim Construction

31. I am informed that claim construction is an exercise of interpreting disputed terms, to the extent needed to resolve any controversy between the parties. With this principle (as well as the legal principles discussed above) in mind, I provide my claim construction opinions below.

A. “third-party advertisements” (claim 1)

32. With regard to claim 1, the file history of the '904 patent (which includes the file history of the '904 patent's grandparent application) makes clear that “third-party” was added in prosecution in the limitation “third-party advertisements” in order to “make clear that the profile data used in targeting the advertisement is not simply information from the advertiser itself.” Ex. 2003 at 30. Thus, a POSITA would understand based on this clear disclaimer in the file history that, at very least, third-party advertisements do not include an advertisement where the profile data used in targeting the advertisement is simply information from the advertiser itself (i.e., advertisements for which the advertiser supplied the profile information used to target the advertisement).

B. “maintaining an electronic record of which unaffiliated third party contributed, to the maintained profile, the profile attributes used in targeting the advertisements” (claim 5)

33. Claim 5 recites “The method of claim 1 further comprising automatically with the computer system electronically maintaining an electronic record of which unaffiliated third party contributed, to the maintained profile, the profile attributes used in targeting the advertisements.”

34. As is relevant to my opinion, claim 1 (from which claim 5 depends) recites in part: “(c) automatically with the computer system generating and storing an electronic record of which of the plurality of unaffiliated third parties contributed to the maintained profile particular profile attributes; and (d) wherein the maintained profile, including the added partial profile, comprises data used in targeting third-party advertisements to the user computer over the global computer network.”

35. In other words, claim 1 *already* recites maintaining a record of which parties contributed particular profile attributes to the maintained profile. Claim 5 further adds to the requirements of claim 1 by making clear that the system must maintain records not only of which parties contributed which profile attributes, but must *further* maintain records of which parties contributed “the profile attributes *used* in targeting the advertisements.” The ’904 patent makes clear that by tracking which parties (or “users” in the parlance of the specification) contributed profile

attributes actually *used* within its system, “a user designated micro payment royalty (or credit) is assigned to the user for each purchase of that attribute by another user.” Ex. 1001, 4:21–34. Thus, in the scenario where the usage of the attribute is for targeting an advertisement (as required by claim 5), the party that provided the attribute can be compensated on a per-advertisement basis.

36. Dr. Houh provided an opinion that claim 5 is satisfied even if it maintains a record of which parties contributed the profile attributes that “may be used in targeting advertisements,” even if there is no record of which party contributed “the profile attributes *that were actually used* to target advertisements.” See Ex. 1002, ¶¶252–53. However, Dr. Houh fails to actually provide any opinion regarding claim construction on this point, as he provided no claim construction opinions in his declaration as confirmed at his deposition. See Ex. 2004 (Houh Dep. Tr.) at 51:4–53:10 (“So I don’t have a claim construction opinion, I don’t think, about this particular interpretation.”).

37. I disagree with Dr. Houh’s allegation (unsupported by any claim construction opinions) that claim 5 can be read as broadly, for example, as he alleges in paragraphs 180–181 and 251–252 of his declaration, wherein the system merely maintains records of which parties contributed profile attributes that “*may be used in targeting advertisements*” (emphasis added). As noted above, this would not require any change in claim scope for claim 5 relative to claim 1. And a

POSITA would recognize that the narrower scope of claim 5 is consistent with the '904 patent's teaching that providers of profile information can be provided micropayment royalties for every individual use (e.g., for targeted advertising) of the profile attributes those providers provided.

VII. Analysis of Dr. Houh's Ground 1.

38. Dr. Houh's Ground 1 theory is based on a combination of "Merriman061" (Ex. 1004) and "Jaye" (Ex. 1005). As explained below, it is my opinion that even if a POSITA would have combined Merriman061 and Jaye in the way Dr. Houh alleges would be done, the resulting combination would still not meet the requirements of claim 1. Furthermore, for claim 5, it is my opinion that a POSITA would have not have found it obvious to modify Merriman061 to maintain a record of which parties contributed profile attributes that are *actually* (as opposed to just *potentially*) used to target advertisements, as the claim requires.

A. Overview of Dr. Houh's Ground 1 Combination

39. For claim 1, Dr. Houh proposes that Merriman061 would be modified such that a "local_server_id" and a "local identifier of the user" would be sent from Merriman061's affiliate website to Merriman061's ad server. *See* Ex. 1002 ¶154-157 (alleging that the "local_server_id" and "client_information" would be redirected from the affiliate website, where "'local_server_id' is the identifier of the local server visited by the user and 'client_information' is additional

information about the user, such as the local identifier of the user”). Dr. Houh contends that this information would be stored in a data structure of Merriman061’s ad server in the form of the “USER ID” and “PAGES ADS SEEN ON” information, as shown in Dr. Houh’s annotation of Merriman’s FIG. 3A below.

FIG. 3A

USER ID	IP ADDRESS	DOMAIN TYPE	TIME ZONE	LOCATION	SIC	ADS SEEN	ADS CLICKED ON	PAGES ADS SEEN ON
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Ex. 1002, ¶156 (Dr. Houh’s annotation of Ex. 1004, FIG. 3A); *id.* (“Merriman061 discloses the ad server stores this type of profile information [i.e., local server ID and local user ID] in a database” as allegedly evidenced by Merriman061’s FIG. 3A).

40. As explained in further detail below, it is my opinion that Dr. Houh fails to show the obviousness of the claim requirements based on its proposal of modifying Merriman061 to have an affiliate website transfer a local user ID and the local server ID to Merriman’s ad server.

B. Dr. Houh’s “local server ID” theory fails to show the obviousness of claim 1.

41. Dr. Houh alleges that the “pages ads seen on” information stored in the database in Merriman061 is used to target third-party advertisements. *See* Ex. 1002, ¶156 (highlighting “PAGES ADS SEEN ON” in Merriman-61’s FIG. 3A

and stating that “Merriman061 discloses the ad server stores this type of profile information in a database”). Furthermore, Merriman061 makes clear that this profile information used to target ads is not merely any page on which the user was observed to have visited, but is instead the *specific* pages on which particular advertisements are ultimately displayed. *See* Ex. 1004, 7:26–31 (“[T]he [ad] server logs that the advertisement was clicked through, which user selected the advertisements..., and the page on which the advertisement was seen based upon the click through.”).

42. In other words, the “partial profile” stored in Merriman061’s database includes information that the user *viewed a specific advertisement* on a particular website, not that the user merely visited any particular website. The claim requires that this “partial profile” stored in Merriman’s database must be the *same* “partial profile” received from the affiliate website, because the “partial profile” that is stored is the “received partial profile.” *See* claim 1(a) (“electronically receiving... from at least one server controlled by one of a plurality of unaffiliated third parties, an electronically URL-redirectioned partial profile..., and automatically with the computer system storing the received partial profile”).

43. Dr. Houh further alleges that in his combination, “Merriman061’s affiliate website” would use “Jaye’s special URL to append” the local server ID “to the URL that redirects the user’s browser to the ad server.” Ex. 1002, ¶155. Dr.

Houh's declaration implies that the local server ID that would be sent in this proposed modification is the *same* profile information as the profile information stored in Merriman061's database, such that transmitting the local server ID is the same "type of profile information" that Merriman061's "ad server stores" in its database. *See* Ex. 1002, ¶156 (alleging that "Merriman061 discloses the ad server stores this type of profile information [i.e., Jaye's local server ID] in a database").

44. The problem with Dr. Houh's theory in this regard is that even if the affiliate webpage provided the "local server ID" as he proposes, it would not (and *could* not) be providing the "pages seen on" profile information to Merriman061's ad server (i.e., the partial profile that is ultimately stored), because Merriman061's affiliate webpage does not even know what ads were seen on what webpages. This is because a POSITA would understand that Merriman061's affiliate website doesn't have information about which advertisements were seen on its pages, because the ad serving process is handled by Merriman061's ad server, not the affiliate website.

45. Dr. Houh does imply that the alleged partial profile information of a local server ID is equivalent to the "pages ads seen on" partial profile information that is stored in Merriman061's ad server database. *See* Ex. 1002, ¶156 (alleging that "Merriman061 discloses the ad server stores this type of profile information in a database," highlighting the "PAGES ADS SEEN ON FIELD" and implying that

this is equivalent to the local server ID information provided by Jaye’s local servers). But Merriman061 teaches that Merriman061’s database (including the “pages seen on” profile information) does not include the identity of all affiliate web pages the user was observed at, but rather only those affiliate web pages that the user actually saw particular advertisements on. This is clear because in Merriman061’s disclosed operation, the message to the advertising server includes “a substring key indicating the page in which the advertisement to be provided from the server is to be embedded.” Ex. 1004, 3:47–49. But when this “substring key” is provided, no advertisement has yet been selected, and it is entirely possible that an advertisement will *not* be selected. *See id.* at 3:52–57 (noting that an “advertisement or other object” is selected only *after* receiving the substring key information).

46. Merriman061 further makes clear that its maintained profile of the user (the database containing the “pages ads seen on” partial profile information) is updated only “[*a*fter delivery of the advertisement to the user.” *Id.* at 6:60–65 (“After delivery of the advertisement to the user, additional processing needs to be done both for tracking the exposure of the advertisement and for having more information about the user,” including “stor[ing] the fact that the advertisement as sent to the user by storing that information in the database based on the user ID.”). Of course, this is not partial profile information that the affiliate webpage itself

could have provided, because when the substring key identifying the webpage was sent, the relevant advertisement *had not yet been selected* by the ad server, such that the affiliate webpage does not know (and could not possibly know) that the advertisement would be shown on that webpage.

47. Furthermore, it is this “pages ads seen on” information that Dr. Houh alleges would be used to target advertisements. Specifically, Dr. Houh’s analysis of limitation [1.d]—which requires “wherein the maintained profile, including the added partial profile, comprises data used in targeting third-party advertisements”—Dr. Houh contends that “*Merriman061* discloses this limitation,” with no allegation that Merriman061 as modified by Jaye would practice this limitation. *See* Ex. 1002, ¶174. In other words, Dr. Houh alleges only that the information in Merriman061’s database would be used for targeting third-party advertisements, with no allegation or explanation of how Jaye’s local server ID would be used to target third-party advertisements. Because the affiliate webpage’s transmission of a local server ID (under Dr. Houh’s proposed combination) cannot disclose providing the “pages ads seen on” partial profile information as discussed above, that transmission of the local server ID does not constitute transmitting a “partial profile” that “comprises data used in targeting third-party advertisements” under Dr. Houh’s theory.

48. I additionally note that Dr. Houh contends that a “POSITA would have recognized that using Jaye’s technique for passing real-time profile information via a special URL would tell advertisers more about website audiences (visitors)” such that there would be a motivation to use this technique. Ex. 1002, ¶158. But Dr. Houh does not explain how this technique would provide any more information to Merriman061’s ad server than is already provided to the ad server. He states that the technique would “tell advertisers more,” but does not specify what the “more” would be. In general, the information that Dr. Houh alleges would be provided is the same information that Merriman061’s ad server already has access to, because Merriman061 is already able to determine the identify of a user and the identity of a web page.

C. Dr. Houh’s theory with respect to Jaye’s “local user ID” also fails.

49. Dr. Houh also contends that in combination with Jaye, it would have been obvious for Merriman061’s affiliate website to transfer “client_information” including “the local identifier of the user” to Merriman061’s ad server. It is my opinion that this theory fails for at least two reasons: First, it would not have been obvious to transmit a *local* identifier to Merriman061’s ad server. And second, even if a local identifier were transmitted, Dr. Houh presents no explanation as to how a local identifier (as opposed to a global identifier) would be used to target third-party advertisements. An overview of Jaye’s local user ID (and how it differs

from Jaye's global user ID and Merriman's user ID, which is analogous to Jaye's global user ID) is provided below, followed by an explanation of why Dr. Houh's theory with respect to the local user ID does not render the challenged claims obvious.

50. By way of background, Jaye discloses both (1) a local user ID and (2) a global user ID. Under Dr. Houh's combination, Merriman061's affiliate webpage would transfer the local user ID (not the global user ID) via URL redirection. Below, I briefly explain the difference between Jaye's local and global user IDs (and how they relate to Merriman061's user ID).

51. Jaye teaches that each participating "local server" (local servers are roughly analogous to Merriman061's affiliate websites) "establishes a local ID for the user and communicates to the enterprise server the local ID of the user." Ex. 1005, 22:21–24; *id.* at 5:49–51 ("In the exemplary embodiment, each of the local servers 15 and 17 assign their own unique persistent state information to the client 12 in the form of a local ID."). Separately, the "enterprise server" (i.e., the server which stores profile information from each participating local server in a database so that the profile information can be distributed to the participating local servers) "assigns a secret persistent state information to the client 12 in the form of a 'global' ID and correlates the global ID with each of the unique local ID's assigned by each of the local servers 5 and 17." *Id.* at 5:51–55.

52. The purpose of maintaining separate local and global user IDs in Jaye is to assist with privacy and anonymity. In Jaye, each participating local server might know “the true identity of the user,” but they do not reveal that “true identity... to the enterprise server.” *Id.* at 6:3–4. Instead, the local servers only reveal the local ID, and the enterprise server is able to “map different local ID’s for the same user to the single, secret, global ID.” *Id.* at 6:5–6. In this way, the enterprise server “is in a unique position to correlate cross-server information about users while the local servers 15 and 17 can not directly cross-correlate cross-server information because neither of the local servers 15 and 17 possesses the secret global identifier assigned by the enterprise server 16.” *Id.* at 6:6–11.

53. When the local servers in Jaye transfer the local user ID to the enterprise server, the purpose is merely to match the local user ID to the enterprise server’s global user ID so that the enterprise server can “form a global interest profile of the client based on local interest profiles compiled [and submitted] by the local server[s].” *Id.* at 3:38–40.

54. In other words, Jaye’s local user ID is specific to each participating local server. In Jaye’s system, the local server cannot provide the global user ID to the enterprise server because the local server does not know the global user ID, and instead only knows the local user ID. But the global user ID is the most critical identifier within the system, because it ties together all of the disparate profile

information received from each local server. Without the global user ID, the local user IDs (and any profile information associated with such local user IDs) would be relatively useless to the enterprise server.

55. In contrast to Jaye, which discloses a two-ID structure (a “secret” global user ID that is assigned by and known only to the enterprise server, and numerous local user IDs assigned by each participating local server), Merriman061 teaches a single user ID assigned by the ad server and unknown to the affiliate websites.¹ *See* Merriman061 at 5:9–49 (describing how “a user identification is determined” as being an “Advertising Server Process[]” involving the advertising server attempting to “read” or “write a cookie containing that unique identification number” which a POSITA would understand would be accessible only to the advertising server itself—*see* Ex. 1002, ¶76 (collecting various citations)). This ID, which is not specific to any affiliate website and is kept “secret” from the affiliate websites, is thus analogous to Jaye’s secret global ID.

¹ Merriman061 teaches an alternative embodiment where “digital signatures or certificates or log ins uniquely identifying the user accessing the affiliate page may be used,” but in this situation Merriman061 does not teach any mechanism for associating such alternative identifiers across different affiliate web pages. Furthermore, this is taught as an “[a]lternative[]” to “using cookies,” such that these alternative approaches are not consistent with Dr. Houh’s combination which assumes cookies would be used.

56. In Merriman061, in the cookie-enabled embodiment, when the user's browser visits an affiliate webpage on which an advertisement will potentially be displayed, the user's browser transmits a message containing the cookie to Merriman061's ad server. *See* Ex. 1004, 3:41–50. The ad server then uses this cookie information to “determine[] which advertisement or other object to provide to [the] user's browser.” *Id.* at 3:52–57.

57. Because Merriman061 teaches that the user's web browser transmits the cookie to the ad server (which cookie includes Merriman061's user ID, which is equivalent to Jaye's global user ID), there is no need (or desire) for the affiliate webpage to send the equivalent of Jaye's local user ID to the ad server. In fact, Merriman061 does not even disclose the concept of a cookie-based “local user ID” such as the one taught by Jaye. And Dr. Houh provides no rationale how Jaye's local user ID would be “useful for targeted advertising” *in the scheme taught by Merriman061*. *See* Ex. 1002, ¶156.

58. Instead, Dr. Houh presents two rationales for his proposed modification. The first rationale is that “Merriman061 discloses the ad server stores this type of profile information in a database.” Ex. 1002, ¶156. But as explained above, a POSITA would have understood that this type of alleged profile information—a local user ID—is *not* disclosed by Merriman061 as being stored in

a database. Instead, Merriman061 stores its own user ID assigned by the ad server in a database, equivalent to Jaye's *global* user ID.

59. Dr. Houh also states that his proposed “modification is a combination of prior art elements... according to known methods to yield predictable results,” and that a “POSITA would have had a reasonable expectation of success” in making this modification. Ex. 1002, ¶157. But nowhere does he explain how transferring Jaye's *local* user ID would work within the context of Merriman061's disclosure, which already teaches that the ad server is provided with the *global* user ID set by the ad server. Dr. Houh does not even allege any plausible beneficial use for the local server ID in this context. Instead, Dr. Houh's theory appears to be based solely on hindsight: Jaye discloses the use of a local user ID, so it should therefore be applied to Merriman061 in a system that has no need for such a local user ID and would not even allegedly benefit from using such a local user ID. Dr. Houh fails to show that this is a simple and predictable straightforward of prior art elements; indeed, even Dr. Houh fails to articulate how Jaye's local user ID would be used in the context of Merriman061's disclosure in any predictable (much less beneficial) manner that a POSITA would have found obvious.

60. Dr. Houh also fails to explain how, even if it *would* have been obvious for a local user ID to be added to Merriman061's system and transmitted to Merriman061's ad server via URL redirection, this alleged partial profile

information would be “used in targeting third-party advertisements to the user computer” as required by limitation [1.d]. See Ex. 1002, ¶¶174–75. Dr. Houh alleges only that “Merriman061 discloses this limitation” (*id.*, ¶174), with no allegation that (much less explanation as to how) *his proposed combination of Merriman061 with Jaye* would practice the limitation at issue. For example, in the context of Merriman061, even if a local user ID *were* somehow used to derive a global user ID, there is no articulated reason why the local user ID would be stored in the ad server’s database as required or used to target advertisements to the user computer. Instead, Merriman061 makes clear that the user ID set by the *ad server* (analogous to Jaye’s *global* user ID rather than Jaye’s local user ID) is used to target advertisements to the user computer. Because Dr. Houh fails to disclose how Merriman061 would actually *use* the local user ID *to target advertisements* (as opposed to simply using the local user ID to determine the relevant global user ID in order to update the ad server’s database), I disagree that a POSITA would have found it obvious to use the local user ID in a manner consistent with claim 1’s requirements.

61. I additionally note that Dr. Houh contends that a “POSITA would have recognized that using Jaye’s technique for passing real-time profile information via a special URL would tell advertisers more about website audiences (visitors)” such that there would be a motivation to use this technique. Ex. 1002,

¶158. But Dr. Houh does not explain how this technique would provide any more (useful) information to Merriman061’s ad server than is already provided to the ad server, because he does not explain how a local user ID would be relevant in the context of Merriman061’s system. He states that the technique would “tell advertisers more,” but does not specify what the “more” would be in this context or how it would be relevant for targeted advertising in the context of Merriman061.

D. I also disagree with Dr. Houh’s theory with respect to claim 5.

62. As I explained above in Section VI.B, it is my opinion that a POSITA would understand that claim 5 must require tracking profile attributes that were used (rather than just potentially used) for targeting the third-party advertisements.

63. Under the correct understanding of the claim 5 requirement, Dr. Houh fails to establish the obviousness of maintaining such an electronic record. Dr. Houh does not allege that either Merriman061 or Jaye discloses this limitation; instead, he alleges that it would be “obvious for Merriman061’s ad server to automatically maintain electronic records of which [party] contributed... the profile attributes that were actually used to target the advertisements.” Ex. 1002,

¶183. Dr. Houh alleges the following motivation for doing so: “A POSITA would have been motivated to maintain these records for reporting and financial reasons, e.g., to charge subscription and ad targeting fees to advertisers and to compensate the party that provided the profile information.” *Id.* In my analysis, I break this

motivation down into two distinct sub-motivations: (1) “to charge subscription and ad targeting fees to advertisers,” and (2) “to compensate the party that provided the profile information.” I disagree that either of these alleged sub-motivations would have rendered obvious the modification Dr. Houh proposes.

64. First, there is no evidence that maintaining a record of which parties contributed which profile attributes that were actually used to target advertisements would be helpful to “charge subscription and ad targeting fees to advertisers.” Of course, a system can charge subscription and ad targeting fees to advertisers *without* maintaining a record of which parties contributed which profile attributes actually used to target advertisements, and Dr. Houh fails to provide even a cursory explanation of how maintaining the claimed record would be beneficial in charging subscription and ad targeting fees.

65. Dr. Houh’s second sub-motivation assumes that a POSITA would have desired to “compensate the party that provided the profile information [that was actually used to target advertisements],” but he provides no evidence underlying this assumption. For instance, there is no evidence that popular ad servers such as DoubleClick compensated affiliate websites for providing profile information based on how the profile information was used; instead, DoubleClick simply obtained the profile information from the affiliate websites based on their participation in the DoubleClick Network, and did not compensate those parties for

the profile information based on usage (or at all). *See* Ex. 1009, 267-268 (“The DoubleClick system tracks user movements between various member websites run by clients on their advertising networks.... DoubleClick uses its network of sites to collect information....”); *see also id.* at 268 (noting that profile information is “voluntarily offered by the user” to DoubleClick, with no indication of compensating for the profile information). More specifically, in the case of Merriman061 (assigned to DoubleClick), a POSITA would understand that the financial arrangement between the affiliate and the ad server is that the ad server pays the affiliates “a fee” for “permit[ting] third party advertisements to be displayed on their websites.” Ex. 1004, 2:62–65. Based on this arrangement, DoubleClick already has access to information from the user’s visit to the affiliate website, and Dr. Houh fails to articulate any reason a POSITA would have found it obvious for Merriman061’s ad server to pay even more money to the affiliate website for profile attributes that were used to target advertisements.

66. Fundamentally, a POSITA running Merriman061’s ad server would not have been motivated to compensate parties for providing profile information actually used to target advertisements unless they would have seen some benefit to doing so, because compensating parties for this information would have imposed a cost on the ad server. Dr. Houh provides no evidence that there would have been any benefit to providing this compensation, and in fact provides no evidence that

anyone in the relevant timeframe compensated providers of profile information for providing profile attributes that were actually used to target advertisements.

67. Accordingly, because Dr. Houh fails to establish that maintaining the record as required by claim 5 would have been useful to charge subscription and ad targeting fees to advertisers, and also fails to establish that it would be obvious to compensate parties for providing profile information used to target ads, it is my opinion that he fails to show the obviousness of claim 5.

VIII. Analysis of Dr. Houh's Ground 2.

A. Dr. Houh fails to establish the obviousness of using Merriman154's spotlight tags to transfer web browsing activity from Rosenberg's web servers to Rosenberg's database server.

68. As part of Dr. Houh's proposed combination of Rosenberg with Merriman154, Dr. Houh proposes that it would be "obvious to modify Rosenberg based on the teaching of Merriman154 to cause the database server to receive partial profiles including web browsing activity and demographic information from the web servers via electronic URL-redirection." Ex. 1002, ¶215. I first discuss Rosenberg's teachings regarding how web browsing activity and demographic information should be transferred, followed by my analysis of why I believe a POSITA would not have found it obvious to modify Rosenberg to transfer that information via spotlight tags.

69. Rosenberg teaches that a user's web browsing activity from a web server is transmitted to the database server using a scheduled bulk transfer exchange, in order to avoid excessive data transfers and in order to avoid having to transfer significant amounts of data during peak data usage hours:

FIG. 3 illustrates a data structure that may be used to store information regarding the interaction between a browser 34 and a server 24. Typically, the information associated with this data structure is stored in the access logs of each server computer 24. This information is then passed from the access logs of the server computers 24 to the database 25, typically at the end of a day or at other times when network traffic is light.

Ex. 1006, 5:55-62. Rosenberg further makes clear that the data structure in Figure 3 is simplified, and in actuality there would be "more specific entries regarding content requests" such that a significantly higher quantity of data would be transferred to the database server than illustrated in Rosenberg's Figure 3. *Id.*, 6:6-9.

70. Rather than transfer this data in bulk (to minimize transfers and to enable avoiding hours of peak network traffic), Dr. Houh alleges that a POSITA would have found it obvious to take the fundamentally different approach of transferring this data immediately using spotlight tags as the data is created, regardless of whether network traffic is light. A POSITA would understand that

real-time transfer of data (i.e., transfer of the data as it is created) would predominantly involve transfer of data during hours of peak network activity, because most web activity that generates data to transfer is generated during hours of peak activity (rather than during “times when network traffic is light”—i.e., the time periods that Rosenberg teaches would be used for transfer of data relating to a user’s web browsing activity). In my opinion, a POSITA would not have found such an approach obvious in the context of Rosenberg, and would have additionally understood Rosenberg to teach away from Dr. Houh’s proposed modification.

71. Notably, it was common knowledge, as evidenced by Rosenberg itself, that time of day had a significant impact on data transfer speeds. Even as late as 2011, data transfer speeds were reduced by an average of approximately 33% during peak hours (i.e., between 7–9pm) (*see* Ex. 2005 (<https://www.the-independent.com/tech/evening-internet-rushhour-affects-broadband-users-6262838.html>)), and a POSITA would have understood that this effect would have been even more pronounced and problematic as of December 1999, the priority date of the ’904 patent, given the limited capacity of dial-up Internet services and the much slower data transfer rates that existed at that time. Thus, a POSITA would have been highly motivated to avoid real-time transfers of large amounts of

data in the context of Rosenberg’s teachings, which explicitly place an emphasis on reducing data transfers during peak usage hours.

72. Furthermore, the use of individual transfers with their associated overhead is substantially more inefficient than a bulk transfer wherein the connection management and overhead is amortized over the entirety of the records, such that a POSITA attempting to implement Rosenberg’s teachings would have avoided piecemeal transfer of those records.

73. Dr. Houh additionally fails to show that it would have been obvious to try using a spotlight tag, because he fails to establish that there are “a finite number of ways to transfer website activity from a web server to a server with a database.” Ex. 1002, ¶220. Dr. Houh alleges that there are only “two ways” to do this – with a “bulk transfer” or “spotlight tags.” *See id.* But a POSITA would understand that bulk transfer itself can be done in numerous ways, such as email, FTP, a unique server-to-server protocol, etc.—the possibilities are practically infinite and not easily identifiable. Furthermore, all of these ways that allow for bulk transfer can also be used to transfer data in piecemeal (non-bulk) fashion. For example, every time a new piece of data is generated, the server that observed that data being generated could automatically use a server-to-server protocol to communicate that information to a database server, *without* the use of spotlight tags. This could also be done using email, FTP, or a shared database accessible to both the database

server and the transmitting server. A POSITA would not view the implementations of transfer of profile data to be “finite,” because ordinary creativity allows for numerous ways to transfer profile data.

74. Of course, the fact that Merriman154 itself discloses two alternative embodiments, one which includes bulk transfer and one which includes spotlight tags, does not mean that these are the only ways in which profile information can be transmitted.

75. Nor does Dr. Houh’s combination represent the combination of prior art techniques according to known methods, because the combination fundamentally changes the nature of both Rosenberg’s data transfer and Merriman154’s spotlight tags. As previously noted, Rosenberg’s data transfer is intended to transfer the profile data in bulk during periods where network traffic is at its lowest, whereas Dr. Houh’s proposed combination would achieve the contradictory result of transferring the information in real-time, primarily at times when network traffic is at its highest. Additionally, Merriman154 teaches using spotlight tags to transfer information for use in retargeting (i.e., to transfer profile information to target ads where the advertiser itself was the sole provider of the profile information targeting the advertisement) rather than to transfer information to a database that would be accessible to numerous other participating servers to use as they see fit (as taught by Rosenberg—*see* Ex. 1006 at 3:28–30 (“the

invention allows all cooperating servers to share information via a database”); *id.* at 7:43–55 (“each server can access the information in the database that is set by other servers”). As described in more detail in my analysis of claim 5 below, a POSITA would have understood that transferring profile information for use in retargeting would fail to satisfy the “third-party advertisements” requirement of claim 1.

76. Thus, this is not a simple substitution of prior art elements (*see* Ex. 1002, ¶220), because the element being substituted for Rosenberg’s data transfer protocol is directly contrary to Rosenberg’s teachings.² It also contradicts the purpose of Merriman154’s spotlight tags, which are not to share data with unaffiliated third parties (including potential competitors), but rather to allow the advertiser providing the profile information via the spotlight tags to target

² Not only is the mechanism for transfer changed from a server-to-server mechanism (described by Rosenberg as passing information “from the access logs of the server computers 24 to the database”—Ex. 1006, 5:59–62), but *also* a change in what information is transferred (piecemeal vs bulk), *and* when the information is transferred (immediately when it is generated, primarily at peak network usage hours, as opposed to “times when network traffic is light”). Dr. Houh’s modification also has the effect of placing the data transmission burden on the user’s browser, which would have the effect of making the participating server’s website feel slower to navigate. A POSITA would not view modifying all of these aspects of a system interconnecting multiple unaffiliated servers such as Rosenberg under Dr. Houh’s theory to be a “simple substitution” of elements, but rather a complex modification requiring changes to multiple aspects of how Rosenberg’s system would operate.

advertisements to the user on different websites, such that Dr. Houh’s proposed modification is also contrary to the purpose of Merriman154’s spotlight tags. This is important because an advertiser has an incentive to ensure that the information they are providing to an ad server for ad retargeting is provided to the ad server as quickly as possible, because the ad server *itself* benefits from the ad retargeting. In contrast, when the information is going to benefit other servers (such as in Rosenberg’s scheme where each participating server shares information), each participating server does not have the same incentive to ensure that the other participating servers have instantaneous access to the data to be shared (because the benefit would not accrue to the server implementing the real-time spotlight tag sharing scheme, but rather to other servers regardless of whether or not those other servers shared their data in real time or not).³

77. Furthermore, Rosenberg teaches that when redirection is used to transfer even relatively small pieces of information (such as the “unique identification information”), there is a possibility that such “information does not reach other servers in the network,” which “may occur if the instruction to pass the

³ Dr. Houh alleges that retargeted advertisements would have been obvious. *See* Ex. 1002 ¶¶246–247. As I explain in my analysis of claim 5 below, retargeted advertisements as disclosed by Merriman154 and as proposed by Dr. Houh in his combination do not satisfy the “third-party advertisements” limitation.

unique identification information to other servers is defeated by programming instructions associated with the client computer 22, or the instructions to pass the unique identification information to other servers is defeated by some network interruption.” Ex. 1006, 6:10-22. Thus, Rosenberg teaches a protocol for ensuring that a user can be identified even if the unique identification information is not successfully transmitted to participating servers in the network. Ex. 1006, 6:23-58. A POSITA would thus understand that failures are possible in the type of redirection taught in Rosenberg, particularly during peak hours when “network interruption” is more likely. While a POSITA would have found this to be acceptable for Rosenberg’s unique identifier (because Rosenberg teaches a redundancy mechanism for identifiers—Ex. 1006, 6:23-58), a POSITA reading Rosenberg would have avoided transferring substantive web browsing data via the type of redirection disclosed in Rosenberg.

B. Because Dr. Houh’s combination is not obvious, Dr. Houh fails to establish that limitations [1.a(iii)] and [1.c] are obvious under his proposed combination.

78. Dr. Houh alleges that “a POSITA would have found it obvious that the data structure stores an electronic record of which of the plurality of unaffiliated third parties contributed to the maintained profile particular profile attributes.” Ex. 1002, ¶241. However, the only “profile attribute” that would even allegedly be sent via URL redirection (absent the use of Merriman154’s spotlight

tags to transfer web browsing activity) is the Cookie ID #. And Rosenberg does not disclose maintaining a record of which party contributed the Cookie ID # to any given maintained profile.

79. The fact that Rosenberg does not disclose maintaining a record of which party contributed the Cookie ID # is clear from the structure of Rosenberg’s database. Dr. Houh’s annotation of Rosenberg’s Figure 3 is reproduced below:

Cookie ID #	Last Visit to Server_A	Content Requested			Last Visit to Server_B	Content Requested		
		News	Product Info	Feature Story		News	Product Info	Feature Story
123	4-9-96;18:25	2	5	0	7-4-96;16:23	1	7	3

Ex. 1002, ¶241 (Dr. Houh’s annotation of Rosenberg’s FIG. 3). As shown in the annotated figure above, a *single* “Cookie ID #” is associated with both Server_A and Server_B information, such that Rosenberg’s data structure provides no indication of which unaffiliated third party (the party associated with Server_A or Server_B) contributed the Cookie ID # to the maintained profile. Thus, Rosenberg’s data structure does *not* include a record of which third party contributed the Cookie ID # to the maintained profile.

80. Dr. Houh further argues that “the data structure stored a record indicating that Server_A contributed a profile attribute indicating that the user with Cookie ID # 123 last visited Server_A on April 9, 1996.” Ex. 1002, ¶241. But this profile attribute (the date on which a user last visited Server_A) would not have

been “an electronically URL-redirected partial profile” as limitation [1.a(i)] requires absent Dr. Houh’s proposed modification to use Merriman154’s spotlight tag to transfer web browsing activity, and as discussed above, that modification would not have been obvious.

81. For similar reasons, it is my opinion that Dr. Houh fails to show that limitation [1.a(iii)] would have been obvious. Dr. Houh fails to allege (or provide evidence that) the Rosenberg teaches that the Cookie ID # is received by the database sever “along with an identification of the one of the third parties that contributed the [Cookie ID #],” as Dr. Houh’s theory would require absent his proposed combination with Merriman154. And because Dr. Houh’s proposed combination with Merriman154 would not have been obvious as discussed above, Dr. Houh fails to show that Rosenberg (alone or in combination with Merriman154) discloses or renders obvious this claim requirement.

C. Dr. Houh also fails to establish the obviousness of Claim 5.

82. Dr. Houh contends that claim 5 would be obvious based on Rosenberg in combination with Merriman154. As noted above in Section VI.B, it is my opinion that claim 5 requires “maintaining an electronic record of which unaffiliated third party contributed, to the maintained profile, the profile attributes used in targeting the advertisements,” not merely keeping a record of which party contributed the profile attributes *potentially* used in targeting the advertisements.

83. I note that even under Dr. Houh’s broader interpretation of claim 5, Rosenberg alone does not disclose this limitation because Rosenberg does not disclose maintaining a record of which party contributed the Cookie ID #, for the reason set forth above for claim 1. And because the spotlight tag combination with Merriman154 would not have been obvious to a POSITA as further discussed above, maintaining a record of which party provided information about a user’s web browsing activity would not satisfy the other claim requirements, because that information would not have been redirected as required.

84. Dr. Houh additionally fails to show how Rosenberg and Merriman154 render obvious the claim under the correct interpretation, which requires maintaining an electronic record of which party contributed the profile attributes *actually* used in targeting the advertisements. Dr. Houh’s sole theory as to this claim requirement is that it “would have been obvious to use re-targeted ads in the combination of Rosenberg and Merriman154,” which Dr. Houh acknowledges deviates from his theory for claim 1 because “Rosenberg’s web servers use re-targeted ads as the ‘customized responses to browser inquiries.’” Ex. 1002, ¶254. Dr. Houh specifically alleges that these retargeted advertisements would be based on Merriman154’s disclosure of “re-targeted ads in which an advertiser targets an ad to a user based on the user’s ‘own past behavior at that specific advertiser’s web site.’” Ex. 1002, ¶253 (citing Ex. 1007, 3:20-4:10, 5:60-6:16).

85. A POSITA would have understood, however, that these retargeted advertisements are precisely the type of advertisements the patentee disclaimed as *not* being “third-party advertisements” in the file history of the ’904 patent’s grandparent application. Specifically, as discussed above in Section VI.A, the applicant made clear that “third-party” was added in to the limitation “third-party advertisements” in order to “make clear that the profile data used in targeting the advertisement is not simply information from the advertiser itself.” Ex. 2003 at 30. Thus, a POSITA would understand based on this clear disclaimer in the file history that, at very least, third-party advertisements do not include an advertisement where the profile data used in targeting the advertisement is simply information from the advertiser itself (i.e., advertisements for which the advertiser supplied the profile information used to target the advertisement).

86. Furthermore, a POSITA would have understood that in the retargeted advertisements that Dr. Houh relies on from Merriman154, it is “simply information from the advertiser itself” that is used to target the advertisements. Dr. Houh acknowledges as much in his declaration, when he opines that these retargeted advertisements are targeted based on the user’s “own past behavior at that specific advertiser’s web site.” Ex. 1002, ¶253. And Merriman154 likewise makes clear that it is the user profile data provided by the advertiser itself that is used to target the retargeted advertisements. Ex. 1007, 3:29–34 (in discussion of

“Re-Targeted Advertising” explaining that “the present invention is embodied in a system whereby a new follow up (re-targeted) advertisement from a specific advertiser who targeted that viewer previously, is selected for that viewer *based on the viewer’s own past behavior at that specific advertiser’s web site*”) (emphasis added).

87. Thus, Dr. Houh’s proposed modification to Rosenberg in an attempt to satisfy the requirements of claim 5 are inconsistent with claim 1’s requirement that “the advertisements” provided are “third-party advertisements.” Accordingly, even if a POSITA would have found it obvious to modify Rosenberg as Dr. Houh alleges in his claim 5 theory, claims 1 and 5 would not be obvious under that theory.

IX. My opinions are also applicable to claims 11, 15, 21, and 25.

88. Throughout this declaration, I have addressed various requirements of claims 1 and 5. Dr. Houh alleges that these claims are “unpatentable for similar reasons” as claims 1 and 5. *See* Ex. 1002 ¶¶ 261, 263, 264.

89. Additionally, because Dr. Houh fails to establish the obviousness of all independent claims (i.e., claims 1, 11, and 21), it is also my opinion that Dr. Houh fails to establish the obviousness of all dependent claims for at least the same reasons.