UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SAP AMERICA, INC.,
Petitioner

v.

VALTRUS INNOVATIONS LTD.,
Patent Owner

_____

Case No. IPR2025-00420
Patent No. 6,889,244

PATENT OWNER PRELIMINARY RESPONSE

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PATENT OWNER'S UPDATED EXHIBIT LIST

No.	Exhibit Description
2001	Memorandum for Interim Processes for PTAB Workload Management, dated March 26, 2025
2002	Memorandum on Guidance on USPTO's recission of "Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation," dated March 24, 2025
2003	Order Denying Motion to Stay in *Netlist, Inc. v. Samsung Elecs. Co., Ltd.*, No. 2:22-cv-293, Dkt. No. 689 (E.D. Tex. Mar. 11, 2024) (Gilstrap, J.)
2004	Executed Summons in *Valtrus Innovations Ltd. v. SAP America, Inc. et al.*, No. 2:24-cv-00021-JRG, Dkt. No. 10 (E.D. Tex.), served January 17, 2024
2005	Statistics from DocketNavigator for patent cases before Judge Gilstrap of the Eastern District of Texas, for cases filed between January 1, 2020 to March 31, 2025
2006	Federal Court Management Statistics—Profiles, Comparison of Districts Within Circuits, for 12-Month Period Ending December 31, 2024, available at *https://www.uscourts.gov/data-table-report-names/federal-court-management-statistics*
2007	Notice of Compliance with Service of Patent Owner's Infringement Contentions in *Valtrus Innovations Ltd. v. SAP America, Inc. et al.*, No. 2:24-cv-00021-JRG, Dkt. No. 10 (E.D. Tex.), confirming service of infringement contentions on March 11, 2024
2008	Memorandum and Order regarding motion to dismiss, in *Valtrus Innovations Ltd. v. SAP America, Inc.*, No. 2:24-cv-00021-JRG, Dkt. No. 10 (E.D. Tex. Nov. 8, 2024) (public version)
2009	Seventh Amended Docket Control Order in *Koninklijke KPN N.V. v. Telefonaktiebolaget LM Ericsson*, No. 2:21-cv-00113-JRG, Dkt. No. 203 (E.D. Tex.)
2010	Order denying stay in *Cardware Inc. v. Samsung Elecs. Co., Ltd.*, No. 2:22-cv-00141-JRG, Dkt. No. 64 (E.D. Tex. Feb. 16, 2023)
2011	Patent Owner's Infringement Contentions, Cover Pleading, served March 11, 2024, in *Valtrus Innovations Ltd. v. SAP America, Inc.*, No. 2:24-cv-00021-JRG (E.D. Tex.)
2012	Petitioner's email concerning prior art narrowing, dated May 1, 2025

No.	Exhibit Description
2013	Order consolidating *Valtrus Innovations Ltd. v. SAP America, Inc.*, No. 2:24-cv-00533-JRG (E.D. Tex.) and *Valtrus Innovations Ltd. v. SAP America, Inc.*, No. 2:24-cv-00021-JRG (E.D. Tex), dated Feb. 24, 2025
2014	Patent Owner's email concerning claim narrowing, dated April 10, 2025
2015	Third Amended Docket Control Order in *Valtrus Innovations Ltd. v. SAP America, Inc.*, No. 2:24-cv-00021-JRG, Dkt. No. 141 (E.D. Tex. Apr. 20, 2025)
2016	Opening Brief in Support of Motion to Dismiss for Lack of Subject-Matter Jurisdiction, Under the First-to-File Rule, Lack of Personal Jurisdiction, and for Failure to State a Claim in *SAP Am. Inc. v. Valtrus Innovations, Ltd.*, No. 24-cv-756-GBW, Dkt. 14 (D. Del.)
2017	Reply in Support of Motion to Dismiss for Lack of Subject-Matter Jurisdiction, Under the First-to-File Rule, Lack of Personal Jurisdiction, and for Failure to State a Claim in *SAP Am. Inc. v. Valtrus Innovations, Ltd.*, No. 24-cv-756-GBW, Dkt. 32 (D. Del.)
2018	Complaint in *Valtrus Innovations Ltd. v. SAP America, Inc.*, No. 2:24-cv-00021-JRG (E.D. Tex Jan. 15, 2024)
2019	[Proposed] Fourth Amended Docket Control Order in *Valtrus Innovations Ltd. v. SAP America, Inc.*, No. 2:24-cv-00021-JRG, Dkt. No. 147-1 (E.D. Tex. filed Apr. 30, 2025)
2020	Joint Claim Construction Chart in *Valtrus Innovations Ltd. v. SAP America, Inc.*, No. 2:24-cv-00021-JRG, Dkt. No. 123 (E.D. Tex. Feb. 28, 2025)

I. INTRODUCTION

On January 15, 2025, Petitioner SAP America, Inc. ("Petitioner") filed a Petition requesting *inter partes* review of claims 1-10 (the "Challenged Claims") of U.S. Patent No. 6,899,244 ("the '244 Patent"'; EX1101), asserting two Grounds. In Ground 1, Petitioner asserts that independent claim 1 is rendered obvious under pre-AIA 35 U.S.C. §103(a) by *Bowman* in view of *Vahalia*. Petition (Paper 1), 38. In Ground 2, Petitioner asserts a three-reference combination for dependent claims 2-10: that the dependent claims are rendered obvious under §103(a) by *Bowman* in view of *Vahalia* in further view of *Tuxedo*. Petition (Paper 1), 52. On March 10, 2025, the Board issued a Notice of Filing Date Accorded for the Petition and set the time for filing Patent Owner's Preliminary Response. Paper 5.

The Board should deny institution because Petitioner fails to meet its burden of demonstrating that its references render obvious any of the Challenged Claims.

First, Petitioner has fundamentally misread *Bowman*'s disclosure, and none of Petitioner's arguments survive in light of what *Bowman* actually teaches. Under an accurate reading, *Bowman* fails to teach numerous limitations in independent claim 1 (and correspondingly, dependent claims 2-10). Second, *Vahalia* is not analogous art to the '244 Patent and so cannot be considered as part of either obviousness Ground. Third, even if *Bowman*'s structure were as Petitioner has incorrectly interpreted it and *Vahalia* is analogous art, *Vahalia* would not bridge the gaps in

Bowman's disclosures. Fourth, the reference added in Ground 2, *Tuxedo*, does not overcome the first three defects. Nor does the Petition rely upon *Tuxedo* to do so.

Accordingly, Petitioner has failed to show a reasonable likelihood of success for either Ground, and Patent Owner respectfully submits that the Board should deny institution.

II. OVERVIEW OF THE '244 PATENT

The '244 Patent, titled "Method and Apparatus for Passing Messages Using a Fault Tolerant Storage System," was applied for on October 31, 2000 and issued on May 3, 2005. EX1101, Cover Page.

The invention of the '244 Patent "relates to a messaging architecture wherein messages are transmitted over the interconnection fabric of a fault tolerant storage system and are stored within the fault tolerant storage system." EX1101, 1:19-24.

The '244 Patent discloses that "[i]n the art of computing, a distributed application is an application that is separated into two or more parts, such as a client application on a first computer system and a server application on a second computer system, with the two computers coupled together via a network." EX1101, 1:27-31. One example of a distributed application is an application that "allows a customer to order a product over the Internet from an on-line retailer." EX1101, 1:41-44. Such a system allows the web server to provide information about the products for sale, receive orders from the customer, and then accept online payment. EX1101, 1:47-

63. A developer needs to ensure that "all the disparate applications that comprise the distributed application communicate in a seamless and reliable manner." EX1101, 2:2-3. To this end, operation in a distributed application is similar to a conversation between two people in the sense that "a number of messages pass back and forth" and "over the course of the communication, both sides 'remember' the point or state of the conversation so that relatively long operations … can be supported":

> Just as in a conversation between two people, a number of messages pass back and forth between the client and server until a conclusion is reached. Over the course of the communication, both sides "remember" the point (or state) of the conversation so that relatively long operations, such as ad hoc queries, reports, and file transfers, can be supported. Note that the context of any particular message is interpreted in view the previous messages comprising the conversation.

EX1101, 2:34-42.

The '244 Patent continues, explaining that "[i]n most distributed applications, availability is very important." EX1101, 3:58-59. By way of example, "if the application that processes credit card transactions suffers a failure, the customer will not be able to purchase products," and "[s]imilarly, if the web server can not communicate with the inventory control application, the web server can not inform the customer whether the product is in stock." EX1101, 3:58-64.

Thus, "[t]o ensure that a distributed application has a high rate of availability, it is important to make each component that hosts the distributed application as reliable and fault-tolerant as possible." EX1101, 3:65-4:1.

The '244 Patent does just that. Compare, for example, the prior-art system depicted in Figure 1 with the "highly reliable fault-tolerant system in accordance with the present invention that may be used to host a distributed application," with Figure 2 of the '244 Patent. EX1101, 4:59-5:65, 6:28-49, Figs. 1-2.

Figure 1 of the '244 Patent, reproduced below, "shows such a highly reliable fault-tolerant prior art system 58, which may be used to host a distributed application." EX1101, 4:49-51. In Figure 1, "**[c]omputer systems 12, 14, 16, 18, 20, and 22** are coupled to **[fault tolerant storage system (FTSS)] 24** via **FTSS interconnection fabric 28** to carry file 110."[1] EX1101, 4:53-55. "Typically, interconnection fabric 28 couples each computer system directly to the FTSS, but does *not* directly couple the computer systems to each other." EX1101, 4:56-58. "In addition, **computer systems 12, 14, 16, 18, 20, and 22** are coupled [] together by **highly reliable, fault tolerant network interconnection fabric 26** to carry *messages* between the computer systems." EX1101, 4:58-61.

[1] Unless noted, all coloring and emphasis has been added.

As the '244 Patent explains, "interconnection fabrics 26 and 28 are both highly reliable and fault tolerant," which increases costs, and "interconnection fabric 26 does not include any type of persistent storage." EX1101, 4:62-67. This is problematic: "[i]f a client suffers some type of error after receiving a message, the client is not able to request retransmission of the message from fabric 26." EX1101, 4:67-5:2. Thus, per the '244 Patent, "[w]hat is needed in the art is a practical way for a customer to use the same highly reliable and fault tolerant interconnection fabric to carry both file I/O transactions and messaging traffic, and also allow[] a client to request retransmission of messages." EX1101, 5:2-6.

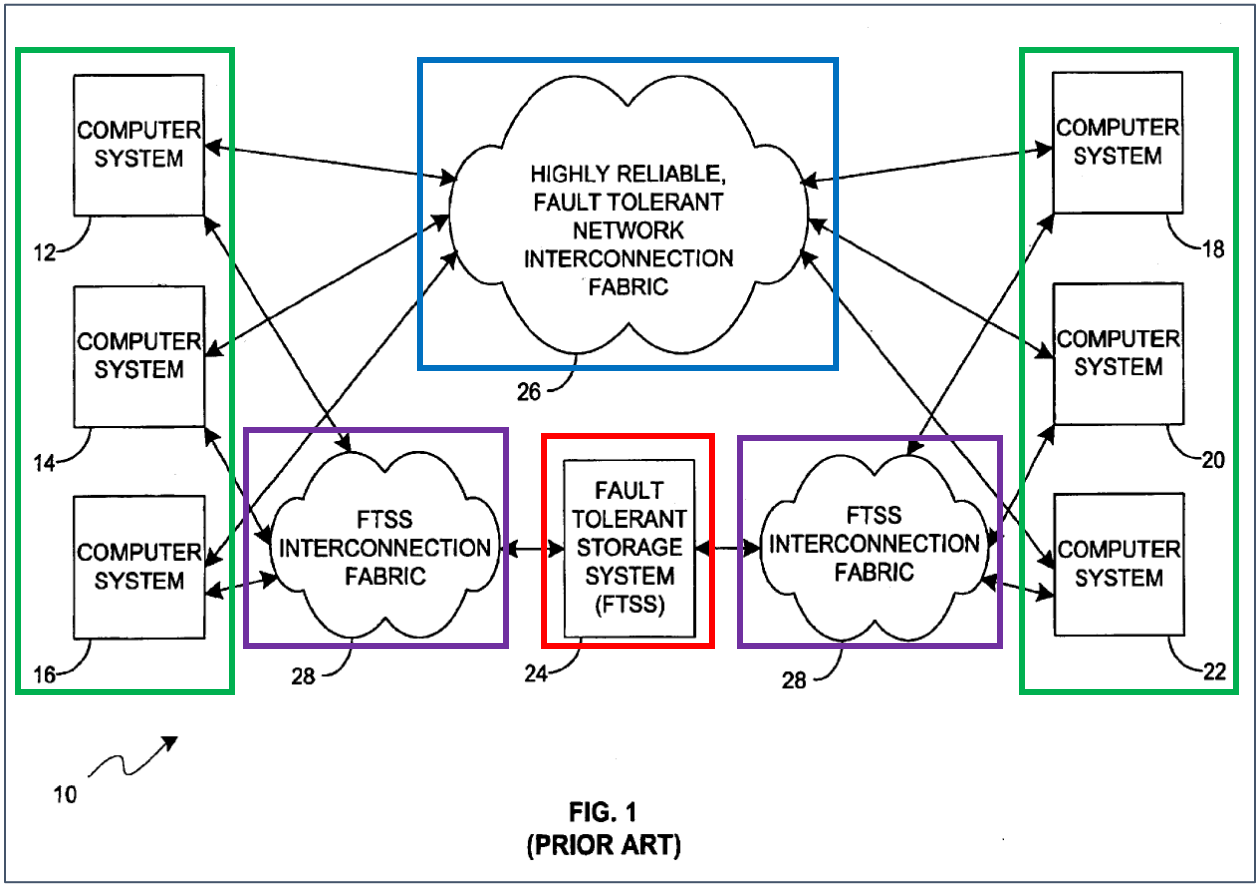


FIG. 1
(PRIOR ART)

EX1101, Fig. 1.

Figure 2 of the '244 Patent, reproduced below, "shows a networked system 30 in accordance with the present invention." EX1101, 6:28-29. The system "includes **computer systems 32, 34, 36, 38, 40, and 42**, **fault tolerant storage system (FTSS) 44**, and **FTSS interconnection fabric 46**." EX1101, 6:31-33. "**FTSS 44** includes several message agents to facilitate message transfer in a reliable and fault tolerant manner" as further described in the patent. EX1101, 6:52-54. As shown in Figure 2, the **computer systems** are coupled to **FTSS 44** via an **FTSS interconnection fabric that also carries messages (46)**. This configuration "ensures that FTSS 44 can guarantee delivery of a message transmitted from a sending computer system to a destination computer system." EX1101, 6:55-57; *see also* 5:26-29 ("The highly reliable and fault tolerant nature of the FTSS ensures that the FTSS can guarantee delivery of a message transmitted from a sending computer system to a destination computer system.").

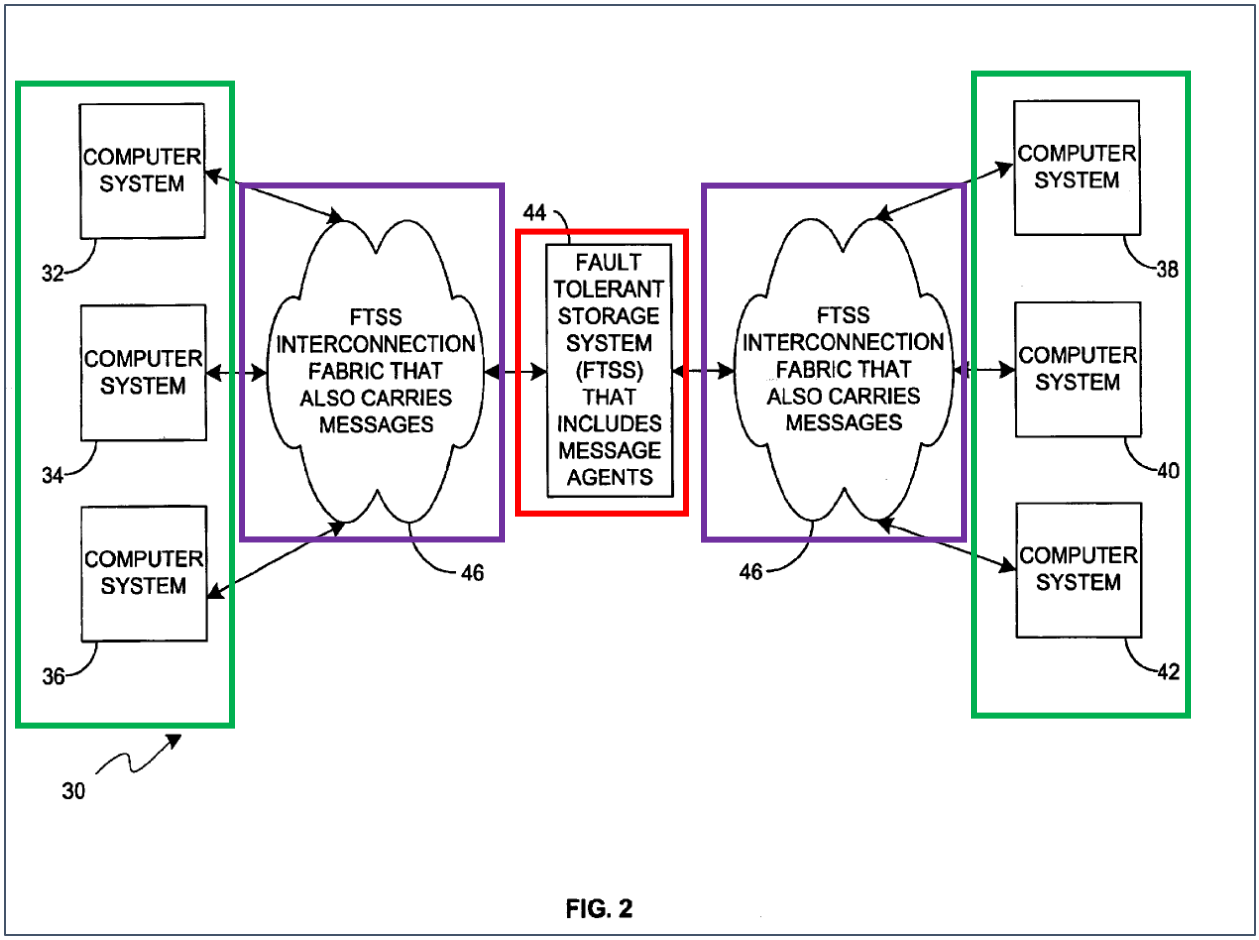


FIG. 2

EX1101, Fig. 2.

As the ’244 Patent explains, “interconnection fabric that couples the FTSS to the computer systems that host the client and server applications *may also be used to carry messages*.” EX1101, 5:11-14. “The FTSS not only processes file-related I/O transactions, but also carries message traffic.” EX1101, 5:17-19.

The ’244 Patent further explains the resulting advantages, including that its system “enhances the reliability and fault tolerance of messaging in several ways”:

> First, *messages may be transmitted between nodes using the FTSS interconnection fabric, which is highly reliable and fault*

tolerant. Since many systems that host distributed applications already include an FTSS, using the FTSS fabric instead of a less reliable network media, such as Ethernet, increases availability of the distributed application without the customer having to incur additional hardware costs.

Second, in the prior art, several messaging paradigms use agents that operate on *separate* servers. By moving these agents to the FTSS, availability is increased because the FTSS is typically more reliable than the servers to which it is coupled. Furthermore, since the FTSS is being used to pass messages anyway, providing the agents in the FTSS *eliminates the need* to route the messages to a separate server, thereby allowing the messages to be processed *faster*.

Finally, several prior art messaging paradigms pass inter-process communication messages directly between nodes in a transient manner. In the present invention, these messages pass *through* the FTSS and are stored in and retained by the FTSS, thereby allowing any application to "rollback" to a known point and retrieve lost messages from the FTSS.

EX1101, 5:35-58.

Claim 1—the sole independent claim[2]—covers this novel process:[3]

> [1.0] A method of transmitting messages between a first node and a second node, wherein the first and second nodes are each coupled to a fault tolerant storage system (FTSS), the method comprising:[4]
>
> [1.1] transmitting a message from the first node to a communication agent in the FTSS;
>
> [1.2] storing the message in a data structure in highly reliable fault-tolerant storage media of the FTSS;

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[2] Claims 2-10 depend, directly or indirectly, from claim 1. For purposes of this POPR, Patent Owner focuses on exemplary reasons why the prior art fails to render obvious independent claim 1 (and thus dependent claims 2-10). To the extent the Board institutes an IPR proceeding, Patent Owner will explain additional failures in the prior art, both as to independent claim 1 and dependent claims 2-10.

[3] For purposes of this POPR, Patent Owner uses the claim limitation numbering adopted by Petitioner in the Petition. Petition (Paper 1), xi (Claim Listing).

[4] Both Petitioner and Patent Owner have asserted that the preamble is limiting in the district court proceedings, but differ as to the proper construction. EX2020, 6. Moreover, the preamble provides antecedent basis for the first node, second node, and FTSS. *See, e.g.*, *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002).

[1.3] processing the message at the FTSS in accordance with a messaging paradigm; and

[1.4] transmitting the message from the FTSS to the second node.

Against this backdrop, Patent Owner explains below why the Petition fails to demonstrate a reasonable likelihood of success for any Challenged Claim.

III. THE PETITION FAILS TO SHOW A REASONABLE LIKELIHOOD OF SUCCESS.

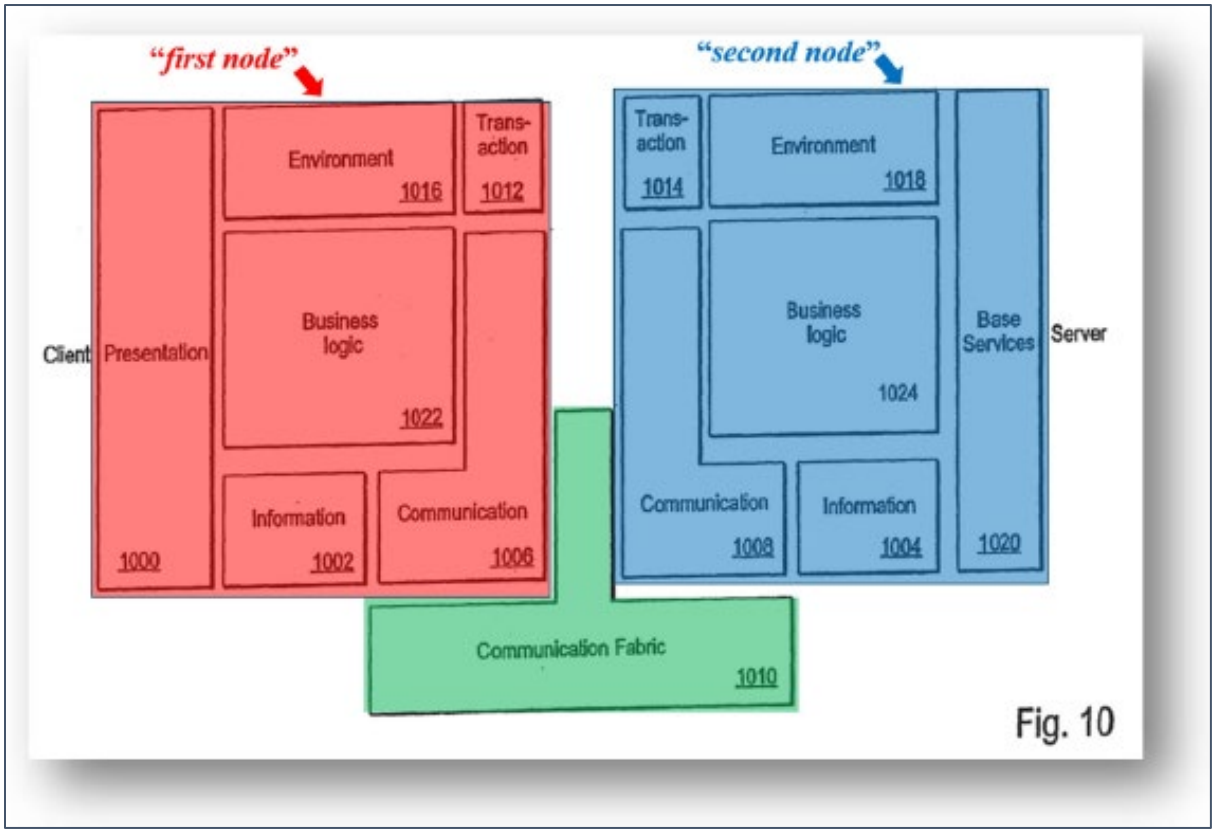
Petitioner has failed to show a reasonable likelihood of success that any claim of the '244 Patent is unpatentable. Patent Owner explains below exemplary problems—which problems are dispositive as to Petitioner's Grounds—with Petitioner's theory.

To begin, Petitioner's entire theory is premised on a fundamental misreading of *Bowman*'s disclosure, and none of Petitioner's arguments survive under a correct reading. Notwithstanding, even if *Bowman*'s structure was as Petitioner incorrectly asserts, *Vahalia* is not analogous art, nor does it bridge the gaps in *Bowman*'s disclosure. Lastly, as to the reference added in Ground 2, *Tuxedo*, it has no impact on the analysis, as Petitioner does not rely upon *Tuxedo* for any claim limitation in independent claim 1 (instead relying upon *Tuxedo* for steps found in dependent claims 2-10 only).

A. Petitioner Misinterprets *Bowman*'s Architecture and Fault Tolerance Disclosure.

1. *Bowman* does not disclose "wherein the first and second nodes are each coupled to a fault tolerant storage system (FTSS)" as required by independent claim 1 of the '244 Patent.

Petitioner focuses its analysis of *Bowman* principally on Figure 10. Petitioner asserts that *Bowman*'s "Figure 10 depicts a Netcentric Architecture Framework with a client ('*first node*') and Server ('*second node*') coupled over Communication Fabric 1010 (green)":



Petition (Paper 1), 39 (depicting EX1105, Fig. 10; coloring and emphasis added by Petitioner in Petition).

Critically, Petitioner's theory is premised on its argument that "Communications Fabric 1010 'provides common network services to the platform-specific network services residing on the client and server nodes' … [including] File Sharing Services 1512":

> Bowman explains that Communications Fabric 1010 "provides common network services to the platform-specific network services residing on the client and server nodes." Ex-1105, 83:66-84:1. Among the common network services that Bowman describes are File Sharing Services 1512.[5] *See, e.g.,* Ex-1105, 58:50-59:50, Fig. 16.

Petition (Paper 1), 29 (underline added by Petitioner). Petitioner's expert makes the same assertion—verbatim—without any additional explanation or analysis. EX1103 ¶71.

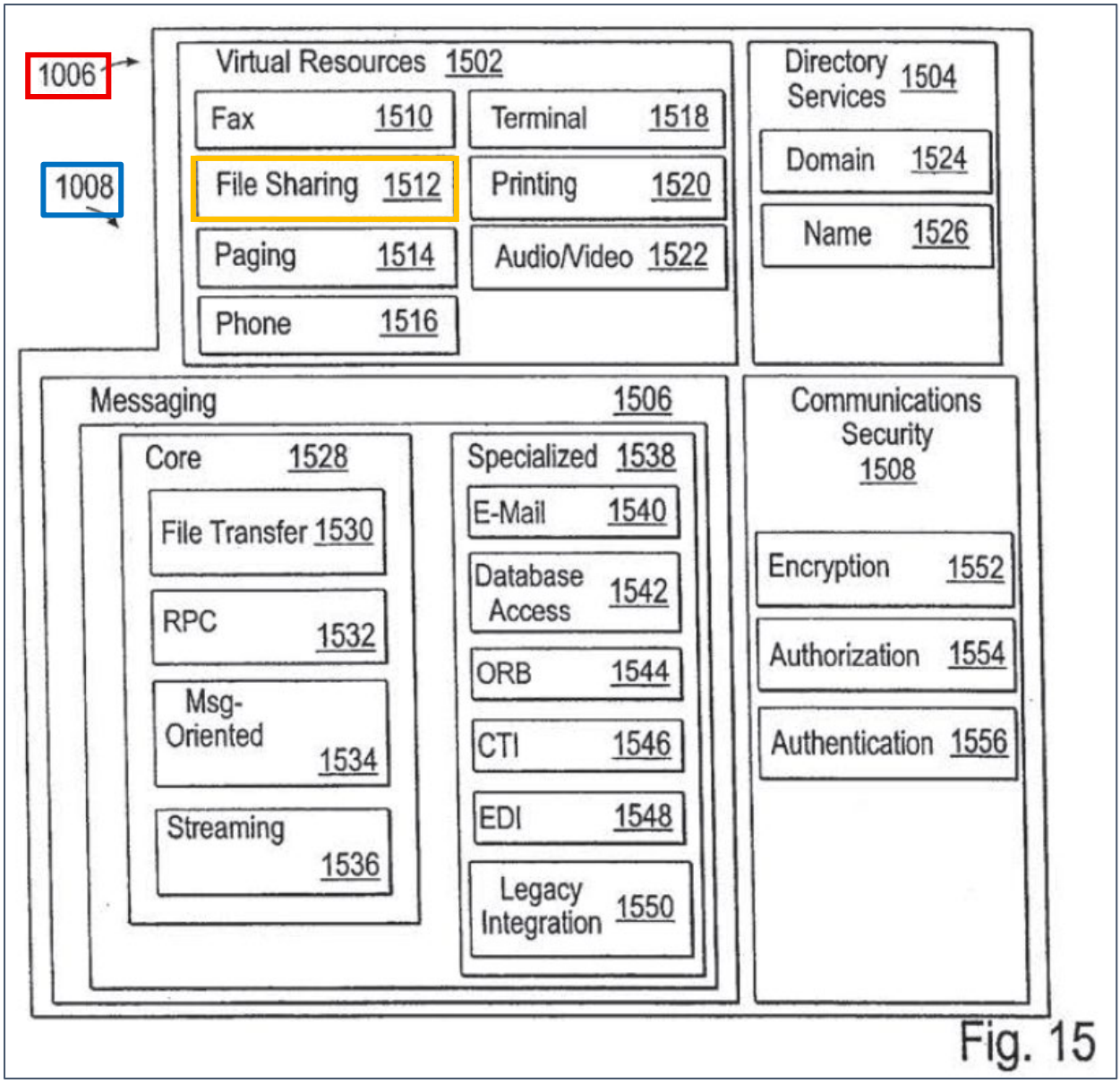
5 The "services" in "File Sharing services" is not part of the capitalized defined term. "File Sharing" is the structure denoted by 1512, not "File Sharing Services." *See*, *e.g.*, EX1105, 58:50 ("File Sharing 1512"), 58:51 ("FIG. 16 illustrates File Sharing services 1512."). Regardless, as explained herein, *Bowman*'s disclosure is clear that element 1512 is part of Communications 1006 and 1008, not Communication Fabric 1010.

In other words, Petitioner's theory is premised on the jump from the general statement in *Bowman* that Petitioner quotes in the first sentence above (the generic identification that Communication Fabric 1010 "provides common network services to the platform-specific network services residing on the client and server nodes") to a separate disclosure in *Bowman* discussing "File Sharing services." This jump fails, and it is contrary to what *Bowman* actually discloses.

A review of *Bowman*'s disclosure confirms that Petitioner is wrong; *Bowman* does *not* teach that "[a]mong the common network services that Bowman describes [as being provided by Communication Fabric 1010] are File Sharing Services [*sic*: services] 1512." To the contrary, "File Sharing services 1512" is found in "Communication 1006" and "Communication 1008," which are part of the alleged "**first node**" ("**Client**") and "**second node**" ("**Server**"), *not* the alleged "**FTSS**" ("**Communication Fabric 1010**") (coloring from Petitioner's annotated Figure 10, above).

This can be seen, for example, in Figure 15 of *Bowman*,[6] reproduced below, where **File Sharing services 1512** is part of **Communication 1006** and **Communication 1008**:

[6] Petitioner does not mention or discuss Figure 15 of *Bowman* in its Petition. *See generally* Petition (Paper 1).



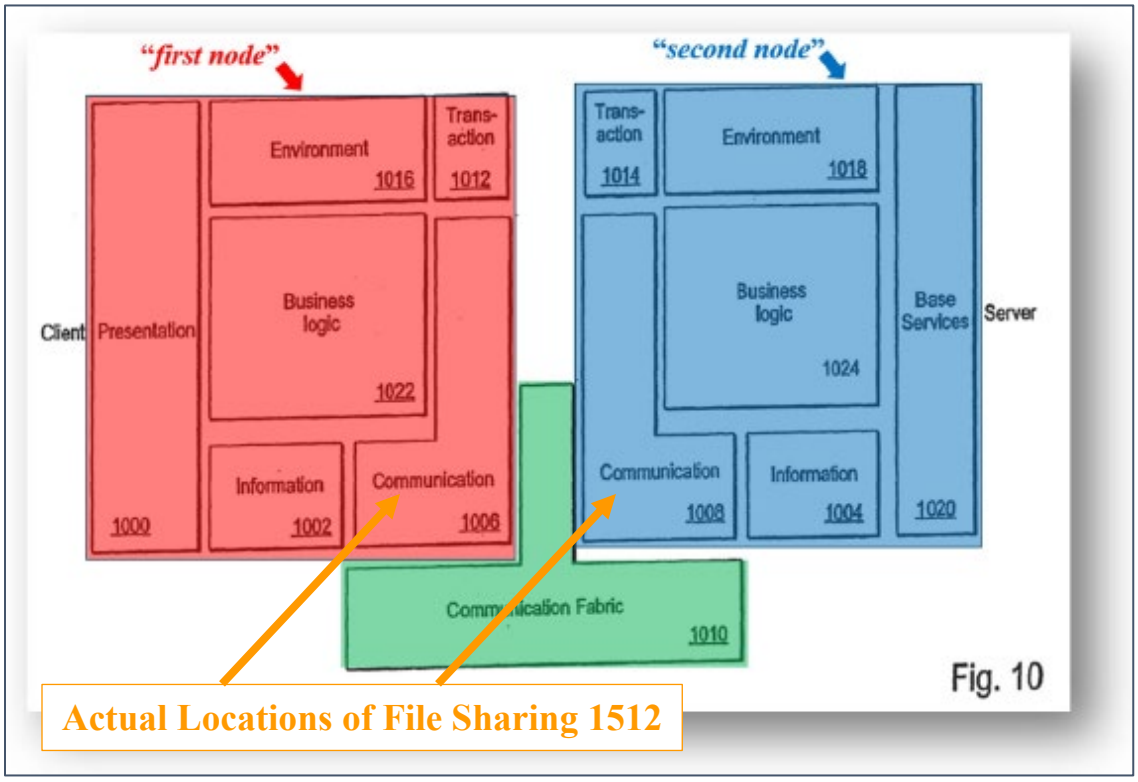
EX1105, Fig. 15.

Bowman explains that Figure 15 is depicting "COMMUNICATION **1006**, **1008**" and that "[a]s illustrated in FIG. 15, Network services *provided by* the Communication Services layer are grouped into four major categories of functionality: Virtual Resource, Directory, Messaging, and Security services 1502, 1504, 1506, 1508." EX1105, 56:31-35. In the context of Figure 10, *Bowman* explains

that "Communications Services" are "Communications Services 1006, 1008," in contrast to "Communication *Fabric* Services 1010." EX1105, 31:54-60.

Bowman then explains that **File Sharing services 1512**—which are part of Communication Services **1006** and **1008**—"can provide the following capabilities" such as "*[f]ault tolerance*—use of primary and replica file servers to ensure high availability of file system" (among others). EX1105, 58:50-59:10.

In short, *Bowman*'s "**File Sharing 1512**" is part of what Petitioner calls the "**first node**" and "**second node**," not the separate "**Communication Fabric**" linking the two (the alleged "**FTSS**"), as Petitioner presents in its Petition (and correspondingly, its invalidity theory when applying *Bowman* to independent claim 1 of the '244 Patent):



Petitioner (Paper 1), 39 (depicting EX1105, Fig. 10; red, green, and blue annotations added by Petitioner; "Actual Locations of File Sharing 112" and corresponding arrows (in orange) added by Patent Owner).

Moreover, *Bowman*'s "Communication Fabric 1010" (which Petitioner asserts corresponds to the claimed "fault tolerant storage system (FTSS)") does not even have any storage. *See* EX1105, 84:34-35 ("FIG. 24 illustrates various components of the Communication Fabric."), 83:56-92:33 (describing Communication Fabric 1010 and its "various components" and their functions but nowhere describing any storage, "file sharing," or "fault tolerance").

Like the above, the disclosure in *Bowman* that underlies Petitioner's assertion that *Bowman* discloses a "fault tolerant storage system (FTSS)" and upon which Petitioner's theory is built, Petition (Paper 1), 29-31, is within the **File Sharing services** (*i.e.*, part of the alleged "**first node**" ("**Client**") and "**second node**" ("**Server**"), *not* the alleged "**FTSS**" ("**Communication Fabric 1010**")). Petitioner's own citations to *Bowman* confirm this. Petition (Paper 1), 29 (citing EX1105, 58:50-54, 58:58-69:10 [*sic*: 58:58-59:10]). The complete quotations for Petitioner's cites confirm they are exclusively discussing File Sharing services 1512:

- "FIG. 16 illustrates **File Sharing services 1512**. **File Sharing services** allow users to view, manage, read, and write files

that may be located on a variety of platforms in a variety of locations." EX1105, 58:50-54.

- Discussing File Sharing services 1512, "**File Sharing Services** can provide the following capabilities:

  Transparent access—access to remote files as if they were local

  Multi-user access—distribution and synchronization of files among multiple users, including file locking to manage access requests by multiple users

  File access control—use of Security services (user authentication and authorization) to manage file system security

  Multi-platform access—access to files located on various platforms (e.g., UNIX, NT, etc.)

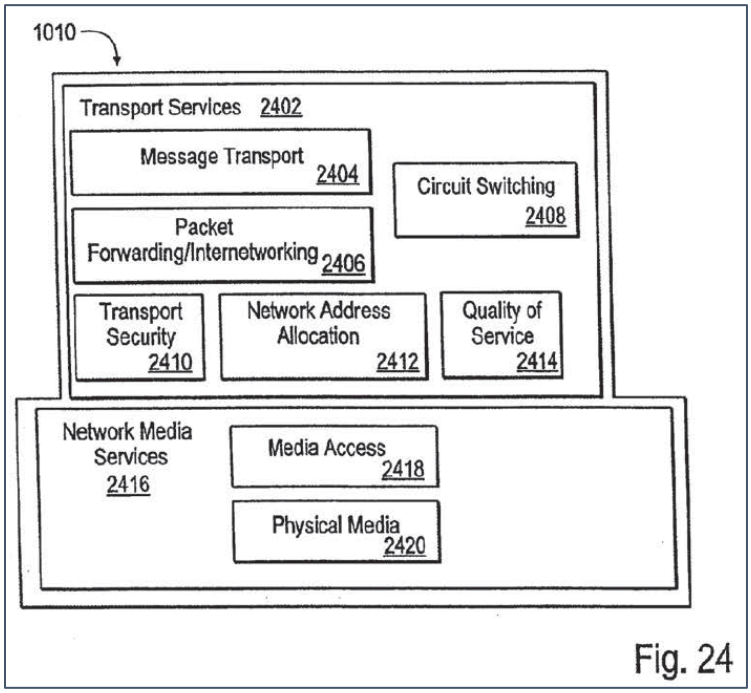
  Integrated file directory—a logical directory structure that combines all accessible file directories, regardless of the physical directory structure

  Fault tolerance—use of primary and replica file servers to ensure high availability of file system

  Scalability—ability to integrate networks and distributed file systems of various sizes." EX1105, 58:58-59:10.

The lack of storage in the Communication Fabric is confirmed by reviewing *Bowman*, including its disclosure of the Communication Fabric in Figure 24, reproduced below. EX1105, 83:56-92:33. Although *Bowman* describes numerous

"components" of the Communication Fabric and their corresponding functions, none of those components have anything to do with storage; instead, the fabric (and its components) "provide[] common network services to the platform-specific network services residing on the client and server nodes," where the "common network services can be used to manage resources and translate capabilities within and across enterprises." EX1105, 83:66-84:3.[7]



EX1105, Fig. 24.

[7] Petitioner does not mention or discuss Figure 24 of *Bowman* or what makes up the Communication Fabric in its Petition. *See generally* Petition (Paper 1). Regardless, *Bowman*'s disclosure is clear that the Communication Fabric does not include any storage (and there is no reason it need to, to perform its disclosed functions).

For example, transport services 2402 "[p]rovides the underlying protocols responsible for transmitting and securing data communications." EX1105, 84:35-37. Within transport services 2402 are various components that facilitate this data communication transfer, such as packet forwarding services 2406 which "transfers data packages and manages the path that data takes through the network," and circuit switching 2408 which "establish[es] physical circuits for transfer of circuit-switched voice, fax, video, etc." EX1105, 84:35-90:29.

Network media services 2416 provides the capabilities of (1) "Final framing of data for interfacing with the physical network," (2) "Performing, receiving, interpreting, and acting on signals from communications fabric," and (3) "Transferring data through the physical network." EX1105, 90:30-38. Network media services 2416 includes two components—media access 2418 and physical media 2420—neither of which are storage. Media access 2418 "manage[s] the low-level transfer of data between network nodes" using various protocols, such as Ethernet, RS232, etc. EX1105, 90:43-92:4. Physical media 2420 refers to wired or wireless connectors, such as coaxial cable, fiber optic cable, or cellular antenna, EX1105, 92:5-34; *see also* Fig. 25 (depicting physical media 2420)—none of which disclose or have anything to do with storage.

And while there is no disclosure in *Bowman* of the fabric including storage, there is no reason (and Petitioner provides none) why storage would be needed to

provide the disclosed network services of the communications fabric. This is because, as discussed above, the storage is in the client and server, and the communications fabric simply facilitates communications between them.

Accordingly, *Bowman* does not disclose that "the first and second nodes are each coupled to a fault tolerant storage system (FTSS)" as required by independent claim 1 of the '244 Patent.

As further explained in the following sections, these fundamental errors in understanding *Bowman*'s structure defeats Petitioner's Grounds.

2. *Bowman* does not disclose "transmitting a message from the first node to a communication agent in the FTSS;" "storing the message in a data structure in highly reliable fault-tolerant storage media of the FTSS;" or "transmitting the message from the FTSS to the second node" as required by independent claim 1 of the '244 Patent.

Petitioner relies on "File Sharing 1512" and other structures from *Bowman* to support the remaining elements of claim 1 of the '244 Patent, none of which are found, as claimed, in "Communication Fabric 1010" (the alleged "FTSS"). Rather, like File Sharing services discussed in the prior Section III.A.1, they are found in the alleged nodes (the "Client" including "Communication 1006" and the "Server" including "Communication 1008").

Limitation [1.1] requires "transmitting a message from the first node to a communication agent in the FTSS." Petitioner asserts that *Bowman*'s "Message-Oriented Middleware (MOM)" as the claimed "communication agent." Petition

(Paper 1), 42-43. Petitioner's expert does the same. EX1103 ¶¶111-12. The "MOM" is part of "**Message Oriented 1534**," which is part of "Messaging 1506," which—like "File Sharing 1512"—is part of Communication 1006 and Communication1008 (i.e., part of the nodes, not Communication Fabric 1510, the alleged "FTSS"). EX1105, 69:46-49, 31:54-60, 56:31-35, Fig. 15. This can be seen in Figure 15 of *Bowman*, reproduced below, which discloses the components in Communication 1006 and 1008. EX1105, 56:31-35, 31:54-60. There is no disclosure in *Bowman*—and neither Petitioner nor its expert point to any—of a "communication agent *in* the FTSS" as claim 1 requires. *See also* Section III.A.1, above (explaining Communication Fabric 1010, Communication 1006, and Communication 1008).

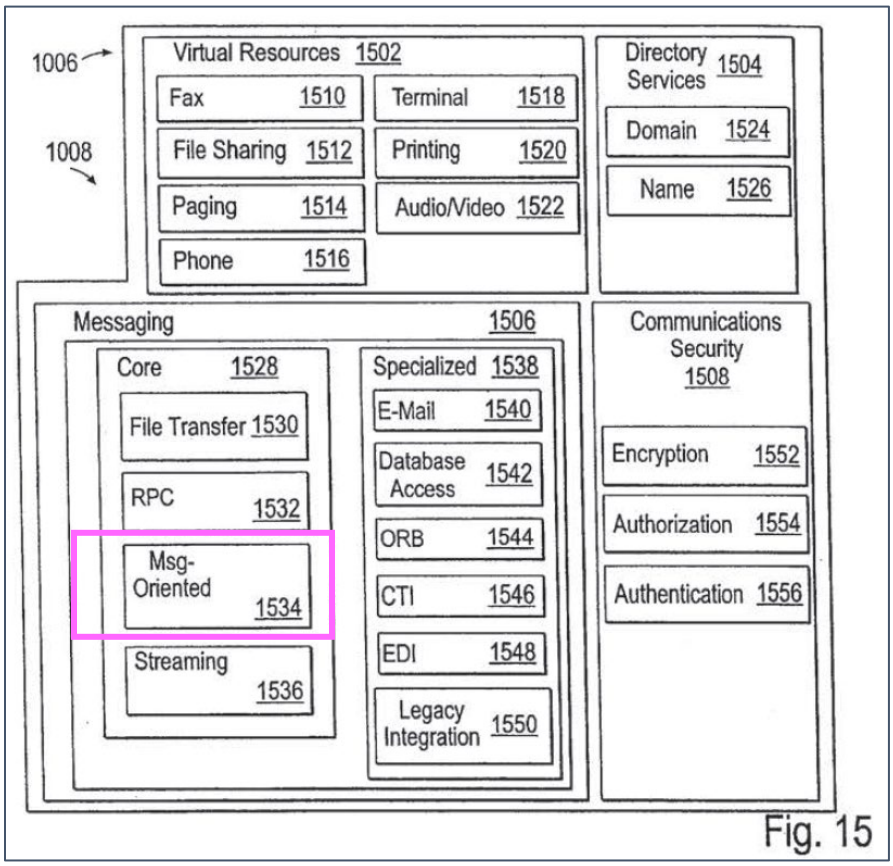


Fig. 15

EX1105, Fig. 15.

Limitation [1.2] requires "storing the message in a data structure in highly reliable fault-tolerant storage media of the FTSS." Petitioner points to "Message Queueing" in *Bowman*. Petition (Paper 1), 45. So too does Petitioner's expert. EX1103 ¶¶119-120. This too is part of **Message Oriented 1534** (discussed above regarding limitation [1.1]). EX1105, 56:30-37, 69:45-52, 70:8-12, Fig. 15.

Petitioner also points to *Bowman*'s "reference to primary and replica file systems" and asserts that a POSITA would have under this reference "to teach or suggest disk arrays (e.g., RAID (Redundant Arrays of Independent Disks)) that protect against a single point of failure." Petition (Paper 1), 29-30. For this proposition, Petitioner again points to the "File Sharing" disclosure in *Bowman*, Petition (Paper 1), 29, which is part of the alleged "nodes," *not* the alleged FTSS. And as explained in Section III.A.1, above, Communication Fabric 1010 (the alleged FTSS) does not even have any storage. It follows that *Bowman* does not disclose "storing the message in a data structure in highly reliable fault-tolerant storage media *of* the FTSS," as required by claim 1.

Limitation [1.4] requires "transmitting the message from the FTSS to the second node." Petitioner and its expert point to "Publish and Subscribe" in *Bowman*. Petition (Paper 1), 50-51; EX1103 ¶¶138-140. As above, this is likewise part of **Message Oriented 1534**. EX1105, 56:30-37, 69:45-52, 70:8-12, Fig. 15.

B. *Vahalia* Would Not Fill the Gaps in *Bowman*'s Disclosure.

Petitioner's reliance on *Vahalia* leaves significant gaps in the Petition.

First, *Vahalia* is not analogous art, which is dispositive of Petitioner's Grounds.

Second, Petitioner's proposed combination of *Bowman* and *Vahalia* does not render obvious any Challenged Claim. As demonstrated in the previous Section III.A, *Bowman* describes a fundamentally different architecture than what is covered by claim 1 of the '244 Patent. But even if that was not the case, the structure in *Vahalia* that Petitioner asserts provides, for example, the missing "additional details about implementing the disk arrays taught or suggested in Bowman," Petition (Paper 1), 30, does not.

1. *Vahalia* is not analogous art.

For purposes of asserting that a POSITA would have looked to *Vahalia*, the Petition asserts—without support, expert or otherwise—that *Bowman* and *Vahalia* are analogous art to the '244 Patent because (i) they are "directed to a similar field of endeavor as the '244 Patent" and (ii) they are "reasonably pertinent to a problem

described by the '244 Patent." Petition (Paper 1), 32-33.[8] Petitioner's assertions are both unsupported and wrong.

a. *Vahalia* and the '244 Patent are not in the same field.

As to Petitioner's "similar field of endeavor" assertion, the entirety of the assertion is that:

> Bowman and Vahalia are directed to a similar field of endeavor as the '244 Patent—e.g., fault tolerant client-server communication. Ex-1101, Abstract; Ex-1105, Abstract; Ex-1106, Abstract. Bowman is directed to "updating a server while minimizing network traffic and maintaining an acceptable level of system performance." Ex-1105, 1:20-24. Vahalia is directed to efficient data storage systems in relation to network file servers. Ex-1106, 1:9-10.

Petition (Paper 1), 32-33 (underline added by Petitioner).

[8] The Petition does not cite to, or rely on, its expert for either proposition. But even if the Board were to search and consider Petitioner's expert declaration, it adds nothing—the declaration is a copy and paste of the Petition, without any additional support or analysis. *See Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper No. 9, 15 (PTAB Aug. 24, 2022) (precedential) (denying institution and giving little weight to expert opinion that "merely repeats, *verbatim*, the conclusory assertion for which it is offered to support.") (emphasis in original).

Petitioner's conclusory assertion—as its own citations (to *Vahalia*'s Abstract and 1:9-10) show—is both unsupported and wrong. *Vahalia* is not directed to the field of "fault tolerant client-server communication." Rather, as both its title and Abstract make clear, *Vahalia* is about managing concurrent access to stored data on a server, with the server acting as an arbiter and coordinator and nothing about fault tolerance. EX1106, Cover Page (Title and Abstract).

Vahalia's Abstract—which Petitioner confusingly cites in support—makes this plain:

> A client is permitted to send data access commands directly to network data storage of a network file server after obtaining a lock on at least a portion of the file and obtaining metadata indicating storage locations for the data in the data storage. For example, the client sends to the file server at least one request for access to a file. In response, the file server grants a lock to the client, and returns to the client metadata of the file including information specifying data storage locations in the network data storage for storing data of the file. The client receives the metadata, and uses the metadata to produce at least one data access command for accessing the data storage locations in the network storage. The client sends the data access command to the network data storage to read or write data to the file. For a write operation, the client may modify the metadata. When the client is finished writing to the file, the client returns any modified metadata to the file server.

EX1106, Abstract. There is nothing in the Abstract that discusses or even alludes to "fault tolerance."

Petitioner's only other citation in support of its contention that *Vahalia* is in a "similar field"[9] to the '244 Patent is *Vahalia*'s "Field of the Invention" section, which states that *Vahalia* "relates generally to data storage systems, and more particularly network file systems." Again, there is no mention of "fault tolerance."

Thus, neither citation supports Petitioner's assertion—they say nothing about fault tolerant client-server communication. *See, e.g.*, *The Chamberlain Grp., LLC v. Overhead Door Corp*., IPR2022-00842, Paper 9, 33-34 (PTAB Oct. 25, 2022)

[9] Petitioner applies the wrong legal test. Petitioner asserts only that *Vahalia* and the '244 Patent are in a "*similar* field of endeavor," not the "*same* field of endeavor." *See, e.g.*, *Circuit Check Inc. v. QXQ Inc.*, 795 F.3d 1331, 1335 (Fed. Cir. 2015) ("Prior art is analogous if it is from the *same* field of endeavor or if it is reasonably pertinent to the particular problem the inventor is trying to solve.") (citation omitted); *Wang Labs., Inc. v. Toshiba Corp*., 993 F.2d 858, 864 (Fed. Cir. 1993) ("Two criteria are relevant in determining whether prior art is analogous: (1) whether the art is from the *same* field of endeavor, regardless of the problem addressed, and (2) if the art is not within the same field of endeavor, whether it is still reasonably pertinent to the particular problem to be solved.") (citations omitted).

(determining a reference and challenged patent were not in the same field of endeavor, in part, by examining the identified "Field of the Invention"). And the mere mention of data storage systems is likewise insufficient to show that *Vahalia* is in the same field of endeavor as the claimed subject matter of the '244 Patent. *See, e.g.*, *Wang Labs*., 933 F.2d at 864 ("The Allen-Bradley art is not in the same field of endeavor as the claimed subject matter merely because it relates to memories. It involves memory circuits in which modules of varying sizes may be added or replaced; in contrast, the subject patents teach compact modular memories."); *see also Circuit Check*, 795 F.3d at 1335 ("The jury was instructed that 'the field of the invention is circuit board testers and test fixtures used in the manufacture of elqectronics.' The disputed prior art — rock carvings, engraved signage, and Prussian Blue — is not part of the field of circuit board testers and test figures.") (internal citation omitted).

And even if the rest of *Vahalia* is searched and considered (which the Board need not do, as Petitioner does not rely upon it), there is no mention or discussion of any fault tolerant client-server communications or any indication that is *Vahalia*'s field of endeavor. It is not, as confirmed by Petitioner's own citations, as well as the remainder of *Vahalia*'s specification, all of which concern managing concurrent access by clients to data stored at a server. *See, e.g.*, EX1106, 3:55-5:9 ("Summary

of the Invention"), 8:61-9:11 (discussing Figure 3). *See also Wang Labs.*, 993 F.2d at 864; *The Chamberlain Grp.*, IPR2022-00842, Paper 9, 33-34.

b. *Vahalia* is not reasonably pertinent to the problem to be solved by the '244 Patent's claimed invention.

For its assertion that *Vahalia* is reasonably pertinent to the '244 Patent's problem to be solved, Petitioner asserts—again, without support, expert or otherwise—that:

> [B]oth Bowman and Vahalia are reasonably pertinent to a problem described by the '244 Patent—the need for reliable message delivery. Ex-1101, Abstract, 3:65-4:8. Vahalia teaches that "the cached disk array has been interfaced to a data network via at least one data mover computer. The data mover computer receives data access commands from clients in the data network in accordance with a network file access protocol." Ex-1106, 1:20-24. Vahalia also teaches that "[m]ainframe data processing, and more recently distributed computing, have required increasingly large amounts of data storage. This data storage is most economically provided by an array of low-cost disk drives integrated with a large semiconductor cache memory." *Id.,* 1:12-16. A POSITA would have recognized that including Vahalia's cached disk array within Bowman's communication fabric would increase the reliability of Bowman's messaging system in the same way. Bowman expresses is [*sic*] desirable and Vahalia explains would be [*sic*] accomplished.

Petition (Paper 1), 33 (underline added by Petitioner).

Like its "similar field" assertion, Petitioner's "reasonably pertinent" assertions are both unsupported and wrong. Petitioner's citations to *Vahalia* (shown above) say nothing about any problem to be solved, let alone "the need for reliable message delivery." Thus, even assuming that the '244 Patent's problem was simply "the need for reliable message delivery,"[10] here too, the Petition fails. *See also, e.g.*, *Circuit Check*, 795 F.3d at 1335-36;[11] *The Chamberlain Grp.*, IPR2022-00842,

[10] The problem is more nuanced and narrower, but for purposes of this POPR demonstrating that Petitioner has failed to show a reasonable likelihood of success, Petitioner's own identified problem confirms the Petition fails.

[11] As the court in *Circuit Check* explained, "Just because keying a car, for example, is within the common knowledge of humankind does not mean that keying a car is analogous art. An alleged infringer should not be able to transform all systems and methods within the common knowledge into analogous prior art simply by stating that anyone would have known of such a system or method. The question is not whether simple concepts such as rock carvings, engraved signage, or Prussian Blue dye are within the knowledge of lay people or even within the knowledge of a person of ordinary skill in the art. Rather, the question is whether an inventor would look to this particular art to solve the particular problem at hand." 795 F.3d at 1335. That is effectively what Petitioner is seeking to do here.

Paper 9, 36 ("A person having ordinary skill in the art of automated door control systems would not reasonably have been expected to consult a reference (i.e., Romine) that deals with factory testing of wireless devices without physical connections in order to solve a problem of pairing without having to involve a user (i.e., the [challenged] patent).").

Regardless, for whatever it teaches, *Vahalia* is very different from the '244 Patent. *Vahalia* attempts to address an issue where "data consistency problems may arise if concurrent client access to a read/write file is permitted through more than one data mover." EX1106, 1:46-48. *Vahalia* recognizes that "[t]hese data consistency problems can be solved in a number of ways" (such as in what it refers to as "Prior Art" Figure 1), but while such a prior-art system "is satisfactory for handling NFS[12] file access requests, it has a number of limitations that will become increasingly significant." EX1106, 1:48-3:14. According to *Vahalia*, "[t]he current trend is toward higher-speed network links and interconnection technology, such as technology for the Fibre-Channel standards being developed by the American National Standards Institute (ANSI)," and "[i]n a network employing high-speed links and interconnection technology, the delays inherent in a connectionless

[12] *Vahalia* explains that "NFS" refers to "Network File System," as described in RFC 1094. EX1106, 1:21-27.

communications protocol such as NFS become more pronounced." EX1106, 3:7-14; *see also* 3:14-54.

Against this backdrop, *Vahalia* seeks to solve for the "data consistency problems" and limitations of the prior art through its improved system, such as disclosed in Figure 3 (relied upon by Petitioner elsewhere and reproduced below), which illustrates *Vahalia*'s access management method for managing concurrent access to stored data in a file system (of a server):

> Each client 64, 65 also has a respective bypass data path 66, 67 that bypasses the data mover 61 for reading data from and writing data to the file system 62. … Before reading or writing to the file system 62, however, a client first issues a request for metadata to the data mover 61. The data mover 61 responds by placing an appropriate lock on the file to be accessed, and returning metadata including pointers to where the data to be accessed is stored in the file system.

EX1106, 8:61-9:11.

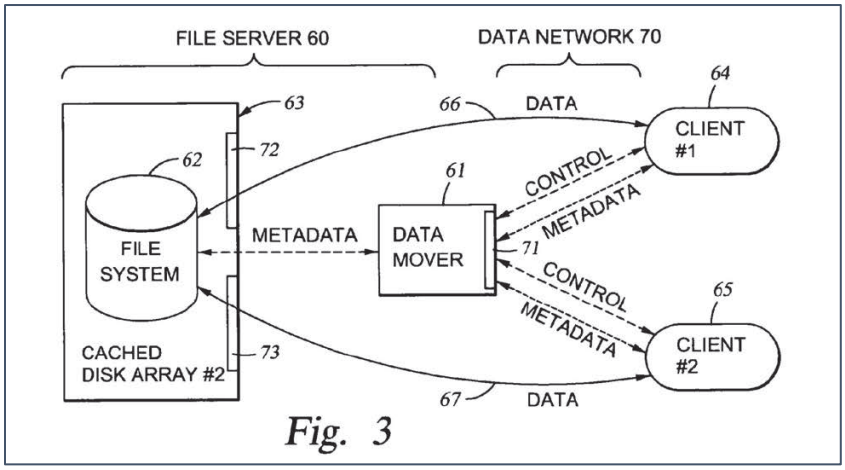


Fig. 3

EX1106, Fig. 3.

In other words, *Vahalia* concerns managing concurrent access to *stored* data in a network file server for data consistency, while the ’244 Patent concerns managing *communications* among various systems in a fault tolerant storage system environment for reliability (and as explained in Section II, above, the ’244 Patent is seeking to solve particular problems in existing fault tolerance storage systems). *See* Section II, above (explaining background and summary of invention including the existing problems in the art that the ’244 Patent was seeking to solve); *see also* EX1101, 1:18-25 (Field of Invention), 1:25-5:6 (Background including problems in prior-art fault tolerant storage systems), 5:9-58 (Summary of Invention including problems in same and solution to same).

Thus, Petitioner has failed to show a reasonable likelihood of success that *Vahalia* is analogous art, which alone is dispositive. *See, e.g.*, *The Chamberlain Grp.*, IPR2022-00842, Paper 9, 32-37 (Petitioner failed to show reasonable likelihood of success for grounds where reference was not analogous art).

2. Even if *Vahalia* were analogous art, it would not remedy the Petition’s deficiencies.

Claim 1 of the ’244 Patent covers “[a] method of transmitting messages between a first node and a second node,” comprising, for example, [1.1] “transmitting *a message* from the first node *to* a communication agent *in* the FTSS;” [1.2] “storing *the message* in a data structure in highly reliable fault-tolerant storage

media *of* the FTSS;" and [1.4] "transmitting *the message* from the FTSS *to* the second node."

Vahalia does not disclose transmitting a message *from one node to another*. Rather, *Vahalia* concerns a system where *multiple* nodes can interact with the same data, locking access from some, without corrupting that data in the process. From *Vahalia*'s "Summary of the Invention":

> In accordance with one aspect of the invention, there is provided a method of operating a file server in a data network. The file server receives a request for metadata about a file to be accessed. The request being received from a data processing device in the data network. In response to the request for metadata, the file server grants to the data processing device a lock on at least a portion of the file, and returns to the data processing device metadata of the file including information specifying data storage locations in the file server for storing data of the file.

EX1106, 3:55-67.

Vahalia confirms this concept in connection with Figure 3 (relied upon by Petitioner and reproduced above):

> As described above with reference to FIG. 3, a file server 60 including a data mover 61 and a cached disk array 63 provides direct data sharing between network clients 64, 65 by arbitrating and coordinating data access requests. The data mover 61 grants file lock request from

> the clients 64, 65 and also provides metadata to the clients 64, 65 so that the clients can access data storage 62 in the cached disk array 63 over a data path that bypasses the data mover 61.

EX1106, 35:25-32.

There is no disclosure in *Vahalia* suggesting any means of one node talking to another, because that is not its point. In fact, *Vahalia* teaches away from the message routing claimed in the ’244 Patent. *See* EX1106, 35:43-47 (“Since each of the clients 64, 65 need *not* communicate with any other client nor own any files in the file system 62, the software for the client 64, 65 could be more compact than the software for a data mover.”).

Assuming arguendo that Petitioner’s understanding of *Bowman* is correct (it is not, *see* Section III.A, above), and *Bowman*’s “Messaging” and “File Sharing” structures were actually found in the “Communication Fabric,” Petitioner suggests that *Vahalia*’s “File Server 60” could serve the role of the ’244 Patent’s FTSS. *See* Petition (Paper 1), 41. If that were so, then no messages could be communicated from *Bowman*’s first node to its second node, because *Vahalia*’s File Server does not transmit data (messaging or otherwise) between nodes. To the contrary, *Vahalia* permits sharing of data *contained in* a File System (part of the File Server) by one

or more nodes.[13] *Vahalia*'s File Server functions more like a toggle switch granting access to one of *either* client.

Lastly, there would be no reason (and Petitioner provides no actual, supported one) of why a POSITA would have looked to *Vahalia* for functionality that already exists in *Bowman* (and, for that matter, within the alleged "nodes," not the "FTSS"). Petitioner's theory is largely premised on its assertion that "[a] POSITA would have been motivated to look to Vahalia to provide additional details about implementing the disk arrays taught or suggested in Bowman." Petition (Paper 1), 30 (underlined added by Petitioner; citing EX1103 ¶74). But under that motivation, the "additional details" would be applicable to *Bowman*'s "client" and "server" (the alleged

[13] Petitioner exploits semantics when it claims that "File Server 60 … coordinates data access requests ***between*** Client #1 … and Client #2." *See* Petition (Paper 1), 43. Nowhere does *Vahalia* describe any request ***from*** Client #1 ***to*** Client #2. The use of "between" here misleadingly suggests otherwise, where in fact "File Server 60 … coordinates data access requests" ***from*** Client #1 and ***from*** Client #2, deciding ***between*** them which to grant access, as is made clear across the reference. Moreover, Petitioner identifies different "nodes" in the sentence which follows: "these data access requests are sent as network messages from one node (e.g., a client) to another (e.g., a server)." *See* Petition (Paper 1), 44.

"nodes"), not the Communication Fabric (the alleged "FTSS").[14] The closest Petitioner comes is its assertion that it would have been "obvious to try," and "obvious to include a known element … into another mechanism that yield[ed] predictable results." Petition (Paper 1), 32 (citing generally EX1105, EX1106;[15] also citing EX1103 ¶79). Beyond lacking evidentiary support, *see Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9, 15 (PTAB Aug. 24, 2022) (precedential),[16]

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[14] Petitioner is also incorrect about the alleged "similarities" between *Bowman* (Figure 10) and *Vahalia* (Figure 3). Petition (Paper 1), 33-35. Notably, Petitioner equates "Communication Fabric 1010" in *Bowman* with "Data Network 70" in *Vahalia* (*not* "File Server 60"). In this respect, Petitioner is correct. But it also further demonstrates the problems with, and inconsistencies in, the Petition, as Petitioner elsewhere attempts to apply *Vahalia*'s file server as part of *Bowman*'s Communication Fabric.

[15] These general citations cover 326 pages including 350 columns of text and 221 figures. *See* EX1105 (*Bowman*); EX1106 (*Vahalia*).

[16] *See also, e.g.*, *Dish Network, L.L.C. v. Entropic Commc'ns, LLC*, IPR2024-00560, Paper 11, 13-14 (PTAB Aug. 15, 2024) ("Petitioner's reasoning in support of the proposed modification of Grube is insufficient. Even if we assume that one of ordinary skill in the [art] could apply Grube's modulation techniques to a broadband

Petitioner's assertion operates from the mistaken premise of what *Bowman* actually discloses.

C. Ground 2 Does Not Overcome the Problems in Ground 1.

Petitioner's Ground 2 introduces another reference, *Tuxedo*, to fill in the gaps in the reads *Bowman* and *Vahalia* of the dependent claims of the '244 Patent. The explanations in each of Petitioner's arguments regarding the dependent claims begin by incorporating the arguments made under Ground 1. *See, e.g.*, Petition (Paper 1), 52 ("As explained above, Bowman and Vahalia disclose …"); *id.* ("As demonstrated for limitation [1.1] …"); *id.*, 53 ("As demonstrated for limitation [1.2]…").

Petitioner uses *Tuxedo* to support each element of every dependent claim, relying on its prior Ground 1 arguments (regarding claim 1) solely for basic support. Because, as demonstrated above, claim 1 survives Petitioner's Ground 1 challenge, the addition of *Tuxedo* regarding claims 2–10 does nothing to change this result. To

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coaxial network (as required by [challenged claims]), Petitioner does not adequately explain why a person of ordinary skill in the art would do so. Petitioner does not identify any benefits that would be achieved by the proposed modification. [Petitioner's expert's] testimony does not cure these deficiencies in Petitioner's reasoning as it simply repeats the assertions in the Petition without further elaboration.") (citations omitted).

be clear, Ground 2 is not an alternative to Ground 1—it only covers the unique steps of the dependent claims.

IV. CONCLUSION

Patent Owner respectfully submits that the Board should deny institution as Petitioner has failed to show a reasonable likelihood of success for any claim.

Dated: June 10, 2025

Respectfully submitted,

/Patrick Colsher/

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Counsel for Patent Owner

CERTIFICATE OF COMPLIANCE

I hereby certify that this paper complies with the type-volume limitation of 37 C.F.R. §42.24 (as determined by the Microsoft Word word-processing system used to prepare this paper) because it contains 7076 words, excluding the parts of the paper exempted by 37 C.F.R. §42.24(a).

Dated: June 10, 2025

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that the foregoing PATENT OWNER PRELIMINARY RESPONSE and Exhibits listed on the List of Exhibits that were not previously served in connection Patent Owner's Discretionary Denial Brief, were served on June 10, 2025, via electronic mail upon counsel of record for Petitioner at the following email addresses:

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