

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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ADVANCED MICRO DEVICES, INC.,

Petitioner,

v.

ADVANCED CLUSTER SYSTEMS, INC.,

Patent Owner.

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IPR2025-00862

U.S. Patent No. 10,333,768

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<u>Exhibit</u>	<u>Description</u>
2001	DocketNavigator Statistics for Motion Success for Stay Pending IPR (Post-Institution) for Judge Albright
2002	J. Albright Standing Order Governing Proceedings (OGP) 4.4 – Patent Cases (Jan 23, 2024)
2003	DocketNavigator Statistics for Time-to-Milestones for Judge Albright
2004	<i>Advanced Cluster Systems, Inc. v. Intel Corporation</i> , Amended Scheduling Order (D.I. 54)
2005	<i>Allani v. Apple Inc.</i> , No. 6:24-cv-304-ADA (W.D. Tex. May 6, 2025) (D.I. 30)
2006	<i>Intellectual Ventures I LLC v. TCL Elects. Holdings Ltd.</i> , No. 6:23-cv-309-ADA (W.D. Tex. Sept. 10, 2024) (D.I. 44)
2007	<i>Acquis, LLC v. Hon Hai Precision Indus Co. Ltd.</i> , No. 6:23-cv-264-ADA (W.D. Tex. May 31, 2024) (D.I. 46)
2008	AMD's Preliminary Invalidity & Subject-Matter Eligibility Contentions Cover Pleading (Corrected Apr. 25, 2025)
2009	AMD's Preliminary Invalidity Contention – Chart A-8
2010	Declaration of Dr. Melissa C. Smith Under 37 C.F.R. § 1.68
2011	<i>Curriculum Vitae</i> of Dr. Melissa C. Smith
2012	AMD Feb. 5, 2025 – 10-K Annual Report

## I. INTRODUCTION

The Petition seeks inter partes review of claims 1-25 and 30-34 of U.S. Patent No. 10,333,768 (“the ’768 Patent”). Petitioner admits that this Petition “challenges the same claims, on the same grounds, and relies on the same prior art” in IPR2025-00794 filed by Intel Corporation. *See* IPR2025-00862, Paper 4 at 1 (Motion for Joinder). In other words, this Petition is a copycat of Intel’s petition.<sup>1</sup> On July 17, 2025, Patent Owner filed a Patent Owner’s Preliminary Response in IPR2025-00794. *Intel Corp. v. Advanced Cluster Systems, Inc.*, IPR2025-00794, Paper 9 (July 17, 2025). For the same reasons identified in Patent Owner’s Preliminary Response filed in that case, as well as the additional reasons identified herein, the Petition fails to establish a reasonable likelihood that any challenged claim is unpatentable. Institution therefore should be denied.

In particular, as explained herein, none of the relied on references—Menon (Ex. 1005), Trefethen (Ex. 1006), POEref (Ex. 1008), and RS/60000 (Ex. 1007)—describe nodes comprising a hardware processor with multiple processing cores. This failure is confirmed by Dr. Melissa C. Smith, professor of electrical and

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<sup>1</sup> On August 14, 2025, Institution of IPR2025-00794 was denied. IPR2025-00794, Paper 13. Petitioner has filed an IPR challenging claims 26-29 and 35-39 of the ’768 Patent. Pet. at 16; *see also* IPR2025-00863, Pet. at 16. That petition is a copycat of Intel petition IPR2025-00795. *See* IPR2025-00863, Paper 4 at 1.

computer engineering at Clemson University, whose declaration is offered in support of this response. *See* Ex. 2010, ¶¶ 28-34. Her opinions highlight technical distinctions that underscore the non-obviousness of the claimed invention—and explain how Petitioner's expert advances a conclusory, speculative and unsupported analysis that mischaracterizes the disclosure of the RS/6000 reference (Ex. 1007) with respect to this limitation. *See id.* The RS/6000 reference does not disclose the claimed hardware processor with multiple processing cores. This failure is fatal because the limitation is required by each independent claim of the '768 Patent. Thus, Petitioner has not carried its burden to establish a reasonable likelihood that it will prevail in showing that all of the elements of at least one claim are present in the asserted combination of prior art.

The Petition also fails to meet its evidentiary burden to demonstrate that Exhibits 1005 (Menon), 1006 (Trefethen), 1007 (RS/6000 Planning Guide), 1008 (AIX POE Manual), and 1017 (MPIF Report) were publicly accessible before the critical date of June 13, 2006. Accordingly, Petitioner has not satisfied its burden of showing these exhibits are printed publications under 35 U.S.C. § 311(b), and they cannot be relied upon as prior art in this proceeding. The failure of any reference to qualify as a "printed publication" is fatal to all grounds of rejection relying on that reference. As none of Exhibits 1005-1008 and 1017 qualify as "printed publications," each of the asserted grounds, which rely on the combination of

multiple of those references, should be rejected and institution of the instant Petition should be denied. For this additional independent reason, Petitioner has failed to establish a reasonable likelihood that any challenged claim is unpatentable.

For all of the foregoing reasons, the present petition fails to establish a reasonable likelihood that any challenged claim is unpatentable. The Board should therefore deny institution as to all challenged claims.

## **II. TECHNOLOGY BACKGROUND AND OVERVIEW OF THE '768 PATENT**

The '768 Patent addresses a fundamental limitation of conventional high-level computational platforms—their inability to fully exploit the capabilities of distributed computing environments. At the time of the invention, software platforms like Mathematica, MATLAB, and Maple were typically designed to operate on a single machine, and lacked mechanisms for dynamic, decentralized coordination across a computer cluster. Ex. 1001 at 9 (1:38-41); *id.* at 10 (4:14-23).

Prior art solutions attempted to extend such platforms using grid computing or distributed computing models. *Id.* at 9 (1:44-62). However, these approaches typically relied on centralized orchestration — with a master node distributing work to slave nodes — and did not support true peer-to-peer communication or flexible multi-stage evaluation workflows. *Id.* Nodes in such systems could not dynamically exchange instructions with one another at runtime, and expression evaluation across nodes was limited, static, and highly constrained. *Id.*

The '768 Patent discloses a novel solution that enables dynamic, distributed computation in a peer-to-peer cluster architecture. The system supports runtime communication of both instructions (tasks) and results (data) between nodes, without routing through a master node. *See, e.g., id.* at 11 (6:9-34). In particular, among other recited features, the system enables the following:

- A peer-to-peer architecture, in which nodes communicate directly with one another to coordinate expression evaluation;
- Use of cluster node modules, which facilitate messaging, instruction routing, and coordination with local single-node kernels (e.g., Mathematica);
- Multi-stage computation chains, such as where a second node performs a first mathematical expression evaluation, passes the result to a third node for a dependent evaluation, and the third node returns the final result to a first node;
- Support for processors with multiple cores within each node, enabling fine-grained parallelism locally as well as across the cluster.

The claims reflect this architecture. For example, claim 1 recites the following:

- A first node configured to interpret user instructions and distribute calls to a second node;

- A second node configured to receive calls from the first node, execute a first mathematical expression evaluation, and communicate the result to a third node;
- A third node configured to receive that result from the second node, execute a second mathematical expression evaluation using that result, and communicate the result of the second mathematical expression evaluation to the first node;
- The first node is configured to return the result of the second mathematical expression evaluation to the user interface.

*Id.* at 23-24 (30:23 - 31:4).

The '768 Patent claims recite the use of hardware processors with multiple processing cores. *Id.* at 23 (30:44-45; 30:51-52); *id.* at 24 (32:54-55; 32:60-61); *id.* at 25 (33:62-63; 34:1-2); *id.* at 26 (35:18-19; 35:38-40). This was an emerging architectural model in the mid-2000s, offering substantial performance gains through tightly integrated, parallel execution units. The specification contemplates deployment on both multicore processors and special-purpose processors, providing architectural flexibility (*Id.* at 12 (7:11-23)), but claims only multicore processors. *Id.* at 23 (30:44-45; 30:51-52); *id.* at 24 (32:54-55; 32:60-61); *id.* at 25 (33:62-63; 34:1-2); *id.* at 26 (35:18-19; 35:38-40).

The '768 Patent's innovations allow common mathematical applications to scale across distributed systems without modification to the application logic, using a modular framework that inserts peer communication and task routing capabilities into otherwise single-node technology. *See, e.g., id.* at 11 (6:9-34). This system allows evaluation instructions and results to be dynamically passed between nodes, with nodes operating not as passive receivers, but as active interpreters of instructions from their peers. *See, e.g., id.*

This is not just an improvement in messaging or job control—it is a re-architecting of how mathematical instructions are disseminated and evaluated across a computing cluster.

### **III. CLAIM CONSTRUCTION**

Patent Owner contends that no claim construction is required to address the Petition's deficiencies that are presented herein.

### **IV. THE PETITION DOES NOT ESTABLISH A REASONABLE LIKELIHOOD THAT ANY CHALLENGED CLAIM IS UNPATENTABLE.**

#### **A. THE PETITION DOES NOT ESTABLISH THAT THE PRIOR ART DISCLOSES NODES COMPRISING MULTIPLE PROCESSING CORES.**

Independent claim 1—and various dependent claims—require that at least one node of the claimed computer cluster comprise the following:

“a hardware processor with a plurality of processing cores...”

*See, e.g.*, Ex. 1001 at 23 (30:44-45). This limitation is specific and important: it recites a multicore processor, not a system with multiple processors or a multi-processor node. The Petition fails to show that any of the cited prior art references discloses or suggests this structure.

Petitioner's expert's declaration advances a conclusory, speculative, and factually unsupported analysis that mischaracterizes the disclosure of the RS/6000 reference (Ex. 1007) as describing a hardware processor with *a plurality of processing cores*—a requirement of all of the challenged claims. The RS/6000 reference discloses no such thing, and Petitioner's conclusory expert testimony simply cannot create disclosure that is not there. Such a failure is fatal to the Petition, because Petitioner has not carried its burden to establish a reasonable likelihood that it will prevail in showing that all of the elements of at least one claim are present in the asserted combination of prior art.

In particular, Petitioner's assertion that the combination of Menon (Ex. 1005) and the RS/6000 reference (Ex. 1007) renders obvious the claim limitation "a second node comprising a second hardware processor with a plurality of processing cores," (Pet. at 47-48, element [1.4.1]), is fatally flawed because Petitioner's invalidity theories are premised on their expert's mischaracterization of the RS/6000 reference (Ex. 1007) where he concludes, without supporting factual bases, that the reference discloses claim elements that simply are not disclosed in the reference. *See, e.g.*, Ex.

1003, ¶¶ 185<sup>2</sup>; Pet. at 47-48. “Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.” 37 C.F.R. § 42.65(a). *See also, Upjohn Co. v. Mova Pharm. Corp.*, 225 F.3d 1306, 1311 (Fed. Cir. 2000) (“Lack of factual support for expert opinion to factual determinations, however, may render the testimony of little probative value in a validity determination.”) (quoting *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 294 (Fed. Cir. 1985)).

Petitioner’s expert’s analysis on this point begins with a cropped quote from the RS/6000 reference. Ex. 2010, ¶ 32. Specifically, Petitioner’s expert alleges “RS6000 also teaches that each of the nodes in the IBM SP2 has ‘a Symmetric MultiProcessor (SMP)’ (*hardware processor*).” Ex. 1003, ¶ 185 citing to Ex. 1007 at 2 (emphasis in original); *see also, id.* at ¶¶ 348 and 367 citing back to Ex. 1003, ¶ 185; *see also, Ex. 1003, ¶ 403* (“where the SMP (*hardware processor*) has . . . .”). But RS/6000 actually states that “[n]odes have either a Symmetric MultiProcessor (SMP) *configuration* or a uniprocessor configuration.” Ex. 1007 at 2 (emphasis added). Petitioner’s expert’s omission of the word “configuration” in the cropped quote is important because the further discussion in the RS/6000 reference about the

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<sup>2</sup> This same unsupported analysis also applies to the claim limitation “wherein the third node comprises a third hardware processor with a plurality of processing cores.” *See, e.g., Pet. at 50-51* (claim element [1.5.1]).

SMP is discussing the configuration of the IBM SP2 device, and namely the number of processors—not the number of *processing cores within* the processors. Ex. 2010, ¶ 29.

Confirming that the RS/6000 reference (Exhibit 1007) is discussing the number of processors and not the number of *processing cores within* its processors, the RS/6000 reference provides further clarification when discussing the “Description” and “Requirements and options” of the 375 MHz POWER3 SMP High Nodes (F/C/ 2058), which Petitioner’s expert identifies as the processor of the IBM SP2 device. *See* Ex. 1003, ¶¶ 185 and 403 citing to Ex. 1007 at 9; Ex. 1007 at 9 (“375 MHz Power 3 SMP High Node (F/C 2058).”) Ex. 2010, ¶¶ 27, 30. In describing the 375 MHz POWER3 SMP High Nodes, the RS/6000 reference expressly states that the “375 MHz POWER3 SMP High Nodes (F/C 2058) use PCI bus architecture *and have* four, eight, twelve, or sixteen 375 MHz 630FP 64-bit *processors per node*. Ex. 1007 at 9 (emphasis added); Ex. 2010, ¶ 30. The RS/6000 reference further explains that a “mandatory prerequisite[ ]” is “four processors (on one card, mounted in one card slot).” Ex. 1007 at 9-10; Ex. 2010, ¶ 31. In other words, at a minimum, at least one F/C 2058 card is required, which itself includes *four processors*. Ex. 2010, ¶ 31.

The RS/6000 reference further states that “[y]ou can order up to three additional four-processor cards (F/C 4350) to configure the node with *a total of*

*sixteen CPUs.*” Ex. 1007 at 10 (emphasis added); Ex. 2010, ¶ 31. In other words, if the IBM SP2 is to be configured with four processors, it will have one four-processor card, if it is to be configured with eight processors, it will have two four-processor cards, if it is to be configured with twelve processors it will have three four-processor cards, and if it is to be configured with sixteen processors it will have four four-processor cards. Ex. 2010, ¶ 31. Contrary to Petitioner’s expert, it does not disclose or suggest that the Symmetric MultiProcessor (SMP) is a hardware processor with a plurality of processing cores. Ex. 2010, ¶¶ 31-34. Rather it plainly states that the SMP Configuration can include “four, eight, twelve, or sixteen 375 MHz 630FP 64-bit processors.” Ex. 1007 at 10; Ex. 2010, ¶¶ 30-31.

Petitioner’s expert’s assertion that the processors described in the RS/6000 reference have a plurality of processing cores is not supported. Ex. 2010, ¶ 35. To the contrary, the RS/6000 reference states that Power3 processors, which are single core processors, are the heart of the SMP nodes in the RS/6000 architecture. Ex. 2010, ¶ 32; *see also* Ex. 1010 at 56-57. Figure 10 of the RS/6000 reference shows the use of single-core Power3 processors in an SMP Node System architecture:

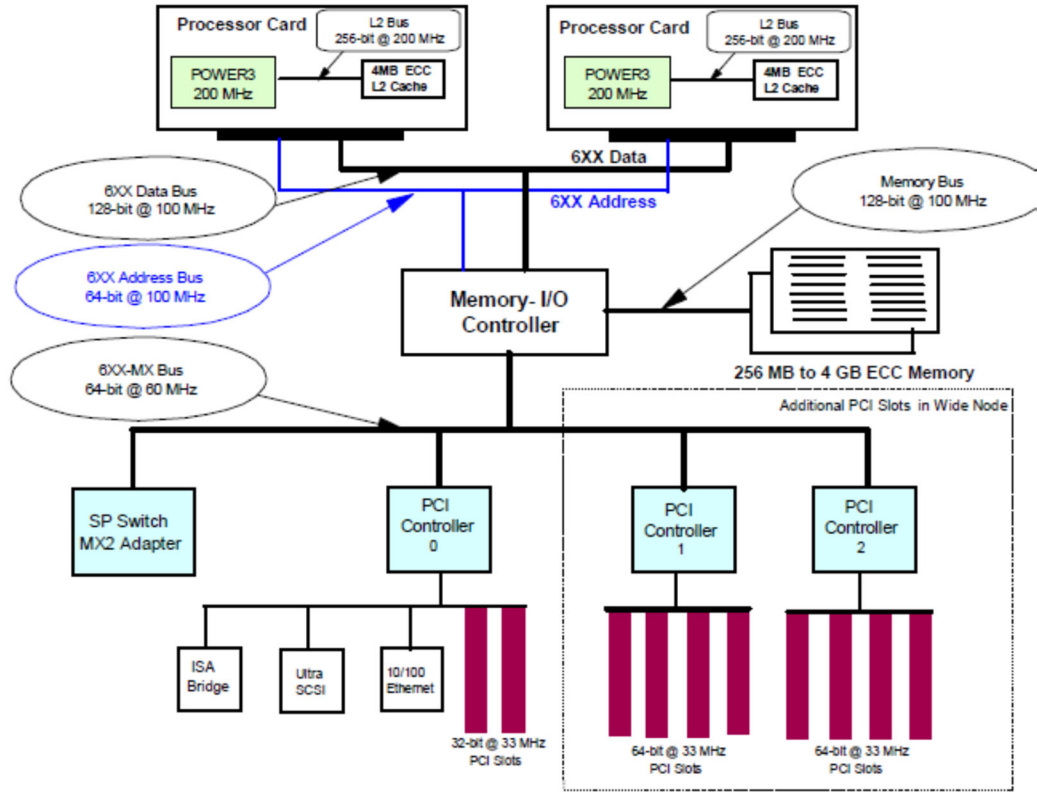


Figure 10. POWER3 SMP Node System Architecture

Ex. 1010 at Figure 10. Thus, contrary to the conclusory assertions of Petitioner's expert, the RS/6000 reference teaches single core processors used in an SMP configuration. The RS/6000 reference neither teaches nor suggests, alone or in combination with any of the other cited references, the "a second node comprising a second hardware processor *with* a plurality of processing cores" required by claim 1 of the '768 Patent.

In the related Intel IPR, Petitioner Intel argues that the hardware processor with a plurality of processing cores limitation includes a configuration of single core processors on separate chip packages. IPR2025-00794, Paper 10 at 35-37. That

argument fails here, too. First, Petitioner did not provide or otherwise explain this novel claim construction position in the instant Petition. Pet. at 13-15; 37 C.F.R. § 42.104(b)(4) (“The petition must specify where each element of the claim is found in the prior art patents or printed publications relied upon[.]”). The Petition must be taken as written. The belated theory is therefore properly disregarded. Second, such a construction is contrary to how processor cores are described in the '768 Patent. In particular, the '768 Patent distinguishes processor cores from other microprocessors by noting that “more than one can be included in a single chip package.” Ex. 1001 at 21 (5:9-11). Thus, a POSITA would not understand the hardware processor with a plurality of processing cores limitation to include a configuration (e.g., the SMP configuration) of single core processors on different chips (e.g., the Power3 single core processors).

Accordingly, aside from the expert's conclusory and unsupported testimony, the Petition offers no basis to establish that the RS/6000 reference, either on its own, or in combination with Menon (Ex. 1005) renders obvious a hardware processor *with* a plurality of processing cores as recited in each claim. Because this testimony is conclusory and not supported by objective evidence, it is entitled to little or no weight. *See Velandar v. Garner*, 348 F.3d 1359, 1371 (Fed. Cir. 2003) (“[W]hat the [PTAB] consistently did was accord little weight to broad conclusory statements that it determined were unsupported by corroborating references. It is within the

discretion of the trier of fact to give each item of evidence such weight as it feels appropriate.”) (citation omitted); *see also In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1368 (Fed. Cir. 2004) (“[T]he [PTAB] is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations . . . .”) (citations omitted).

The Board must consider the petition as written; and as written, the Petitioner has failed to meet its initial burden that the asserted grounds render the claimed invention obvious. Because this affects all challenged claims, the Petition fails to establish a reasonable likelihood that any challenged claim is unpatentable.

**B. THE PETITION FAILS TO CARRY ITS BURDEN TO SHOW THAT EXHIBITS 1005-1008 AND 1017 QUALIFY AS PRINTED PUBLICATIONS.**

Under 35 U.S.C. § 311(b), a petitioner in an inter partes review may only challenge the claims of a patent based on “prior art consisting of patents or printed publications.” Petitioner has the initial burden of production to establish that there is prior art that renders the challenged claims unpatentable. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1379 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1327 (Fed. Cir. 2008)).

Whether a reference qualifies as a “printed publication” involves a case-by-case inquiry into the facts and circumstances surrounding the reference’s disclosure to members of the public. *In re Klopfenstein*, 380 F.3d 1345, 1350 (Fed. Cir. 2004).

The key inquiry is whether the reference was made “sufficiently accessible to the public interested in the art” before the effective filing date. *In re Lister*, 583 F.3d 1307, 1311 (Fed. Cir. 2009) (quoting *In re Cronyn*, 890 F.2d 1158, 1160 (Fed. Cir. 1989)). A reference is considered “publicly accessible” upon a satisfactory showing that the document has been “disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence[] can locate it.” *SRI Int’l, Inc. v. Internet Sec. Sys., Inc.*, 511 F.3d 1186, 1194 (Fed. Cir. 2008) (citation omitted). That standard is not satisfied merely by a date, copyright, or internet address appearing on the face of the document. *See, e.g., Content Square SAS v. Medallia Inc.*, IPR2022-00316, Paper 13 at 26–27 (PTAB Jul. 14, 2022) (“Numerous Board decisions have held that simply pointing to a date, even a copyright date, is not sufficient at the institution stage to demonstrate public accessibility.”)

Rather, for institution of an inter partes review “the burden is on the petitioner to identify with particularity evidence sufficient to establish a reasonable likelihood that the reference was publicly accessible before the critical date...” *Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 at 16 (PTAB Dec. 20, 2019) (precedential). The Board emphasized that this standard is “far more than is required in typical notice pleading. . .,” and requires specific, substantiated evidence. *Id.*; *see also In re Wyer*, 655 F.2d, 221, 227 (CCPA 1981) (burden to show sufficient

proof of public accessibility falls on the party asserting a reference as a prior art printed publication). Thus, the Petitioner must show with particularity that each reference was practically available with reasonable effort at the relevant time—simply showing that it existed somewhere on the internet or somewhere in a library is not enough.

Petitioner's evidence establishing references as prior art must also comply with the Federal Rules of Evidence to justify institution. The Board's Rules state that the "Federal Rules of Evidence shall apply to a proceeding," 37 C.F.R. § 42.62(a), and defines "proceeding" to include a "preliminary proceeding" that "begins with the filing of a petition for instituting a trial." 37 C.F.R. § 42.2.

Here, each asserted ground relies on some combination of Exhibits 1005-1008 and 1017—but the Petition fails to carry the burden of establishing that these exhibits qualify as "printed publications," and in many instances Petitioner's proffered evidence is not even admissible. The failure of any reference to qualify as a "printed publication" is fatal to all grounds of rejection relying on that reference. As none of Exhibits 1005-1008 and 1017 qualify as "printed publications", each of the asserted grounds should be rejected and institution of the instant Petition should be denied.

**1. Exhibits 1007-1008: IBM Technical Manuals—RS/6000 and POEref**

Exhibits 1007 (RS/6000) and 1008 (POEref) purport to be IBM technical manuals that Petitioner alleges were "catalogued and indexed in IBM's online

document library” at particular URL addresses. Pet. at 17. However, the Petition provides no evidence of library indexing or cataloging. *See e.g., Koninklijke Philips N.V. v. Zoll Med. Corp.*, 656 F. App'x 504, 529 (Fed. Cir. 2016) (“evidence of indexing or cataloging, [] while not prerequisites, serve as hallmarks of public accessibility”).

The Petition also fails to demonstrate that Exhibits 1007 and 1008 were publicly accessible by practical searchability, because it fails to offer any evidence that a query of any search engine before the critical date would have led to the particular URL addresses where the references were allegedly available. *See Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1350 (Fed. Cir. 2016) (“[T]he Board found that Groupon had failed to carry its burden of establishing that an interested party exercising reasonable diligence would have located Ratsimor. We agree. [...] The record is devoid of any evidence that a query of a search engine before the critical date, using any combination of search words, would have led to Ratsimor appearing in the search results.”).

Instead, the Petitioner relies on expert testimony that the IBM manuals were technically accessible by navigating specific sequences of hyperlinks (so-called “link chains”) across several purported IBM webpages—each with numerous potential hyperlinks and no table of contents or other navigational guide—to arrive at landing pages that link to the manuals. Ex. 1003, ¶¶ 93, 97. Petitioner’s expert

has cobbled together this collection of web pages to attempt to show these “link chains” (Ex. 1038 (allegedly associated with Ex. 1007) and Ex. 1039 (allegedly associated with Ex. 1008)), but these web pages fail to corroborate his testimony because neither of these exhibits shows a link chain that was navigable (or that even existed) in its entirety at any point in time. Indeed, the purported IBM webpages constituting each of these exhibits list different archival dates. Ex. 1038; Ex. 1039 at 1-8. For example, the headers of the first three pages of Exhibit 1038 indicate the pages were captured by the web archive on August 14, 2001<sup>3</sup>; August 1, 2001; and August 22, 2001, respectively. Ex. 1038 at 1-3. The seventh page of the exhibit is from July 7, 2001, and the ninth page is from June 5, 2001. *Id.* at 7, 9. Petitioner provides no proof that these pages and links existed at the same time or were even navigable to Exhibit 1007 as suggested by its expert.

Petitioner’s reliance on a declaration from the Internet Archive fails for the same reason. Ex. 1029 at 63-72, 75-76. Here again the collection of web pages does not evidence that the alleged link chains were navigable at any point in time prior to

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<sup>3</sup> The archive.org explains that the archived URL includes an embedded date code identifying the date that the site was crawled. The date code translates as `yyyymmddhhmmss`, so for example in the URL `http://web.archive.org/web/19970126045828/http://www.archive.org/`, the date the site was crawled was January 26, 1997 at 4:58 am and 28 seconds. Ex. 1029 at ¶ 5.

the critical date to the URL address where the IBM manuals could allegedly be found.

Moreover, Petitioner's proposed navigation of "link chains" from IBM's homepage to the specific URL addresses where the IBM manuals were allegedly available fails to demonstrate public accessibility because it requires the searcher to already know that the desired content exists and is associated with IBM's company name and its product names (e.g., "RS6000," "AIX"), prior to searching.

*In re Cronyn*, 890 F.2d 1158, 1161 (Fed. Cir. 1989) is instructive. In that case, a thesis document was alphabetically indexed in a library by the author's name, but the Federal Circuit found insufficient public accessibility because "the only research aid in finding the thesis was the student's name, which of course, bears no relationship to the subject of the student's thesis." Thus, the thesis "had not been cataloged or indexed in a meaningful way." *Id.* Likewise, here, the "accessibility" purported by the Petition is insufficient to demonstrate public availability because the company name ("IBM") and the IBM product names ("RS6000" and "AIX") were not shown by the Petition to bear sufficient relationship to the cluster computing concepts that a researcher would have presumably searched and that Petitioner now challenges as allegedly obvious.

Thus, the Petition provides insufficient evidence that Exhibits 1007 (RS/6000) and 1008 (POEref) were "made available to the extent that persons interested and

ordinarily skilled in the subject matter or art exercising reasonable diligence[] can locate it.” *SRI*, 511 F.3d at 1194.

In addition, with respect to Exhibit 1008, Petitioner’s expert also alleges that the exhibit was distributed with the IBM SP2 parallel computing platform (“PE program”). Ex. 1003, ¶ 98. However, the expert does not purport to be a percipient witness of the alleged distribution. Instead, the expert simply parrots language from Exhibit 1008 and invites the Board to accept the parroted statement as true that Exhibit 1008 was distributed with the PE product. This is the poster child for hearsay under Fed. R. Evid. § 801-802, and no exception under § 803 has been identified or applies. Thus, the Board cannot rely on the parroted language as admissible evidence of the alleged distribution.

Even so, the Petition provides no evidence regarding the time or extent of the alleged distribution of the PE program. Moreover, Exhibit 1036 fails to corroborate the alleged distribution, because the exhibit—which appears to be a third-party guide—says nothing about Exhibit 1008 or the PE program having been distributed, much less does the exhibit explain to who, when or how any such distribution occurred. Ex. 1036 at 13-14. It merely identifies “IBM AIX Parallel Environment – Operations and Use” as a typewritten manual under an ‘additional information’ heading. *Id.*

Thus, the Petition not only fails to demonstrate *public accessibility* of Exhibit 1008, it also insufficiently evidences the purported *dissemination* of Exhibit 1008 (POEref). *See e.g., Norian Corp. v. Stryker Corp.*, 363 F.3d 1321, 1330 (Fed. Cir. 2004) (generalized testimony alleging distribution is insufficient evidence of actual dissemination). Therefore, Exhibits 1007 and 1008 do not qualify as “printed publications” and all grounds for challenging the ’768 Patent, each of which relies on Exhibits 1007 and 1008, are fatally flawed. This alone justifies denying institution of the instant Petition as to all grounds.

## **2. Exhibit 1017: Working Group Report—MPIref**

Exhibit 1017 (MPIref) appears to be a draft of the final report of the Message Passing Interface Forum (MPIF), a group that was collaborating to propose technical features for the MPI Interface.

Petitioner alleges that Exhibit 1017 was published on the MPIF website (<http://www.mpi-forum.org/docs/mpi-10.ps>). Pet. at 17-18. However, as with Exhibits 1007-1008 discussed above, here too the Petition provides no evidence of library indexing or cataloging. *See e.g., Koninklijke Philips N.V.*, 656 F. App’x at 529. The Petition also fails to demonstrate that Exhibit 1017 was publicly accessible by practical searchability because the Petition does not offer any evidence that a query of any search engine before the critical date would have led to the particular

URL address where the reference was allegedly available. *See Blue Calypso*, 815 F.3d at 1350.

Petitioner instead alleges that Exhibit 1017 was publicly accessible because it was “distributed ... using FTP mail servers.” Pet. at 17-18; Ex. 1003, ¶ 103. There is no evidence of this, and the allegation would be insufficient even if true. *See SRI*, 511 F.3d at 1196 (holding that a paper placed on an FTP server was not publicly accessible because the FTP server “did not contain an index or catalogue or other tools for customary and meaningful research”).

Indeed, Petitioner appears to solely rely on a statement on page iv of the exhibit immediately after listing contributing participants of MPIF, where the exhibit states: “The University of Tennessee and Oak Ridge National Laboratory made the draft available by anonymous FTP mail servers and were instrumental in distributing the document.” Ex. 1017 at 7. However, this statement is inadmissible as hearsay because it is being offered for the truth of the matter stated. Fed. R. Evid. § 801-802. Petitioner identifies no exception under Fed. R. Evid. § 803 and none applies.

Even so, the document never states that it was made “publicly” available; it simply refers to making the draft “available.” Ex. 1017 at 7. Indeed, the statement alone cannot establish that Exhibit 1017 was made “publicly” accessible or available for several reasons. First, the “made the draft available” statement is presented in the past tense and therefore contradicts itself—i.e., Exhibit 1017 cannot have been

made available before it was generated with that statement.<sup>4</sup> Second, to the extent the “made the draft available” statement refers to some other draft, the availability of that other draft is irrelevant to the public accessibility of Exhibit 1017. Third, to the extent the “made the draft available” statement refers to some plan to make Exhibit 1017 available, it is not evidence that Exhibit 1017 was actually made available to anyone as planned—or when it was actually made available. For example, Dr. Bajaj does not testify that he or his team received a copy of Exhibit 1017 at any time prior to the critical date. Ex. 1003 at ¶103. Moreover, when read in context, the sentence upon which Petitioner relies appears to refer to limited distribution to the MPIF participants who were collaborating to develop Exhibit 1017—not the general public.

Indeed, Petitioner’s expert’s claims that Exhibit 1017 was available via “link chain” to a specific URL (<http://www.mcs.anl.gov/mpi/mpi-report.ps>) falls flat on closer inspection. First, entering the archived URL into a web-browser reveals that it is a direct-to-document-download page that does not appear to be linked to any usable webpage—much less to any webpage of the purported “link chain.” Second,

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<sup>4</sup> The May 4, 1994 date reflects the date Exhibit 1017 was printed—not necessarily published. Ex. 1017 at 2 (“This copy of the draft was processed by Latex on May 5, 1994.”). *See also, e.g., Content Square*, IPR2022-00316, Paper 13 at 26–27 (PTAB July 14, 2022) (“simply pointing to a date, even a copyright date, is not sufficient at the institution stage to demonstrate public accessibility”).

neither of the exhibits relied on by Petitioner's expert (i.e., Exhibit 1048 and Exhibit 1049) to show the alleged "link chain" actually show it. It is therefore unlikely that the URL could have been located through "reasonable diligence" by those who did not already know of it. *See SRI*, 511 F.3d at 1196 (holding that a paper placed on an FTP server was not publicly accessible because the FTP server "did not contain an index or catalogue or other tools for customary and meaningful research").

Petitioner's expert also alleges that distribution of MPI documents was common practice and that his research team would have received a copy of Exhibit 1017. Ex. 1003, ¶ 103. This bald assertion is uncorroborated — and the expert does not claim to have ever actually received a copy of Exhibit 1017. There simply is no evidence that the document was distributed to the general public. *See e.g., Norian Corp.*, 363 F.3d at 1330 (generalized testimony alleging distribution is insufficient evidence of actual dissemination).

Therefore, to the extent Exhibit 1017 was distributed, it was at some unknown point in time and through working groups and FTP to a limited group of recipients who already knew about the document. The PTAB has repeatedly held this type of limited dissemination to be insufficient to establish public accessibility for qualifying an IPR exhibit as a printed publication under 35 U.S.C. § 311(b). *See Argentum Pharm. v. Research Corp. Tech. Inc.*, IPR2016-00204, Paper 19 (Decision on Institution) at 11-12 (PTAB May 23, 2016) (dissemination to a limited group

already having personal knowledge of a document does not establish public accessibility for qualification as a “printed publication”).

A similar factual situation was considered by the Federal Circuit in *Samsung Elecs. Co. v. Infobridge Pte. Ltd.*, 929 F.3d 1363, 1372 (Fed. Cir. 2019). In *Samsung*, despite remanding on a different legal issue, the Federal Circuit affirmed the PTAB’s holding that the alleged public accessibility of a working draft “WD4” of the High Efficiency Video Coding standard was not shown by on-line accessibility to the same group who collaborated to create the working draft, i.e., members of the Joint Collaborative Team on Video Coding (JCT-VC). *Id.* The ability of that group to find the WD4 working draft during the relevant time period did not imply that the interested public could do so by exercising reasonable diligence. *Id.* “The Board therefore properly focused on whether those outside of the JCT-VC knew about the JCT-VC website in considering whether posting the WD4 reference on the website made it publicly accessible.” *Id.* The same rationale applies here to the Petitioner’s insufficient showing that MPIF participants could access Exhibit 1017 via an FTP server.

Likewise, here, Exhibit 1017 appears to have had a limited distribution to only the same MPIF participants who were collaborating to develop Exhibit 1017 and already knew about it. Therefore, analogous to the *Argentum Pharm.* holding and

the *Samsung* holding, the Petition here fails to establish that Exhibit 1017 was distributed or practically accessible to the public at large.

For the foregoing reasons, the Petition has not shown that Exhibit 1017 was sufficiently publicly accessible for qualification as a printed publication. Therefore, Exhibit 1017 does not qualify as a “printed publication” and the proposed ground of rejection for claims 31-34 of the '768 Patent, which relies on Exhibit 1017, is fatally flawed. This provides an additional independent reason for denying institution of the instant Petition as to Ground #2.

### **3. Exhibit 1006: Trefethen**

Exhibit 1006 purports to be an article that Petitioner argues was made publicly accessible at a particular university internet address ([www.cs.cornell.edu/Info/People/lnt/multimatlab.html](http://www.cs.cornell.edu/Info/People/lnt/multimatlab.html))—allegedly via hyperlink from the webpage of one of its authors. Pet. at 16-17. However, the purported webpage of the author, i.e., Ex. 1023, from which Exhibit 1006 is allegedly accessible, does not include any active hyperlinks—much less a hyperlink to the specific internet address of Exhibit 1006. Thus, there is no evidence that Exhibit 1006 was reachable as alleged from the webpage of the author prior to the critical date.

Even so, public accessibility requires more than technical accessibility. *See Samsung*, 929 F.3d at 1369. Here, there is no evidence that interested members of the public could have found the particular internet address of Exhibit 1006 or the

internet address of the author's webpage with reasonable diligence if they did not already know about them. While Petitioner's expert touts the prominence of the university, neither the expert nor the exhibit he relies on (i.e., Ex. 1033) claims that the website of the university department or the authors were known to interested persons. Nor does the Petition otherwise offer evidence or explanation for how an interested person would have located the particular URL addresses where Exhibit 1006 was allegedly accessible—only the bare and conclusory statement of Petitioner's expert. Ex. 1003, ¶ 91. *See e.g., Blue Calypso*, 815 F.3d at 1349 (article posted on author's webpage was not a "printed publication" where there was no specific evidence that interested persons would know of the author's webpage).

Moreover, there is no evidence that Exhibit 1006 was indexed or cataloged in a library or published in a journal prior to the critical date. While Petitioner's expert testifies that Exhibit 1006 is "currently" available on the ACM digital library (Ex. 1003, ¶ 90), such testimony is facially insufficient as evidence of pre-critical date availability or accessibility via the ACM digital library. Indeed, the sole exhibit relied on by the expert for his testimony, i.e., Ex. 1034, appears to be an unrelated excerpt explaining the digital library itself. The evidence thus fails to show that Exhibit 1006 was indexed or cataloged in a meaningful way prior to the critical date. *See e.g., Koninklijke Philips N.V.*, 656 F. App'x at 529.

Therefore, Petitioner failed to satisfy its burden of establishing that an interested member of the public in mid-2006 would have been aware of, or been able to find, Exhibit 1006 by exercising reasonable diligence. Accordingly, Exhibit 1006 does not qualify as a “printed publication” and all grounds for challenging the ’768 Patent, each of which relies on Exhibit 1006, are fatally flawed. This provides an additional independent reason for denying institution of the instant Petition as to all grounds.

#### **4. Exhibit 1005: Menon**

Exhibit 1005 also purports to be an article that Petitioner alleges was made publicly accessible at a particular university internet address ([www.cs.cornell.edu/Info/People/vsmt/papers/sc97](http://www.cs.cornell.edu/Info/People/vsmt/papers/sc97)) and via hyperlink from the webpage of one of its authors. Pet. at 16; Ex. 1003, ¶ 84, citing Ex. 1026. But again, public accessibility requires more than technical accessibility. *See Samsung*, 929 F.3d at 1369. And here too, there is no evidence that interested members of the public could have found the particular internet address of Exhibit 1005 with reasonable diligence if they did not already know about it. Indeed, while Petitioner’s expert states that the university in general was recognized, both the expert and the exhibit he relies on (i.e., Ex. 1033) are silent as to whether the department website or the authors were known to interested persons. Nor does the Petition otherwise offer evidence or explanation for how an interested person would have located the

particular URL addresses where Exhibit 1005 was allegedly accessible—only the bare and conclusory statement of Petitioner's expert. Ex. 1003, ¶ 85. *See e.g., Blue Calypso*, 815 F.3d at 1349 (article posted on author's webpage was not a "printed publication" where there was no evidence that interested persons would know of the author's webpage).

In addition to the purported website posting, Petitioner's expert also alleges that Exhibit 1005 was presented at a 1997 conference. Ex. 1003, ¶85. For this, Petitioner's expert relies on what appears to be a schedule of the conference from Exhibit 1026. *Id.*; Ex. 1026 at 2-5. But on-its-face the schedule says nothing about whether Exhibit 1005 was actually presented at the conference, to who or when. For example, there is no percipient testimony that Exhibit 1005 was presented—as opposed to merely some high-level overview of a similar topic—or was distributed at the alleged presentation. The schedule alone is therefore insufficient to corroborate the expert's allegations of Exhibit 1005 having been presented. Thus, the Petition offers insufficient evidence to support its theory that Exhibit 1005 was presented at the conference.

In another attempt to qualify Exhibit 1005 as a "printed publication," Petitioner's expert alleges that conference proceedings including Exhibit 1005 were made available by the last day of the conference. Ex. 1003, ¶ 85. For this, Petitioner's expert relies on the declaration of purported IEEE custodian, Gordan

MacPherson. Ex. 1003, ¶ 85; Ex. 1027 at ¶ 11. However, while MacPherson states that “[c]opies of the conference proceedings were made available no later than the last day of the conference,” he does not explain how or to who they were allegedly made available. Ex. 1027 at ¶ 11. MacPherson also does not provide a foundational basis for making this claim. He does not purport to have witnessed Exhibit 1005 being made available, as alleged, nor does he include any business records that can corroborate his testimony or otherwise explain how or to who Exhibit 1005 was allegedly made available. *Id.*

For example, MacPherson’s testimony, and the expert’s corresponding allegations, that Exhibit 1005 is “currently” available on the IEEE digital library (Ex. 1003, ¶ 84; Ex. 1027 at ¶ 11) are facially insufficient as evidence that Exhibit 1005 was made available by the last day of the conference, as alleged. Moreover, the Petition fails to include an IEEE abstract or other bibliographic data indicating the date on which Exhibit 1005 was allegedly uploaded to or was otherwise made available on the IEEE digital library. Indeed, MacPherson’s claim that “the article and abstract from IEEE Xplore show the date of publication” is entirely uncorroborated. Exhibit A to the MacPherson declaration, which purports to be the March 4, 2025 downloaded “article ... from IEEE Xplore,” (Ex. 1027 at ¶ 9-10) does not show a purported date of publication. Ex. 1027 at 3-21. And the Petition conspicuously fails to include the alleged “abstract from IEEE Xplore.” Ex. 1027 at

¶10. Accordingly, MacPherson's bare assertions that the conference proceedings "were made available" are mere *ipse dixit*. Thus, neither MacPherson's testimony nor Exhibit 1027 corroborate Petitioner's contentions made via the threadbare and conclusory assertions of its expert.

Finally, the Petitioner's expert alleges that Exhibit 1005 was also available on the conference website. Ex. 1003, ¶ 84. But again, public accessibility requires more than technical accessibility. *See Samsung*, 929 F.3d at 1369. Here, the purported technical availability of Exhibit 1005 on the conference website is not evidence that interested members of the public could have found the particular URL address where Exhibit 1005 was purportedly available with reasonable diligence if they did not already know about it. Indeed, while Petitioner alleges that the conference itself was well known, the Petition contains no evidence that the alleged URL address of the conference website, i.e., Ex. 1026, was known to interested members of the public. For example, Exhibits 1030-1031 relate to the conference, and do not identify any URL address of Exhibit 1026, including the URL address of the conference website where Exhibit 1005 was allegedly available.

Accordingly, Petitioner failed to satisfy its burden of establishing that an interested member of the public in mid-2006 would have been aware of, or been able to find, Exhibit 1005 by exercising reasonable diligence. Exhibit 1005 therefore does not qualify as a "printed publication" and all grounds for challenging the '768

Patent, each of which relies on Exhibits 1005, are fatally flawed. This provides an additional independent reason for denying institution of the instant Petition as to all grounds.

**5. Citations by others (Ex. 1028, 1035, 1037)**

Petitioner also relies on purported citation listings in Exhibits 1028, 1035 and 1037 and invites the Board to infer public availability based on hearsay references to certain documents and Petitioner's unsupported assertion that Exhibits 1005, 1006 and 1017 reflect those documents. Pet. at 16-18; Ex. 1003, ¶¶ 84, 86, 90-91, 103-104. However, Exhibits 1028, 1035 and 1037 are unauthenticated, and therefore inadmissible under Fed. R. Evid. §§ 901-902. Petitioner offers no custodian's declaration authenticating the content or explaining the source of these documents, and does not identify any basis upon which they would be self-authenticating.

Exhibits 1028, 1035 and 1037 are also inadmissible as hearsay under Fed. R. Evid. §§ 801-802 because they are out-of-court statements offered to prove that the underlying references were publicly available at a certain time. Petitioner has not identified any hearsay exception under Fed. R. Evid. § 803 upon which to admit the out-of-court statements for their alleged truth. Therefore, Exhibits 1028, 1035 and 1037 cannot be relied upon by the Board as admissible evidence that documents cited therein were publicly accessible.

Even if considered, the mere fact that Exhibits 1028, 1035 and 1037 cite to documents that Petitioner alleges are the Menon document, the Trefethen document and the MPIF report are insufficient to show that those documents were publicly accessible. *See e.g., Medivis, Inc. v. Novard Corp.*, IPR2023-00042, Paper 35 (FWD) at 27-28 (PTAB Mar. 6, 2024) (holding that a Journal of Biomedical Informatics reference was not sufficiently shown to be publicly accessible by alleged citation by seven publications). Likewise, the citation of Exhibit 1006 (Trefethen) by Exhibit 1005 (Menon), does not qualify Trefethen as a printed publication that was practically accessible to the public before the critical date. Merely being cited later by another reference does not establish searchability and discoverability by skilled artisans using reasonable diligence before June 13, 2006. *See e.g., Argentum*, IPR2016-00204, Paper 19 at 11-12 (articles that cited a thesis were held insufficient to establish public accessibility of the thesis, where the articles' authors had personal knowledge of the thesis).

In sum, Petitioner's Exhibits 1005, 1006, 1007, 1008, and 1017 should be given no weight because Petitioner has not met its burden to show these are prior art printed publications. This failure is fatal under 35 U.S.C. § 311(b). Petitioner's attempt to establish public accessibility through Exhibits 1028, 1035 and 1037 also fails—not only are these exhibits inadmissible hearsay, but they do nothing to demonstrate genuine public availability of the underlying references. Accordingly,

the Board should refuse to institute trial on any ground relying on Exhibits 1005, 1006, 1007, 1008, or 1017, and the grounds depending on them should be denied.

## V. CONCLUSION

Intel's Petition fails to establish a reasonable likelihood of success on any challenged claim of the '768 Patent.

Intel's cited reference—RS/6000—does not disclose or suggest the claimed invention. Petitioner's expert's declaration advances a conclusory, speculative, and factually unsupported analysis that mischaracterizes the disclosure of the RS/6000 reference (Ex. 1007) as describing a hardware processor with *a plurality of processing cores* – a requirement of all of the challenged claims. The RS/6000 reference discloses no such thing, and Petitioner's unsupported and conclusory expert testimony simply cannot create disclosure that is not there. They fail to show nodes comprising a processor with multiple processing cores, rather than multi-processor SMP nodes. Dr. Smith's expert analysis reinforces this conclusion and confirms that Intel's Petition is technically unsupported. *See* Ex. 2010. Such a failure is fatal to the Petition, because Petitioner has not carried its burden to establish a reasonable likelihood that it will prevail in showing that all of the elements of at least one claim are present in the asserted combination of prior art.

In addition, the petition fails to carry its burden to show that Exhibits 1005-1008 and 1017 qualify as printed publications, thereby disqualifying them as the

basis for any grounds in the present IPR. Because each of the grounds in the Petition relies on one or more of the above exhibits, none of the asserted grounds is supported and institution should be denied.

For all of these reasons, institution should be denied under 35 U.S.C. § 314(a).

Dated: August 18, 2025

Respectfully submitted,

*/David P. Lindner/*

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**CERTIFICATION UNDER 37 C.F.R. § 42.24**

Pursuant to 37 C.F.R. § 42.24(d), I certify that this brief complies with the type-volume limits of 37 C.F.R. § 42.24 because it contains 7,608 words, according to the word-processing system used to prepare this brief, excluding the parts that are exempted by 37 C.F.R. § 42.24 (including the table of contents, a table of authorities, a listing of facts which are admitted, a certificate of service or this certificate word count, and appendix of exhibits).

Dated: August 18, 2025

*/David P. Lindner/*

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*Advanced Cluster Systems, Inc.*

**CERTIFICATE OF SERVICE**

Pursuant to 37 C.F.R. § 42.6(e), the undersigned hereby certifies that I caused true and correct copies of the foregoing **PATENT OWNER'S PRELIMINARY RESPONSE** to be served in its entirety on August 18, 2025 by filing this document through the U.S. Patent Office's P-TACTS Filing System, as well as causing true and correct copies be delivered by electronic mail on Petitioner's lead and backup counsel at the following email addresses (as agreed by counsel for Petitioner):

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