

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BRIGHT DATA LTD.,
Petitioner,

v.

OXYLABS, UAB,
Patent Owner.¹

IPR2023-00187
Patent 8,924,457 B2

Before THOMAS L. GIANNETTI, STACEY G. WHITE, and
IFTIKHAR AHMED, *Administrative Patent Judges*.

GIANNETTI, *Administrative Patent Judge*.

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

¹ The caption of this proceeding has been revised to reflect the current ownership of the challenged patent. *See infra*, Section II.A n.2.

I. INTRODUCTION

Bright Data Ltd. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–5 (“the challenged claims”) of U.S. Patent No. 8,924,457 B2 (Ex. 1005, “the ’457 patent”). Paper 1 (“Pet.”), 1. oxylabs, UAB (“Patent Owner”)² filed a Preliminary Response (Paper 6).

Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the petition “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons stated below, we determine that Petitioner has established a reasonable likelihood that it would prevail with respect to at least one claim. We, therefore, institute *inter partes* review as to all of the challenged claims of the ’457 patent and all of the asserted grounds of unpatentability.

II. PRELIMINARY MATTERS

A. Related Matters

The ’457 patent is a continuation of U.S. Patent No. 9,503,498 (“the ’498 patent”). Paper 4, 1. The parties indicate that the ’498 patent is involved in a district court infringement proceeding in the Eastern District of Texas styled as *Metacluster LT, UAB v. Bright Data Ltd.*, Case No. 2:22-cv-00011 (E.D. Tex.) (“Texas Litigation”). Pet. 1; Paper 4, 1. Patent Owner

² As set forth below, metacluster lt, UAB, now operates as oxylabs, UAB, and the ’457 patent has been assigned to oxylabs, UAB. Accordingly, the caption of this proceeding has been revised to reflect this change.

states that this case also involves U.S. Patent No, 9,516,091 (“the ’091 patent”). Pet. 1; Paper 4, 1.

The parties also indicate that Petitioner has challenged patents related to the ’457 patent in IPR2023-00185 (challenging the ’498 patent) and IPR2023-00186 (challenging the ’091 patent). Pet. 2; Paper 4, 1 Petitioner previously challenged related U.S. Patent No. 10,601,948, in IPR2021-00983, where institution was denied. Pet. 2.

Petitioner states that Patent Owner and other real parties-in-interest have filed petitions for *inter partes* review, post-grant review, and requests for *ex parte* reexamination with respect to a number of patents assigned to Petitioner. *Id.* at 2–4.

Petitioner further states that there are numerous district court cases, *inter partes* reviews, post grant reviews, and reexaminations filed by Patent Owner or Patent Owner’s real parties-in-interest that involve, or have involved, patents assigned to Petitioner. *Id.* at 4–5.

B. Real Parties-in-Interest

Petitioner identifies itself, Bright Data Ltd., as the real party-in-interest. Pet. 1.

Patent Owner identifies oxylabs, UAB as the real party-in-interest, where oxylabs, UAB is the “successor in interest to metaccluster lt, UAB.” Paper 4, 1. Patent Owner explains that “oxysales, UAB and metaccluster lt, UAB have been merged into Teso LT, UAB,” and that “[a]s of November 30, 2022, Teso LT, UAB will operate as oxylabs, UAB.” *Id.* Additionally, Petitioner asserts the following entities are real parties-in-interest “[b]ased on the history of litigation between Petitioner and Patent Owner”:

“Code200, UAB”; “Teso LT, UAB”; “Oxysales, UAB”; and “Coretech lt, UAB.” Pet. 1–2.

Because at this stage neither party asserts that this determination of real parties-in-interest has any bearing on the outcome, we do not address it further.

C. The '457 Patent

The '457 patent is titled “Client Browser Acceleration by Having Server Removed and Executed Script Embedded in Web Page.” Ex. 1005, (54). The patent “relates to the management of network traffic by controlling the execution of embedded scripts in web pages.” *Id.* at 1:17–19.

According to the '457 patent, performing web analytics for tracking consumer interaction with websites may employ embedded scripts in web pages. *Id.* at 1:20–42. Some drawbacks to this approach, however, are that embedded scripts may be large and may cause delay in web page retrieval, and that “retrieval and execution of embedded scripts may be inconvenient or costly to visitors accessing the web page through networks with bandwidth-restrictive networks.” *Id.* at 1:43–50.

Figure 1 of the '457 patent follows:

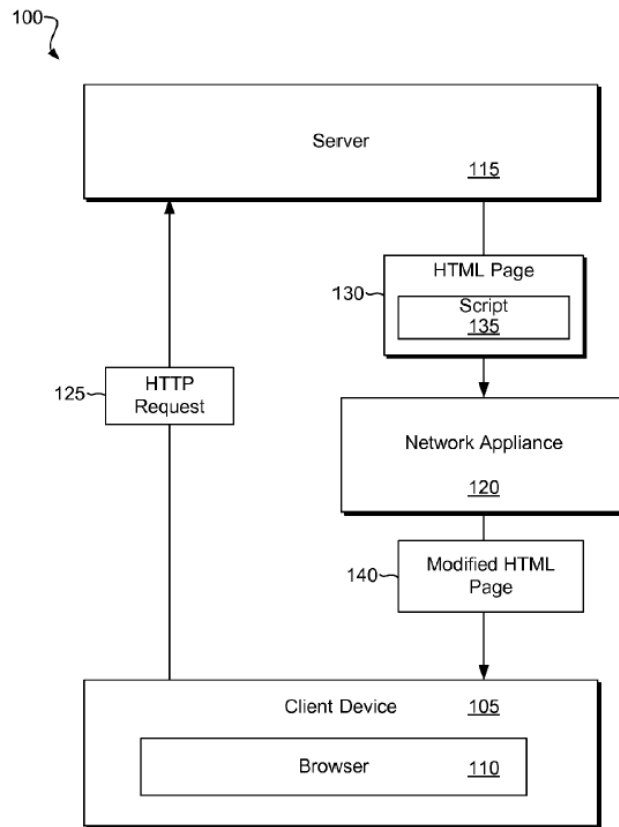


Fig. 1

Figure 1 depicts “a block diagram of an illustrative system for web page script management.” *Id.* at 2:47–48. Figure 1 shows a system “that may be used to manage the execution of embedded scripts in web pages.” *Id.* at 5:5–7. System 100 includes client device 105 that implements browser 110. *Id.* at 5:7–9. The system also implements server 115, and network appliance 120 disposed in a communication path between server 115 and client device 105. *Id.* at 5:9–12.

Server 115 is a web server and has access to stored web pages. *Id.* at 5:20–21. System 115 responds to HTTP requests from client device 105, for

example, by sending requested web page 130 with embedded script 135, which may be “JavaScript with instructions for providing statistical information to an external web analytics service.” *Id.* at 5:21–33.

Network appliance 120 may intercept web page 130 to analyze its contents and determine whether any embedded scripts meet a predefined criterion, and if so, remove or replace such scripts. *Id.* at 5:34–47. If an embedded script is removed or replaced, network appliance 120 sends modified web page 140 that retains the original content of the web page, but without the removed embedded script. *Id.* at 5:52–60.

Where a first embedded script in a web page is replaced with a second embedded script, “the second embedded script may be smaller in size than the first embedded script.” *Id.* at 7:15–18. Further, upon execution of the second embedded script by a browser on, for example, a mobile device, the mobile device may send a message to the network appliance that triggers execution of the first embedded script by the network appliance. *Id.* at 7:18–22.

According to the ’457 patent, executing an embedded script at network appliance 120, rather than client device 105, “poses significant advantages over prior solutions,” such as providing a reduced size modified web page and conserving processing resources of client device 105. *Id.* at 5:61–6:7.

Network appliance 120 may also “have access to additional information about the user of the client device,” making its execution of an embedded script more useful to the source of the embedded script than execution by browser 110 on client device 105. *Id.* at 6:10–30.

D. Illustrative Claim

Independent claim 1 is illustrative:³

1. A machine-implemented method of web page script management, said method comprising:

[1a] in a network appliance implemented by at least one processor, intercepting a number of packets sent from a server and addressed to a client browser;

[1b] determining with the network appliance that a number of packets received in the network appliance comprise a web page comprising a first embedded script;

[1c] modifying at least one said packet in the number of packets with the network appliance by replacing the embedded script from the web page with a second embedded script;

[1d] forwarding the number of packets as modified by the network appliance to the client browser; and

[1e] executing the first embedded script with the network appliance in response to receiving an indication that the client browser has executed the second embedded script.

Ex. 1005, 12:2–18.

E. Prior Art and Other Evidence

Petitioner relies upon the references listed below (Pet. 7):

Name	Reference	Publication/Issue Date	Exhibit No.
Athas	U.S. Patent App. Pub. No. 2013/0212462 A1	Aug. 15, 2013	1018
Hallak	U.S. Patent No. 8,464,318 B1	June 11, 2013	1011

³ Reference numbers provided by Petitioner appear in brackets.

Name	Reference	Publication/Issue Date	Exhibit No.
Matthys	U.S. Patent App. Pub. No. 2008/0306816 A1	Dec. 11, 2008	1013
Scoda	U.S. Patent App. Pub. No. 2011/0307238 A1	Dec. 15, 2011	1016

Petitioner also relies on a Declaration of Dr. Tim Arthur Williams.
Ex. 1007 (“Williams Decl.”).

F. Asserted Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability (Pet. 7):

Claims Challenged	35 U.S.C. § ⁴	References
1–5	102(e) ⁵	Athas
1–5	103(a)	Hallak, Matthys
1–5	103(a)	Scoda, Matthys

⁴ For purposes of this Decision, we assume the claims at issue have an effective filing date prior to March 16, 2013, the effective date of the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), and we apply the pre-AIA versions of 35 U.S.C. §§ 102 and 103.

⁵ Petitioner asserts that “Athas properly qualifies as prior art under pre-AIA 35 U.S.C. § 102(e), as pertaining to its provisional filing date of September 14, 2011.” Pet. 15–16. At this stage, Patent Owner does not challenge this assertion.

III. CLAIM CONSTRUCTION

In an *inter partes* review, we construe a patent claim “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b).” 37 C.F.R. § 42.100(b) (2020). Under this standard, the words of a claim generally are given their “ordinary and customary meaning,” which is the meaning the term would have to a person of ordinary skill at the time of the invention, in the context of the entire patent including the specification. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc).

Petitioner proposes that all terms should have their plain and ordinary meaning. Pet. 14. Patent Owner responds that “[t]he ’457 Patent expressly defines a number of terms that are used in the claims,” and highlights several such definitions for the terms “web page,” “network appliance,” “browser,” and “embedded script.” Prelim. Resp. 6–7. In addition, Patent Owner proposes a construction for the second recitation in claim 1 of the phrase “a number of packets” that Patent Owner alleges is “consistent with both the specification and figures of the ’457 Patent.” *Id.* at 7–8.

Having considered the positions of the parties, we find that for the purpose of this decision, it is unnecessary expressly to construe any claim terms. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))). We, therefore, do not agree that Petitioner’s alleged failure to expressly address the meaning of claim terms should prevent us from instituting review as asserted by Patent Owner. *See, e.g.*,

Prelim. Resp. 6 (“The Petition fails to address the specification’s definitions of claim terms, much less demonstrate that the cited references disclose each claimed element according to its appropriate meaning.”).

IV. ANALYSIS

A. Principles of Law

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987). When evaluating a single prior art reference in the context of anticipation, the reference must be “considered together with the knowledge of one of ordinary skill in the pertinent art.” *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (citing *In re Samour*, 571 F.2d 559, 562 (CCPA 1978)).

A patent claim is unpatentable for obviousness under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, “would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence

of non-obviousness. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).⁶

B. Level of Ordinary Skill in the Art

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (quotation marks omitted).

Petitioner asserts that a person of ordinary skill in the art of the ’457 patent would have had “a Master’s Degree or higher in the field of electrical engineering, computer engineering, or computer science, or as of that time had a Bachelor’s Degree in the same fields and two or more years of experience in Internet Communications.” Pet. 14 (citing Williams Decl. ¶¶ 30–31). At this juncture, Patent Owner does not provide a description of an ordinarily skilled artisan.

For purposes of this Decision, we adopt the level of ordinary skill as articulated by Petitioner. Based on the current record, this proposal is consistent with the ’457 patent, the prior art of record, and is supported by the testimony of Dr. Williams. *See* Williams Decl. ¶¶ 30–31.

⁶ Neither party presents evidence or arguments regarding objective evidence of non-obviousness at this stage.

C. Overview of the Prior Art

1. Athas (Exhibit 1018)

Athas relates to using a proxy platform to send a requested webpage to a mobile device in a format that allows the mobile device to browse the webpage in a low-power mode. *See* Ex. 1018, (57). Athas observes that “implementing mobile web services within a wireless environment can potentially tax the relatively limited resources” available within a mobile device environment, and notes that one traditional solution to this problem is to use a proxy web browser. *Id.* ¶¶ 32–33. Athas describes improvements to proxy web browsing where, instead of having to send new representations of a web page to a client in response to script-driven user interaction with web content, distributed script processing may reduce or eliminate “the need to transmit an entire fresh copy of the web page each time a scripting event occurs during display of web content.” *Id.* ¶¶ 33–34.

Figure 2 of Athas is reproduced below:

FIG. 2

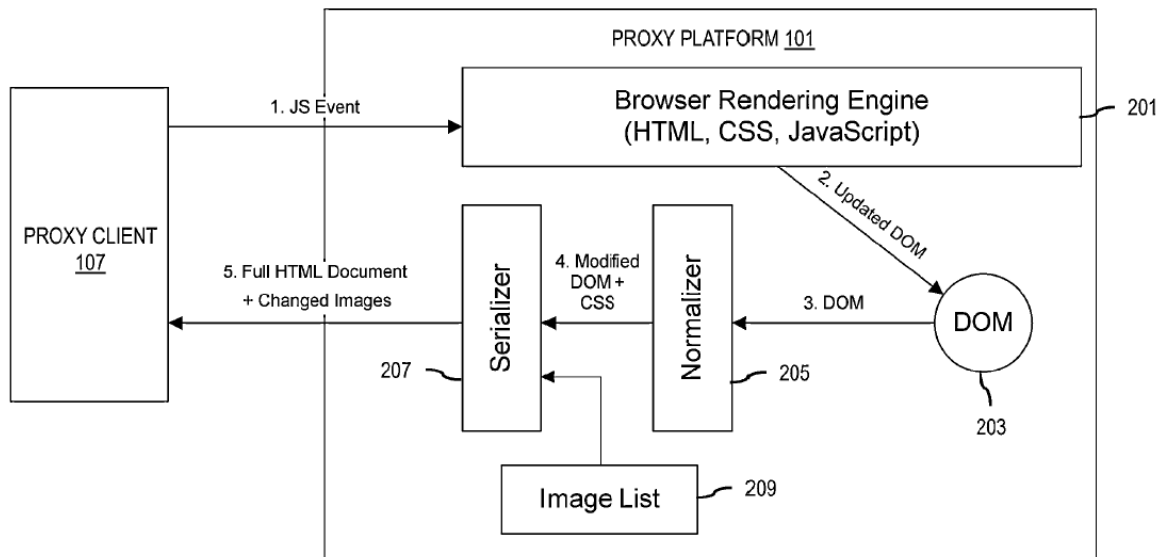


Figure 2 illustrates “components of a proxy server for providing distributed script processing for media reuse.” *Id.* ¶ 17. As shown in Figure 2, “proxy platform 101 includes a browser rendering engine 201 for rendering web content based [on] one or more scripting events.” *Id.* ¶ 47. “[S]pecifically, the browser rendering engine 201 interprets web code and scripts (e.g., HTML, CSS, JavaScript) to generate or otherwise update a document object model (DOM) 203 to represent the rendering of the web content.” *Id.* Normalizer 205 processes or modifies DOM 203 based on the capabilities of proxy client 107, and serializer 207 generates or renders the web document sent to proxy client 107. *Id.* Serializer 207 is connected to image list module 209, which provides functions related to media reuse or smart image update. *Id.*

For performing the media reuse or smart image update features, proxy platform 101 maintains two image lists, a “current request list which maintains a list of media items in the DOM 203,” and a “current page list which maintains a list of images that were already sent down to the proxy client for the address or URL currently being handled.” *Id.* ¶ 49. In operation, for each request, “proxy platform 101 checks the media items (e.g., images) in the current request list against the current page list,” and “[i]f an image or media item in the current request list exists in the current page list, the image or media item is not sent down to the proxy client 107, thereby reducing network traffic and bandwidth usage.” *Id.*

Athas discloses another configuration of proxy platform 101 in Figure 4A, which is reproduced below:

FIG. 4A

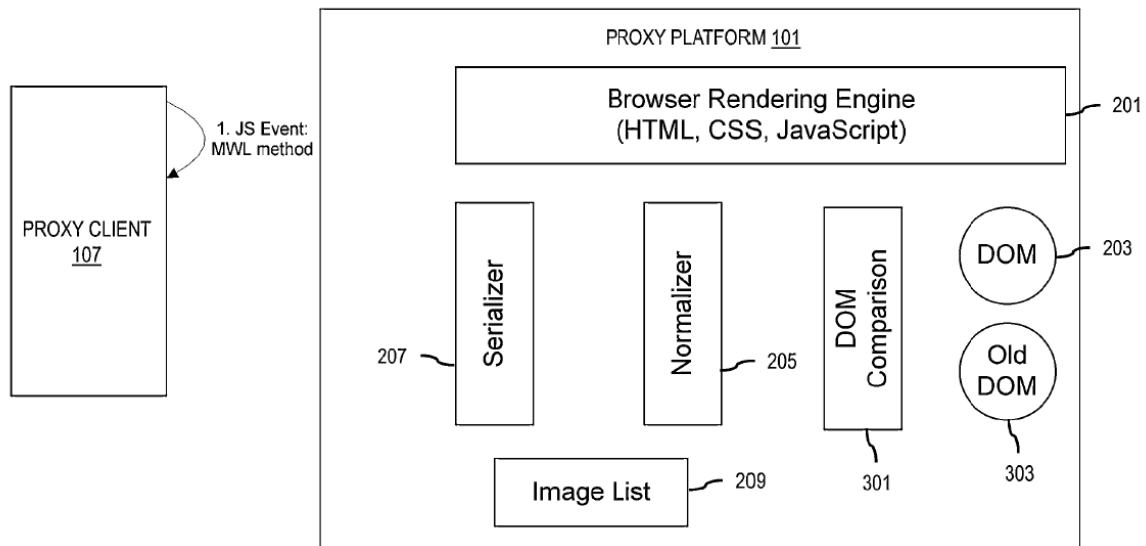


Figure 4A illustrates “components of a proxy server for providing distributed script processing for using local device resources.” *Id.* ¶ 20,

Figure 4A relates to the use of local device resources by way of the Mobile Web Library (MWL), which “is a script (e.g., JavaScript) library to handle basic on device operations.” *See id.* ¶ 84. “[S]upport for MWL and non-MWL scripts is enabled on events such as onload, onunload, onclick, onchange, and the like.” *Id.* ¶ 85. Proxy platform 101 may “strip non-MWL scripts before sending to the proxy client 107,” and, in an example, “MWL statements are left alone and remain in the order specified on the event.” *Id.* In addition, MWL statements may “be left as-is while any script (e.g., JavaScript) statements will be replaced by a MWL.callback() statement which will make a request to the proxy platform 101 to execute the script statements and return any updates made to the DOM.” *Id.* ¶ 87.

2. Hallak (Exhibit 1011)

Hallak relates to “securing a web client against malicious web attacks.” Ex. 1011, (57). Hallak describes implementing a secure gateway in a web application environment that performs all client-side execution on behalf of a web client, such that “client code is typically executed in a ‘sandbox’ to secure the gateway.” *Id.* at 3:14–27. Figure 2A from Hallak is reproduced below:

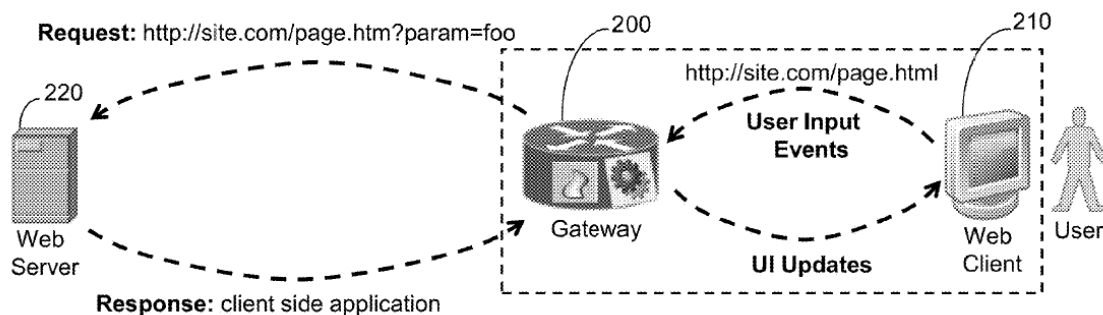


FIG. 2A

Figure 2A illustrates a deployment option for a secure gateway. *Id.* at 2:57–59. In Figure 2A, execution of “client side application code of a web application by the secure gateway 200 (instead of by the client itself) provides protection against harmful attacks, thereby protecting the client 210.” *Id.* at 3:28–31. In this way, “the inherently insecure protocols of the Internet are now limited to run in a secure environment between the server 220 and the gateway 200.” *Id.* at 3:45–48. “In an ‘un-trusted zone’ between the gateway 200 and client 210, a secure gateway-client protocol is utilized,” which “uses harmless HTML constructs and accepts a limited set of user events.” *Id.* at 3:48–51.

3. Matthys (Exhibit 1013)

Matthys relates to “replacing an advertisement in a webpage from a website with another advertisement.” Ex. 1013, (57). Matthys discloses that when a client machine requests to visit a website, a network device may intercept the request and the response for analysis. *Id.* ¶ 51. If it is determined that there are “one or more appropriate advertisements that may be of high interest to the user,” such “advertisement is then placed in the response.” *Id.*

Matthys describes detecting whether a webpage sent in response to a request includes any advertisements based on “the presence of such an advertisement or a script thereof,” and determining “whether the advertisement is replaceable.” *Id.* ¶ 93. If so, “the original advertisement in the webpage is replaced by the preferable advertisement” such that “the original advertisement is either modified or replaced so that the webpage

now carries a script including a link to the preferable advertisement,” and the webpage is then displayed on a client machine. *Id.* ¶ 96.

4. Scoda (Exhibit 1016)

Scoda relates to using “a JavaScript emulator in a web content proxy server.” Ex. 1016 ¶ 1. In particular, Scoda discloses that a proxy server may optimize web page interactions for a client device by performing transformations, including, for example, JavaScript removal, on extracted content based on the specifications of the client device. *Id.* ¶ 2.

Figure 1 from Scoda is reproduced below:

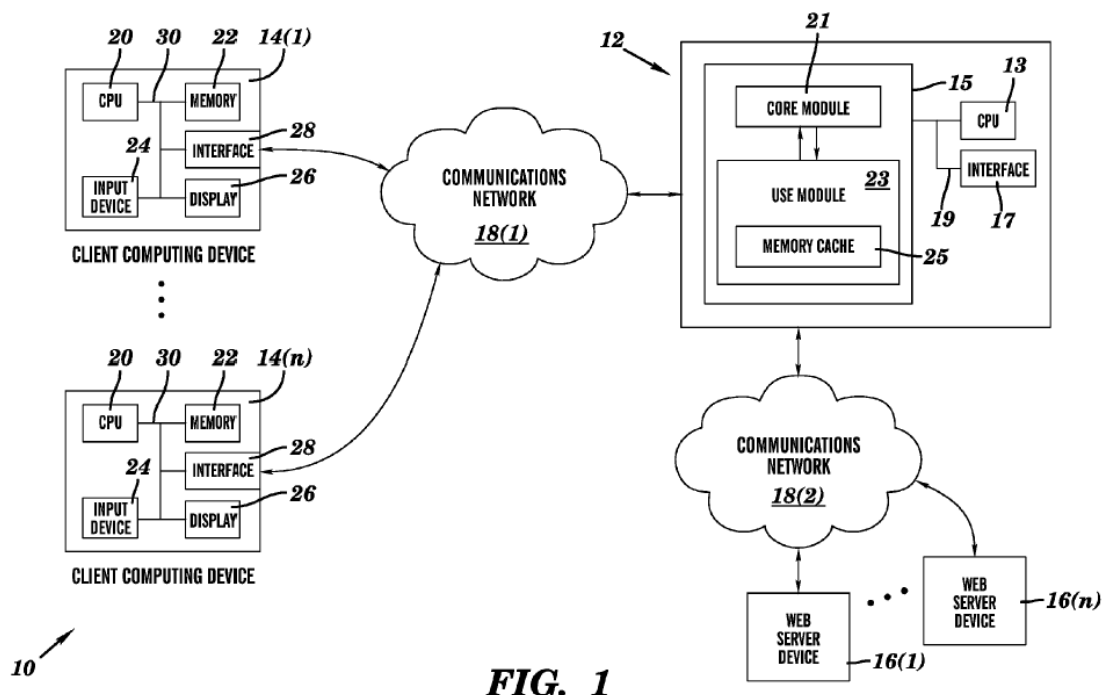


FIG. 1

Figure 1 illustrates “a block diagram of an exemplary system environment with an optimized web content proxy server with a JavaScript emulator.” *Id.* ¶ 17. As shown in Figure 1, web content proxy server 12 includes memory 15 having core module 21 and JavaScript emulator module 23. *Id.* ¶ 27.

Proxy server 12 also includes interface 17 for communication with client devices 14(1)–14(n) and web server devices 16(1)–16(n) via communication networks 18(1) and 18 (2). *Id.* ¶ 28.

Scoda discloses that when a web page with JavaScript code is received at the proxy server, the proxy server creates a document object model of the web page, adds the JavaScript code from the web page to the document object model, executes the JavaScript instruction set, and appends any obtained content in an “optimized version” of the received web page. *Id.* ¶¶ 60–64. The web page is then provided by the proxy server for use in a web browser on one of the client devices. *Id.* ¶ 65.

D. Anticipation by Athas

Petitioner asserts that claims 1–5 are unpatentable under 35 U.S.C. § 102 as anticipated by Athas. Pet. 30–41; Williams Decl. ¶¶ 111–143. Patent Owner contends that the Petition improperly mixes and matches different embodiments in Athas and fails to show Athas discloses the claim 1 limitation of “determining with the network appliance that a number of packets received in the network appliance comprise a web page comprising a first embedded script.” *See* Prelim. Resp. 14–21.

Upon consideration of Petitioner’s explanations and supporting evidence in this current record, and Patent Owner’s arguments, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing in showing that claims 1–5 are anticipated by Athas.

1. Claim 1

Petitioner asserts that each limitation of claim 1 is met by Athas and provides an element-by-element analysis. Pet. 30–37; Williams Decl.

¶¶ 122–139. For example, Petitioner contends that claim limitation 1a (“A machine-implemented method of web page script management . . . in a network appliance implemented by at least one processor . . .”) is met by Athas’s disclosure of web page script management “for providing a browsing experience to enable access to advanced function that rely on script-based interactions and related web technologies.” Pet. 30 (citing Ex. 1018 ¶ 3). Petitioner explains that “Athas further discusses computer implemented methods including ‘the use of computer system 1000 for implementing some or all of the techniques described herein’ for utilizing a JavaScript emulator in a proxy server.” *Id.* at 31 (citing Ex. 1018 ¶ 121).

For claim limitation 1b (“determining with the network appliance that a number of packets received in the network appliance comprise a web page comprising a first embedded script . . .”), Petitioner contends that “Athas discloses the use of a network appliance, the proxy platform 101, to provide routing and processing of when a web page contains scripts.” *Id.* at 33 (citing Ex. 1018 ¶ 47).

Petitioner contends that Athas meets claim limitation 1c (“modifying at least one said packet in the number of packets with the network appliance . . .”) by disclosing that “proxy platform 101 will strip non-MWL scripts before sending to the proxy client 107.” *Id.* at 34 (quoting Ex. 1018 ¶ 85). Petitioner explains that “Athas discloses replacing non-MWL scripts with a callback script and forward the replacement script to the client.” *Id.*

In similar fashion, Petitioner shows that the remaining limitations (claim limitations 1d and 1e) are met by Athas. *Id.* at 35–37.

Patent Owner contests Petitioner’s analysis for only one of these limitations. Patent Owner contends that the Petition fails to show that Athas discloses claim limitation 1b. Prelim. Resp. 17–21.

a. Limitation 1b

Limitation 1b calls for “determining with the network appliance that a number of packets received in the network appliance comprise a web page comprising a first embedded script.” For this limitation, Petitioner explains that “Athas further discloses the proxy platform with its ‘browser rendering engine 201 interprets web code and scripts (e.g., HTML, CSS, JavaScript) to generate or otherwise update a document object model (DOM) 203 to represent the rendering of the web content.’” Pet. 33 (quoting Ex. 1018 ¶ 47). Petitioner observes that “web pages comprise packets.” *Id.* Petitioner concludes, “[t]hus, Athas discloses determining with the network appliance that a number of packets received in the network appliance comprise a web page comprising a first embedded script.” *Id.* at 34.

Patent Owner responds that “the cited portion of Athas discloses browser rendering engine 201 interpreting and rendering web code *from a proxy client* and does not determine that the number of packets *sent from a server* and addressed to a client browser comprise a web page comprising a first embedded script.” Prelim. Resp. 18–19. Based on the current record, we disagree. The “server” referred to by Patent Owner is introduced in claim limitation 1a, which recites “intercepting a number of packets sent from a server and addressed to a client browser.” Petitioner relates this limitation to Athas’s disclosure of “a proxy server situated between client devices and web servers.” Pet. 31 (citing Ex. 1018 ¶ 38). This citation to

Athas by Petitioner discusses Figure 1 (showing proxy web browsing), which shows that proxy platform 101 provides for proxy web browsing involving a web server and a web browser, Ex. 1018 ¶ 38. We, therefore, determine that at this stage, Patent Owner's argument that Petitioner fails to identify a "server" is unavailing.

b. Other Arguments

Patent Owner contends that this challenge "is fatally deficient because the Petition mixes and matches different embodiments from Athas without any explanation as to how or why it would have been obvious to do so." Prelim. Resp. 14. Based on the current record, we do not agree. While Athas may refer to different embodiments, in fact, there is much overlap in its disclosure. This is evident from the figures of Athas, which are consistent in their use of the same reference numerals throughout for the proxy platform and proxy client, (reference numbers 101 and 107, respectively, in Figures 1, 2, 3A, 4A, and 4B). This would suggest to a person of ordinary skill in the art that the various disclosures in Athas are connected and should be considered as a whole, and not dissected as in Patent Owner's "mix and match" argument.

Nor are we convinced by Patent Owner's argument that Petitioner's grounds "lack clarity and particularity." Prelim. Resp. 10–12. For each of its challenges, Petitioner provides an element-by-element analysis supported by testimony from Dr. Williams. The mere fact that Patent Owner disagrees does not mean that Petitioner's grounds lack clarity or particularity.

Similarly, at this stage at least, we find Dr. William's declaration to be helpful and consistent with the record. We do not agree with Patent Owner

that Dr. Williams’s declaration is insufficiently supported simply because it cites the same evidence as the Petition. *See* Prelim. Resp. 8–9.

For the foregoing reasons, we determine that Petitioner’s challenge to claim 1 as anticipated by Athas is reasonably likely to prevail.

2. Claims 2–5

Claims 2–5 depend from claim 1. Petitioner provides a detailed element-by-element analysis of those claims in relation to Athas. *See* Pet. 37–41; Williams Decl. ¶¶ 131–143. Patent Owner does not separately address these claims. For the reasons given by Petitioner, we determine that Petitioner has demonstrated a reasonable likelihood of prevailing on these challenges.

3. Conclusion

Based on the evidence in the present record, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing in showing that claims 1–5 are anticipated by Athas.

E. Obviousness over Hallak and Matthys

Petitioner presents an element-by-element analysis for each challenged claim in this ground. Pet. 45–58; Williams Decl. ¶¶ 155–190. Petitioner also provides a rationale for combining the references. *See* Pet. 41–45; Williams Decl. ¶¶ 145–154.

1. Motivation to Combine

Petitioner contends that “Hallak and Matthys are both directed to monitoring and intercepting web page traffic containing scripts.” *Id.* at 42. Petitioner contends that “Hallak further describes removing embedded

scripts.” *Id.* (citing Ex. 1011, 9:42–46). Petitioner continues, “[s]imilarly, Matthys discloses monitoring and intercepting a webpage in a network device ‘preferably at a data traffic point along a network.’” *Id.* (citing Ex. 1013, (57)). Furthermore, “Matthys discloses performing its analysis at the metadata and packet level.” *Id.* at 43 (citing Ex. 1013 ¶ 51). Petitioner argues that “[i]t would have been obvious to adapt Hallak to utilize metadata and packet level analytics as disclosed in Matthys to produce more detailed filtering and detection in protecting web clients and web-based applications.” *Id.* at 44.

Patent Owner contends that Petitioner’s motivation for combining Hallak and Matthys is “deficient.” Prelim. Resp. 22. Patent Owner contends that “Petitioner fails to show that it would be obvious to combine the systems and approaches for protecting web clients of Hallak with the techniques and devices for replacing an advertisement as disclosed in Matthys.” *Id.* Patent Owner asserts that Petitioner also attempts to support its combination with no more than a “scattershot collection of conclusory statements.” *Id.* at 24. We disagree.

Dr. Williams testifies that “a [person of ordinary skill] would recognize that there are advantages analyzing web page data, including metadata and packets to provide a more robust monitoring and filtering ability.” Williams Decl. ¶ 150. He concludes that “it would have been obvious to adapt Hallak to utilize metadata and packet level analytics as disclosed in Matthys to produce more detailed filtering and detection in protecting web clients and web-based applications.” *Id.* ¶ 151. He reasons further that “[t]he use of metadata and data packet analytics as suggested by Matthys into the Hallak process would have been an obvious

implementation for a [person of ordinary skill] and would have also been done expecting success.” *Id.* At this stage we find this testimony consistent with the record, helpful, and credible.

On the other hand, we do not find Patent Owner’s arguments to the contrary to be supported by any evidence of record at this stage. Prelim. Resp. 22–28. For example, Patent Owner argues that “[t]he Petition fails to explain how adding a script to be processed at the client would protect web clients or how this would be compatible with Hallak’s system.” Prelim. Resp. 23. But Dr. Williams testifies that adapting Hallak to use Matthys’s metadata and packet-level analytics would “produce more detailed filtering and detection in protecting web clients and web-based applications.” Williams Decl. ¶ 151. We, therefore, are not persuaded that Petitioner’s showing of motivation to combine these references is “deficient.” Prelim. Resp. 22–25. Nor do we agree, for reasons discussed *supra*, that Petitioner’s element-by-element analysis “fails to provide any explanation or specific details,” or that Dr. Williams “does not provide any clarification.” *Id.* at 25–28.

2. Other Arguments

Patent Owner points to two limitations of claim 1 that the combination of Hallak and Matthys allegedly fails to disclose. Prelim. Resp. 28–31.

a. Limitation 1c

Petitioner contends that “[t]he cited portion of Hallak fails to disclose these callback scripts replace an embedded script from the web page in the packet structure.” Prelim. Resp. 29. We disagree. As Dr. Williams testifies, “Hallak further discloses replacing the embedded script with a

minimal callback script, the second embedded script.” Williams Decl. ¶ 167 (citing Ex. 1011, 4:27–34). Hallak describes this process of replacing a first CSA (Client Side Application) with a new CSA as follows:

The secure gateway 200 separates, in real time, between execution and UI components of a client side application (CSA) code 370. The secure gateway 200 further executes the execution component in a sandbox, and *generates a new CSA*, consisting of UI components 380 of the original application, *to be sent to the client 210*. In addition to UI components of the original application, the UI part of CSA 380 includes minimal callback scripts generated by the secure gateway 200, which create and send event messages 320 upon receiving user input events 330.

Ex. 1011, 4:24–34 (emphasis added). We, therefore, do not agree with Patent Owner that Petitioner fails to demonstrate sufficiently that Hallak discloses this claim limitation.

b. Limitation 1e

Patent Owner contends that “Petitioner asserts the minimal callback script corresponds to the claimed second embedded script but fails to identify which portion of Hallak allegedly corresponds to the claimed first embedded script.” Prelim. Resp. 30. We disagree. Dr. Williams testifies that “Hallak . . . discloses determining a web page includes an embedded script.” Williams Decl. ¶ 164 (citing Ex. 1011, 9:34–36). He further testifies that Hallak describes “determining and removing embedded scripts.” *Id.* (citing Ex. 1011 9:42–46). Alternatively, he explains that “if the Board does not agree that Hallak discloses determining that a number of packets received in the network appliance comprise a web page with an embedded script, then, in [his] opinion, Matthys in the same field discloses such a limitation.” *Id.* ¶ 165. We conclude that at this stage, the record does

not support Patent Owner’s argument that Petitioner fails to show that Hallak and Matthys teach or suggest claim limitation 1e.

3. Conclusion

For the reasons given, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing in showing that claims 1–5 would have been obvious over Hallak and Matthys.

F. Obviousness over Scoda and Matthys

Petitioner asserts that claims 1–5 would have been obvious over Scoda and Matthys and presents an element-by-element analysis for each challenged claim in this ground. Pet. 62–75; Williams Decl. ¶¶ 201–234. Petitioner also provides a rationale for combining the references. *See* Pet. 58–62; Williams Decl. ¶¶ 191–200.

1. Motivation to Combine

Petitioner contends it would have been obvious to combine Scoda and Matthys. Pet. 58–62. Petitioner argues that “Scoda and Matthys are both directed to monitoring and intercepting web page traffic containing scripts.” *Id.* at 58–59. Petitioner explains that “Scoda describes the process of a client computing device requesting a web page from a web server and having that web page intercepted by the network appliance proxy server.” *Id.* at 59. “Similarly, Matthys discloses monitoring and intercepting a webpage in a network device ‘preferably at a data traffic point along a network.’” *Id.* (quoting Ex. 1013, (57)). Also, “Matthys further discusses the use of data filtering at the packet level.” *Id.* at 60. Petitioner concludes that “it would

have been obvious to adapt Scoda’s web content proxy server to utilize metadata and packet level analytics as disclosed in Matthys for more detailed user analysis.” *Id.* at 61.

Patent Owner contends that this analysis “is nothing more than a generic assertion that fails to provide any detailed analysis that is required by the obviousness framework.” Prelim. Resp. 32.⁷ Based on the current record, we disagree. We find Petitioner’s argument for combining the references and Dr. Williams’s supporting testimony to be persuasive at this stage. Thus, we disagree that Petitioner “fails to show that it would be obvious to combine the systems and approaches for protecting web clients of Scoda with the techniques and devices for replacing an advertisement as disclosed in Matthys.” Prelim. Resp. 32. For the reasons summarized above and discussed in more detail in Dr. Williams’s testimony, we agree that at this stage, “[a person of ordinary skill] would recognize that there are advantages analyzing web page data, including analytics such as metadata and the associated packets to provide a more robust monitoring and filtering ability.” Williams Decl. ¶ 196.

We do not find Patent Owner’s arguments to be persuasive at this stage because they are not supported by the evidence of record or by the law.

⁷ There is an obvious error in Patent Owner’s Preliminary Response, at page 32, lines 5–6, which asks us to compare the Petition’s analysis of “the combination of Scoda and Matthys” with “its combination of Scoda and Matthys.” We understand Patent Owner’s argument as asking us to compare Petitioner’s analysis of the combination of Hallak and Matthys to that of Scoda and Matthys.

For example, Patent Owner contends that “Petitioner’s motivation is based on a relative comparison of a ‘*more* detailed user analysis,’ but provides no actual point of reference as to what a baseline ‘user analysis’ would be.”

Prelim. Resp. 33. Also, “the Petition fails to tie its alleged motivation to any actual benefit of or reason to desire its combination; it instead says merely that it would have been obvious ‘to utilize’ things for a purpose.” *Id.*

We disagree with these arguments because they seek to impose additional conditions beyond those necessary to prove obviousness. Thus, the Federal Circuit has recognized that “an obviousness showing ‘does not require that a particular combination must be the preferred, or the most desirable, combination described in the prior art in order to provide motivation for the current invention.’” *Intel Corp. v. Qualcomm Inc.*, No. 2020 2092, 2022 WL 880681, at *4 (Fed. Cir. Mar. 24, 2022). Petitioner needs to “show only that ‘there is something in the prior art as a whole to suggest the desirability . . . of making the combination,’ not whether there is something in the prior art as a whole to suggest that the combination is the *most desirable* combination available.” *Id.*; *see also Intel Corp. v. Qualcomm Inc.*, 21 F.4th 784, 800 (Fed. Cir. 2021) (“[It is] not necessary to show that a combination is ‘the best option, only that it be a suitable option.’”).

Furthermore, when conducting an obviousness analysis, the Board must consider a prior art reference “not only for what it expressly teaches, but also for what it fairly suggests.” *Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1049 (Fed. Cir. 2019) (quoting *In re Baird*, 16 F.3d 380, 383 (Fed. Cir. 1994)). Finally, “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton,” so the fact that it would take some

creativity to carry out the combination does not defeat a finding of obviousness.” *Facebook, Inc. v. Windy City Innovations, LLC*, 953 F.3d 1313, 1333 (Fed. Cir. 2020) (quoting *KSR Int’l Co. v. Tele-flex Inc.*, 550 U.S. 398, 421 (2007)).

With these principles in mind, we find Petitioner’s showing of a motivation to combine Scoda and Matthys, as summarized above and in the Petition, to be sufficient at this stage.

2. Other Arguments

Patent Owner challenges Petitioner’s showing that Scoda and Matthys, in combination, disclose sufficiently claim limitations 1c and 1e. Prelim. Resp. 39–42.

For limitation 1c, Petitioner relies on Matthys’s disclosure of a packet manager which is “designed to modify” data packets. Pet. 67 (citing Ex. 1013 ¶ 60). Dr. Williams testifies that “[i]t would have been obvious to adapt Scoda’s web content proxy server to include packet level analytics as disclosed in Matthys for more detailed user analysis.” Williams Decl. ¶ 214.

Patent Owner responds that the Petition “only seems to address the general aspect of modifying a web page, not the specific limitation of modifying at least one said packet ‘by replacing the embedded script from the web page with a second embedded script.’” Prelim. Resp. 39–40. We disagree. Dr. Williams testifies that “Matthys focuses on replacing an advertisement in a webpage with another advertisement.” Williams Decl. ¶ 71. He explains that “[r]eplacing the advertisement can include modifying or replacing the script for the original advertisement.” *Id.* (citing Ex. 1013 ¶ 96). Further, he testifies that “Scoda describes a computing system

utilizing a script emulator in a proxy server to create and store an object model of a web page that includes one or more embedded scripts where the one of more scripts are extracted from the web page and a script field identifier is inserted into the optimized web page that is then provided to the web client.” *Id.* ¶ 90 (citing Ex. 1016 (57)). We determine that Petitioner demonstrates sufficiently that this limitation is met.

For limitation 1e, Petitioner relies on Matthys’s disclosure that “reporting of a size of a space is a trigger to determine an appropriate script where ‘the location and size of a space is reported to the page analyzer 218 that in return reports to the server to determine an appropriate advertisement to fit into the detected space.’” Pet. 70 (citing Ex. 1013⁸ ¶ 70). Alternatively, in Matthys “the indication includes the detection of a script, that when detected triggers an analysis of whether that script is replaceable with a second script.” *Id.* (citing Ex. 1013 ¶ 93).

Patent Owner’s response focuses on paragraphs 70 and 93 of Matthys, cited by Petitioner. Prelim. Resp. 41–42. According to Patent Owner, “[n]either of these paragraphs disclose a client or client browser or receiving an indication that a client browser has executed a script.” *Id.* at 42.

We are not convinced at this stage that the cited references sufficiently disclose “executing the first embedded script with the network appliance *in response to* receiving an indication that the client browser has executed the second embedded script,” as is recited in limitation 1e

⁸ From the context, we note that Petitioner’s references to Figure 1016 (Scoda) in this and the following citation on page 30 of the Petition are incorrect and should refer to Exhibit 1013 (Matthys).

(emphasis added). The paragraphs in Matthys that Petitioner relies upon describe operations at a network device, without any discussion of executing a script in response to “an indication that the client browser has executed the second embedded script,” as recited in claim limitation 1e.

For example, paragraph 70 of Matthys describes the functionality of page analyzer 218 in determining whether a webpage has available space for an advertisement, which may include executing a script “to look for an available space per some criteria.” Ex. 1013 ¶ 70. But we see no disclosure there of executing this script in response to an indication of a client browser executing a script. *See id.* Paragraph 93 describes a process of substituting an existing advertisement with a preferable advertisement that may involve “a detection of the presence of such an advertisement or a script thereof.” *Id.* ¶ 93. In this paragraph, Matthys suggests the presence of a script as useful for identifying an advertisement, but does not actually describe executing a script in response to an indication of a client browser executing a script.

In addition, although Petitioner does not primarily rely upon Scoda for limitation 1e, at this stage, neither Petitioner’s arguments nor the record shows that Scoda teaches or suggests this limitation. Dr. Williams asserts that “Scoda discloses that a user may request, receive, and interact with web pages from a web site hosted by a web server where a web content proxy server extracts and executes the embedded scripts,” and that “Scoda discloses where a web content proxy server executes a JavaScript programmed instruction set in the Document Object Model (DOM) model of the web page to obtain dynamic content and then appends the obtained content in an optimized version of the received web page.” Williams Decl.

¶¶ 90–91) (citing Ex. 1016 ¶¶ 29, 63–64). However, neither this testimony nor the citations to Scoda in the Petition establishes sufficiently that the execution of the JavaScript instructions occurs “in response” to receiving an indication that the client browser has executed a second embedded script.

For these reasons, we conclude that the Petition fails to demonstrate a reasonable likelihood of prevailing on this ground.

V. CONCLUSION

For the foregoing reasons, we determine that the information presented in the Petition establishes that there is a reasonable likelihood that Petitioner would prevail with respect to the challenged claims of the ’457 patent. At this juncture in the proceeding, we have not made a final determination with respect to the patentability of the challenged claims, or with respect to claim construction.

VI. ORDER

For the foregoing reasons, it is

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review of the ’457 patent is hereby instituted for all of the challenged claims on all of the asserted grounds.

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

IPR2023-00187
Patent 8,924,457 B2

For PETITIONER:

Thomas M. Durham
Elizabeth A. O'Brien
CHERIAN LLP
tomd@cherianllp.com
elizabetho@cherianllp.com

For PATENT OWNER:

Eagle H. Robinson
Daniel S. Leventhal
Chad Wallis
NORTON ROSE FULBRIGHT US LLP
eagle.robinson@nortonrosefulbright.com
daniel.leventhal@nortonrosefulbright.com
chad.wallis@nortonrosefulbright.com