

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MICROSOFT CORPORATION,
Petitioner

v.

SANDPIPER CDN, LLC,
Patent Owner

Case IPR2026-00190
U.S. Patent No. 9,456,053

**PATENT OWNER PRELIMINARY RESPONSE
UNDER 37 C.F.R. § 42.107(a)**

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Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

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PATENT OWNER'S UPDATED EXHIBIT LIST

Exhibit No.	Description
2001	First Amended Docket Control Order, <i>Sandpiper CDN, LLC v. Microsoft Corporation</i> , Case No. 2:25-cv-00664-JRG-RSP (E.D. Tex.), October 17, 2025
2002	Exhibit C101 Subject Matter Intelligibility Contentions for U.S. Pat. No. 9,456,053), <i>Sandpiper CDN, LLC v. Microsoft Corporation</i> , Case No. 2:25-cv-00664-JRG-RSP (E.D. Tex.), December 5, 2025
2003	“Enforcement and Non-Waiver of 37 C.F.R. § 42.104(b)(4) and Permissible Uses of General Knowledge in <i>Inter Partes</i> Reviews,” United States Patent and Trademark Memorandum, July 31, 2025
2004	Success Rate of Motions to Stay Pending <i>Inter Partes</i> Review before Judge Rodney Gilstrap, Docket Navigator Report generated February 4, 2026
2005	Complaint for Patent Infringement, <i>Sandpiper CDN, LLC v. Microsoft Corporation</i> , Case No. 2:25-cv-00664-JRG-RSP (E.D. Tex.), June 26, 2025
2006	Microsoft’s Invalidity Contentions, <i>Sandpiper CDN, LLC v. Microsoft Corporation</i> , Case No. 2:25-cv-00664-JRG-RSP (E.D. Tex.), December 5, 2025
2007	Declaration of Samuel H. Russ, Ph.D.
2008	<i>Curriculum Vitae</i> of Samuel H. Russ, Ph.D.
2009	<i>Intentionally Left Blank</i>
2010	<i>Intentionally Left Blank</i>
2011	“Connect – Most Innovative New Products Award Winners Announced,” Connect NewsLetter, October 26, 1999, available at https://library.ucsd.edu/dc/object/bb60436752/_1.pdf (last accessed March 1, 2026)

Exhibit No.	Description
2012	“Sandpiper Named ‘Best of the Best’ at Networld + Interop 99 Las Vegas,” PRNewswire, May 12, 1999, available at https://ubmchannelnews.mediaroom.com/index.php?s=29573&item=85841 (last accessed March 1, 2026)
2013	“Entrepreneur of the Year,” <i>Los Angeles Business Journal</i> , June 19, 2000
2014	“Sandpiper Networks’ Footprint Takes Aim at Internet Traffic,” Wall Street Journal Interactive Edition, June 17, 1999, available at https://url.us.m.mimecastprotect.com/s/wTVWCxklA1iDQQWjSYi2Syt1OK?domain=wsj.com (last accessed March 3, 2026)
2015	“Web-Page Distribution System Could Unclog Internet Traffic Jams,” The New York Times, April 26, 1999, available at https://archive.nytimes.com/www.nytimes.com/library/tech/99/04/biztech/articles/26sand.html (last accessed March 3, 2026)
2016	“Sandpiper Puts Its Footprint in Marketplace,” Los Angeles Times, September 28, 1998, available at https://www.latimes.com/archives/la-xpm-1998-sep-28-fi-27201-story.html (last accessed April 7, 2026)
2017	“Level 3 Lands Netflix Streaming Business, Will Double Its Storage Capability,” TechCrunch, available at https://techcrunch.com/2010/11/11/level-3-lands-netflix-streaming-business-will-double-its-storage-capability/ (last accessed March 1, 2026)
2018	“CenturyLink named a Leader in IDC MarketScape: Worldwide Commercial CDN Vendors Report,” PR Newswire, Oct. 18, 2019, available at https://www.prnewswire.com/news-releases/centurylink-named-a-leader-in-idc-marketscape-worldwide-commercial-cdn-vendors-report-300933112.html (last accessed March 1, 2026)

Exhibit No.	Description
2019	“CDN Stands For Content Delivery Network: History and Evolution,” <i>BlazingCDN</i> , accessed at https://blog.blazingcdn.com/en-us/cdn-stands-for-content-delivery-network-history-and-evolution (last accessed August 1, 2025)
2020	“What is a CDN (Content Delivery Network)?” <i>Amazon Web Services</i> , accessed at https://aws.amazon.com/what-is/cdn/ (last accessed August 1, 2025)
2021	“Azure Content Delivery Network,” <i>Microsoft Azure</i> , accessed at https://azure.microsoft.com/en-us/products/cdn (last accessed March 2, 2026)
2022	“Azure Front Door,” <i>Microsoft Azure Front Door</i> , accessed at https://azure.microsoft.com/en-us/products/frontdoor (last accessed March 2, 2026)
2023	Microsoft Computer Dictionary, Fifth Edition, 2002
2024	Press Release: Wayne Opens Network Operations Centr for Global Customers, June 20, 2011
2025	“Exclusive: Inside AT&T’s top-secret Network Operations Center (NOC),” February 24, 2011
2026	“Network Operations Centre,” The European Space Agency, accessed at https://www.esa.int/Enabling_Support/Operations/ESA_Ground_Stations/Network_Operations_Centre (last accessed April 7, 2026)
2027	“Christie Network Operations Center,” Christie Digital Systems USA, Inc., 2011

TABLE OF AUTHORITIES

Cases

<i>Abbott Lab 'ys v. Andrx Pharms., Inc.</i> , 452 F.3d 1331 (Fed. Cir. 2006).....	15
<i>Chevron Oronite Co., LLC v. Infineum USA L.P.</i> , IPR2018-00923, Paper 9 (P.T.A.B. Nov. 7, 2018).....	57
<i>Deeper, UAB v. Vexilar, Inc.</i> , IPR2018-01310, Paper 7 (P.T.A.B. Jan. 24, 2019).....	57
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<i>In re Magnum Oil Tools Int'l, Ltd.</i> , 829 F.3d 1364 (Fed. Cir. 2016).....	24
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<i>TQ Delta, LLC v. Cisco Systems, Inc.</i> , 942 F.3d 1352 (Fed. Cir. 2019).....	50
<i>Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.</i> , 200 F.3d 795 (Fed. Cir. 1999).....	16
<i>Xerox Corp. v. Bytemark, Inc.</i> , IPR2022-00624, Paper 9 (P.T.A.B. Aug. 24, 2022).....	50

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I. INTRODUCTION

U.S. Patent No. 9,456,053 (“the ’053 patent”) provides novel techniques for distributing content to end users via content delivery networks (CDNs). These techniques involve effective and efficient methods and systems for adding new cache servers to the CDNs, improving the performance of CDNs.

The Petition presents five Grounds challenging the claims of the ’053 patent:

Ground	Art	Basis	Claims (Independent Bolded)
1	Lewin (EX1005) and Wein (EX1006)	§ 103	1-4, 6, 8-9, 11-16, 21-23, 25, 27 -30, 32, 34-35, 37-42, 47, 49-50
2A	Liu (EX1007) and Devanneaux (EX1008)	§ 103	1-2, 4, 6, 9-16, 18- 27 , 28, 30, 32, 35-42, 44-50
2B	Liu and Devanneaux and Nygren (EX1009)	§ 103	17, 43
2C	Liu and Devanneaux and Lewin ⁸¹⁹ (EX1010)	§ 103	3, 5, 7-8, 29, 31, 33-34
2D	Liu and Devanneaux and Crosbie (EX1011)	§ 103	18-20, 44-46

Pet., 4.

The Petition fails to establish that either of the ’053 patent’s independent claims 1 and 27 are rendered obvious under any presented Ground. For example:

All independent claims:

- “(a) a control core” (claims 1 and 27).

- “(b)(2)(2) obtain customer configuration information associated with at least one customer of the CDN” (claim 1) and “(C) obtaining customer configuration information associated with a particular customer of the CDN” (claim 27).
- “(b)(2)(3) serve to a client a particular resource associated with a particular customer of the CDN in accordance with (i) the global configuration data, and (ii) customer configuration information obtained in (b)(2)(2) and associated with the particular customer” (claim 1) and “(D) serving, to a client, a particular resource associated with the particular customer in accordance with (i) the global configuration data; and (ii) the customer configuration information associated with the particular customer” (claim 27).
- “(b)(2) having joined the CDN, (b)(2)(1) obtain updated global configuration data, if needed” (claim 1) and “(B) selectively obtaining updated global configuration data” (claim 27).

Ground 1 fails for any of four independent reasons. First, and immediately, fatal, Lewin’s network operations center (NOC) and registration server are not the claimed “control core.” For example, at the time of the invention and in the applied references a NOC was a 24/7/365 physical facility where human technicians would manually monitor a network and customer sites to provide support, while the

claimed control core can control “operation of the CDN and ... preferably consists of a set of geographically distributed machines, preferably connected via high-speed communication links. E.g., five machines located in New York, San Francisco, Chicago, London, and Frankfurt. Logically, the control core acts like a single, robust data base/web server combination, containing configuration data.” EX1001, 4:43-50. Second, Lewin-Wein configuration files and ARLs (alternative resource locators) do not teach or suggest “customer configuration information” associated with a customer of a CDN that the claimed particular cache server of said plurality of cache servers obtains. Third, Lewin-Wein do not teach or suggest serving, to a client, a particular resource associated with the particular customer **in accordance with** two configuration/data – “(i) the global configuration data; and (ii) the customer configuration information associated with the particular customer.” Finally, Lewin’s method for keeping a cache current does not disclose or suggest obtaining, if needed, (or selectively obtaining) updated global configuration data.

Ground 2 fails for any of five independent reasons. First, for the same reason as noted above, Liu’s network operations center (NOC) is not the claimed “control core.” Second, the Petition relies on Liu to allegedly show “the global configuration data” and relies on Devanneaux to allegedly show “customer configuration information.” But the Petition fails to establish how the combination

of Liu-Devanneaux would serve a client in accordance with both sets of configuration/data. Third, the Petition focuses on the claimed “customer configuration information” but does not explain why Liu-Devanneaux allegedly show the claimed **a cache server obtaining** the customer configuration information recited in claims 1(b)(2)(2) and 27(C). Fourth, the Petition fails to establish that Liu-Devanneaux discloses or renders obvious selectively obtaining updated global configuration data, as recited by independent claim 27. The Petition fails to explain how a POSITA would have substituted Liu’s push algorithm with a pull algorithm. Finally, Liu-Devanneaux does not teach or suggest obtaining global configuration data from the control core.

For at least these reasons, the Board should deny institution of this proceeding.

II. BACKGROUND

The challenged patent arises from pioneering technology directed to delivering content across a network. Content delivery networks (CDNs) provide the critical services that enable content providers to quickly deliver online content to millions of consumers simultaneously over the Internet. EX2007, ¶26. The technology underlying these CDNs was made possible through a series of inventions developed by a California start-up called Sandpiper Software

Consulting, LLC, a predecessor of Patent Owner Sandpiper CDN, LLC (“Patent Owner” or “Sandpiper”).

In the early 1990s, the World Wide Web saw increasing adoption, becoming a household staple. This mass adoption led to data congestion issues from the ever-growing number of users seeking to simultaneously access Internet content.

EX2007, ¶26. A typical computer server in the 1990s could only handle a limited number of simultaneous connections before becoming overloaded. Moreover, signals take time to traverse routers and move through content-congested internet cables. Consumers living far from the physical server(s) hosting content experienced sluggish load times and high latency due to problems such as overloaded servers, congested network segments, and geographic separation.

EX2007, ¶27.

In the mid-1990s, Andrew Swart and David Farber were among the first individuals to develop services that allowed content providers to distribute their content over the Internet, while avoiding the common congestion and performance issues that plagued Internet transmission at that time. Sandpiper’s solution was to deploy CDN servers around the world, replicate appropriate content from customers’ origin servers to appropriate CDN servers, and transparently rendezvous end-users requesting that content to the “best” CDN server to deliver that content, all while providing their customers with control over their content and

user experience. This service and its architecture was quickly imitated by many others in the industry. EX2007, ¶28.

Using solutions developed by Mr. Swart and Mr. Farber, end-users would connect to an optimal edge server—one that that was closer to them or that had available capacity. Distributing content across a network of servers alleviated data congestion issues, and allowing consumers to connect to edge servers located near them reduced latency. EX2007, ¶29. Mr. Swart and Mr. Farber developed and built systems and methods for propagating data from origin servers to edge servers (known as “caching”) based on network demand and for seamlessly routing users to the optimal edge server with the correct content. Using caching to perform the replication process within the CDN framework flew in the face of conventional wisdom. EX2007, ¶29.

In 1996, Mr. Swart and Mr. Farber founded Sandpiper Networks Inc. to further develop and commercialize their novel concept for a content delivery network. Sandpiper Networks was based in Thousand Oaks, California. There, the inventors designed and built a CDN ultimately referred to as “Footprint.” By at least May 24, 1996, the Sandpiper team had conceived techniques for delivering static and dynamic content, including streaming resources, such as audio and video, using Sandpiper’s CDN. EX2007, ¶31.

Sandpiper Networks labored not only to build and implement its CDN, but also to protect their groundbreaking innovation through the patent system.

Recognizing that its invention could revolutionize content delivery worldwide, Sandpiper Networks (and its successor companies, including Patent Owner) filed numerous patent applications directed to its foundational CDN technology, including the patent challenged in this Petition.

By at least May 1998, Sandpiper Networks was caching content and delivering cached content to end users of content providers using its CDN. Sandpiper Networks' first paying customer was the L.A. Times, which paid Sandpiper Networks to host the report of Independent Counsel Ken Starr on his investigation of President Bill Clinton ("the Starr Report") beginning on September 11, 1998. Sandpiper Networks' CDN was capable of caching and was used to cache and deliver Internet resources including, inter alia, pictures, text files, dynamic resources, and streaming multimedia resources.

The industry-wide acclaim for Sandpiper Networks further confirms the non-obvious nature of its innovations. Sandpiper's pioneering CDN technology was honored with the "Best of the Best" award at Networld+ Interop 99 Las Vegas, and the 1999 Most Innovative New Product Award from the University of California, San Diego (UCSD) CONNECT program. EX2011; EX2012. This technical leadership was mirrored by executive recognition, including the Ernst &

Young 2000 Entrepreneur of the Year Award bestowed upon Mr. Swart and Mr. Farber. EX2013. Beyond formal awards, Sandpiper's disruption of the CDN space was extensively documented by premier national publications, including *The Wall Street Journal*, *The New York Times*, and *The Los Angeles Times*, all of which highlighted the company's novel approach to content delivery. EX2014; EX2015; EX2016; EX2007, ¶32.

In the early-to-mid 2000s, demand for CDNs exploded. EX2007, ¶30. To meet the era's critical demand for increased CDN bandwidth, Sandpiper and its successors invented several patented technologies that enabled massive scaling for video streaming. These legacy assets, including the challenged patents, were eventually transferred to Patent Owner, Sandpiper CDN, LLC ("Sandpiper" or "PO"). Sandpiper Networks continued to commercialize its technology and compete in this expanding market, doing business as various entities including Digital Island, Inc., a company called "Level 3," and CenturyLink (later changed name to Lumen). In 2010, Netflix selected Level 3 as a primary CDN provider to support its entire streaming library, requiring Level 3 to double its storage and add nearly 3 terabits per second of capacity. EX2017. By 2019, CenturyLink offered CDN services with peak capacity exceeding 120Tbps and served nine of the world's ten largest media companies. EX2018. As the market expanded, other

businesses entered the space—often by misappropriating Sandpiper’s innovations and directly competing with Sandpiper for market share. EX2007, ¶33.

One such company is Microsoft. Microsoft built its own in-house CDN, which uses technology described and claimed by Sandpiper’s patents. For example, Microsoft’s Azure CDN supports Xbox gaming, Office 365, Windows updates, and web resources like LinkedIn and Bing. *See* EX2010. Microsoft did not license this patented technology from Sandpiper, Level 3, and/or its predecessors. Accordingly, Sandpiper brought suit against Petitioner Microsoft Corporation (“Petitioner” or “Microsoft”) in district court for patent infringement. Microsoft filed IPR Petitions against most of Sandpiper’s asserted patents in response.

III. OVERVIEW OF THE ’053 PATENT

A. The ’053 patent provides novel techniques for improving the performance of content delivery networks.

The ’053 patent is entitled “Content Delivery Network,” and it claims benefit of U.S. Provisional Application No. 61/570,448 (“the ’448 provisional”), filed December 14, 2011, and of U.S. Provisional Application No. 61/570,486 (“the ’486 provisional”), filed December 14, 2011.

The ’053 patent is directed to novel techniques for improving the performance of content delivery networks (CDNs), and more specifically, when a cache is added to a CDN. EX1001, 14:12. “When a new cache machine is to be

added to the CDN, the control core needs to get information about that new cache (e.g., what group/region it is in, its IP address, its VIP, some capacity information, etc.). Similarly, in order to operate within the CDN, the new cache machine needs to get the current customer configuration data and other configuration data from the control core.” EX1001, 14:13-20. The solutions described in the ’053 patent were unconventional at the time of the invention of the ’053 patent and continue to offer numerous technical benefits. EX2007, ¶34.

The inventors of the ’053 patent devised techniques for effectively and efficiently adding new cache servers, where the new cache server obtains global configuration data from a control core, selectively obtains updated global configuration data, and obtains customer configuration information associated with a particular customer of the CDN. The new cache server then serves, to a client, a particular resource associated with the particular customer in accordance with (i) the global configuration data and (ii) the customer configuration information associated with the particular customer. EX2007, ¶31.

These techniques are recited in the claims of the ’053 patent. For instance, independent claim 27, as a representative claim, recites:

27. A computer-implemented method, operable in a content delivery network (CDN) comprising: **(a) a control core**; and (b) a plurality of cache servers, the CDN serving resources on behalf of one or more customers of the CDN, the method comprising, by hardware

and software on a particular cache server of said plurality of cache servers:

- (A) obtaining global configuration data from the control core;
- (B) **selectively** obtaining updated global configuration data; and
- (C) obtaining **customer configuration information** associated with a particular customer of the CDN;
- (D) serving, to a client, a particular resource associated with the particular customer **in accordance with (i) the global configuration data; and (ii) the customer configuration information** associated with the particular customer.

EX1001, 52:51-67.¹

The solutions described and claimed in the '053 patent improve the functioning of a CDN, including, for example, effectively and efficiently adding new cache servers to the CDN. EX2007, ¶32.

B. Prosecution History

The '053 patent was filed December 14, 2012 as U.S. Application No. 13/714,410 (“the '410 application”) The '053 patent received a thorough prosecution on the merits, including overcoming double patenting and §§ 112, 102, and 103 rejections. EX1002, 523-540, 590-606, 630-635.

¹ Emphasis added throughout unless otherwise noted.

The only Office action (a non-final rejection of June 29, 2015) included a rejection under § 102 over the same Lewin (EX1005) applied in this Petition. EX1002, 523-540. After receiving the non-final rejection, Patent Owner amended the independent claims to clarify the CDN customer and the CDN client. EX1002, 590-606. For example, Patent Owner amended independent claim 1 (which issued as independent claim 1) as follows:

1. (Currently amended) A content delivery network (CDN), the CDN serving resources on behalf of one or more customers of the CDN, the CDN comprising:

- (a) a control core; and
- (b) a plurality of cache servers, each particular cache server of said plurality of cache servers being constructed and adapted to:
 - (b)(1) upon joining the CDN,
 - (b)(1)(1) obtain global configuration data from the control core; and
 - (b)(2) having joined the CDN,
 - (b)(2)(1) obtain updated global configuration data, if needed; and
 - (b)(2)(2) obtain customer configuration information associated with at least one customer of the CDN;
 - (b)(2)(3) serve to a client a particular resource associated with a particular customer of the CDN in accordance with (i) the global configuration data, and (ii) customer configuration information obtained in (b)(2)(2) and associated with the particular customer.

EX1002, 592.

Patent Owner argued that the claimed architecture differed from the prior art (Lewin, EX1005) because “Lewin does not deliver cached content to a customer

(as claimed). Lewin delivers content to an end user on behalf of what Lewin refers to as a client (see, e.g., Lewin's Figure 2)." EX1002, 604 (emphasis omitted).

Patent Owner argued that the claimed architecture differed from Lewin because "[a] delivery address of the entity to which content is being served is not the claimed 'customer configuration information,' as the Examiner would have it." EX1002, 605 (emphasis omitted). Based on these distinctions, Patent Owner argued that Lewin did not disclose the features of the independent claims.

Patent Owner also filed a Terminal Disclaimer over the U.S. Patent Application No. 13/714,411. EX1002, 612.

The Examiner allowed the claims after considering these and other arguments. EX1002, 630-635. The '053 patent issued on September 27, 2016. EX1001, (45).

Liu (EX1007) was cited by Patent Owner in an Information Disclosure Statement (IDS) on February 21, 2013. EX1002, 163. Liu was also cited in an International Search Report (ISR) for International Application No. PCT/US2012/069712 as an A reference. EX1002, 166. International Application No. PCT/US2012/069712 has the same priority as the '053 patent and had the same claims as original claims of the '410 application. The Examiner searched for Liu based on the EAST Search History (EX1002, 565). Ultimately, the Examiner signed off on the IDS citing Liu. EX1002, 567.

Devanneaux (EX1008) was cited by Patent Owner in an IDS on February 14, 2016. EX1002, 657. The Examiner searched for Devanneaux based on the EAST Search History (EX1002, 719). Ultimately, the Examiner signed off on the IDS citing Devanneaux. EX1002, 708.

As discussed below, similar to the art applied in prosecution, the prior art presented in the Petition also fails to disclose or render obvious the features of the independent claims found allowable by the Examiner

C. Level of Ordinary Skill in the Art

A POSITA is presumed to be aware of all pertinent art. A POSITA possesses the “understandings and knowledge reflected in the prior art,” and thinks along conventional wisdom. *See Abbott Lab’ys v. Andrx Pharms., Inc.*, 452 F.3d 1331, 1336 (Fed. Cir. 2006). At this stage, Patent Owner submits that the Board does not need to resolve the appropriate level of skill for a POSITA for purposes of deciding institution because the Petition fails under any reasonable articulation of a POSITA.

D. Claim Construction

Absent lexicography or disavowal, claim terms in an IPR are given their plain and ordinary meaning in light of the specification and prosecution history. *Sisvel Int’l S.A. v. Sierra Wireless, Inc.*, 81 F.4th 1231, 1236 (Fed. Cir. 2023). At this preliminary stage, no term requires express construction beyond its plain and

ordinary meaning, as would have been understood by a POSITA at the time of the invention in light of the specification and the patent's prosecution history. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

IV. OVERVIEW OF THE PRIMARILY RELIED ON REFERENCES

A. Lewin

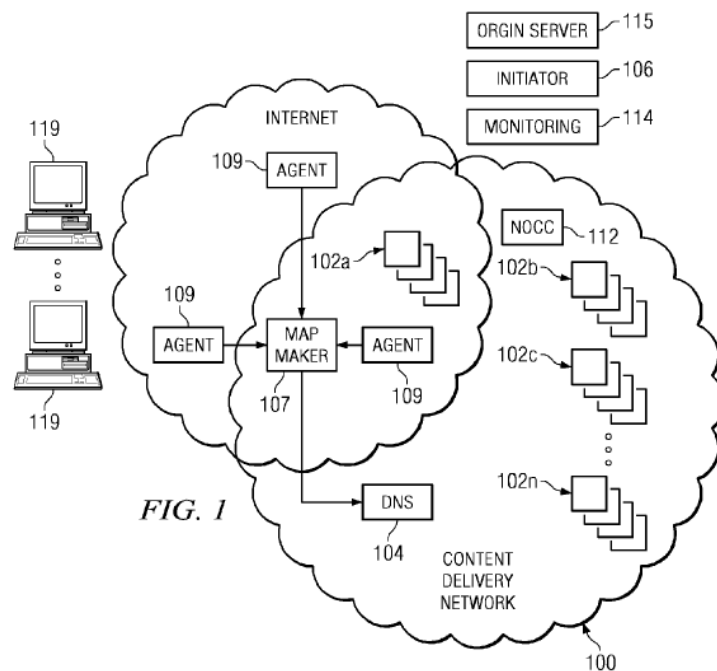
Lewin discusses an “invention [that] enables the content delivery service [CDS] to extend the reach of its network while taking advantage of high performance, off-the-shelf cache appliances.” EX1005, Abstract. In Lewin, a third party cache can be first registered with the CDN and preferably functions in a push only mode where it can push to the CDN reports, requests, or the like. EX1005, 3:43-44, 3:60-64; EX2007, ¶49.

In Lewin, “preferably the CDN provides the cache with a time-to-live (TTL) indication 318, which controls how long the registration is valid. **Following expiration of the TTL, the cache may need to re-register to keep itself current.**” EX1005, 5:31-36; EX2007, ¶50. Lewin also discusses ARLs (alternate resource locators), which are modified web page URLs. EX1005, 3:7-23, 6:9-41; EX2007, ¶50. For example, Lewin states that “[i]n one known technique, known as Akamai FreeFlow content delivery, content is first tagged for delivery by the tool 106, which, for example, may be executed by a content provider at the content provider's web site 108. The tool 106 converts **web page URLs to modified**

resource locators, called **ARLs** for convenience. FIG. 2 illustrates how the web site 208 operates after given embedded objects in a web page have been modified with ARLs.” EX1005, 3:9-16; EX2007, ¶50.

B. Wein

Wein discusses providing “a framework that allows for both a simple method of creating modified URLs for sites with simple global metadata specifications, while allowing arbitrary complexity for sites with arbitrarily complex metadata needs.” EX1006, 2:39-43. Wein’s Figure 1 (reproduced below) illustrates Wein’s content delivery network. EX1006, 3:42-43; EX2007, ¶53.



EX1006, FIG. 1.

Wein discusses that its ARL is part of the content on the CDN customer's site. EX2007, ¶54. For example, Wein states that “initiator tool 106 converts URLs

that refer to streaming content to modified resource locators, called ARLs for convenience, so that requests for such media are served preferentially from the CDN instead of the origin server.” EX1006, 4:39-43. Wein also states that “[w]hen an Internet user visit’s a CDN customer’s site (e.g., origin server 115) and, for example, selects a link to view or hear streaming media, the user's system resolves the domain in the ARL to an IP address.” EX1006, 4:43-48; EX2007, ¶54. Wein further discuss that “[i]f a content provider uses CP-side content migration, e.g., through an initiator tool, the content provider’s URI’s are converted into alternate resource locators (ARLs) in the HTML.” EX1006, 5:11-14; EX2007, ¶54.

C. Liu

Liu is mainly directed to a domain name system (DNS) where “an improved DNS server that manages DNS traffic and detects potential attacks is highly desirable.” EX1007, ¶8; EX2007, ¶56. Liu’s FIG. 1 (reproduced below) is an overall system diagram 100 that “includes a variety of features to define the Universal Delivery Network (UDN). The UDN has a combined content delivery network 103 and 104 and a global traffic management network (GTM) 105, which are coupled to each other.” EX1007, ¶28; EX2007, ¶57.

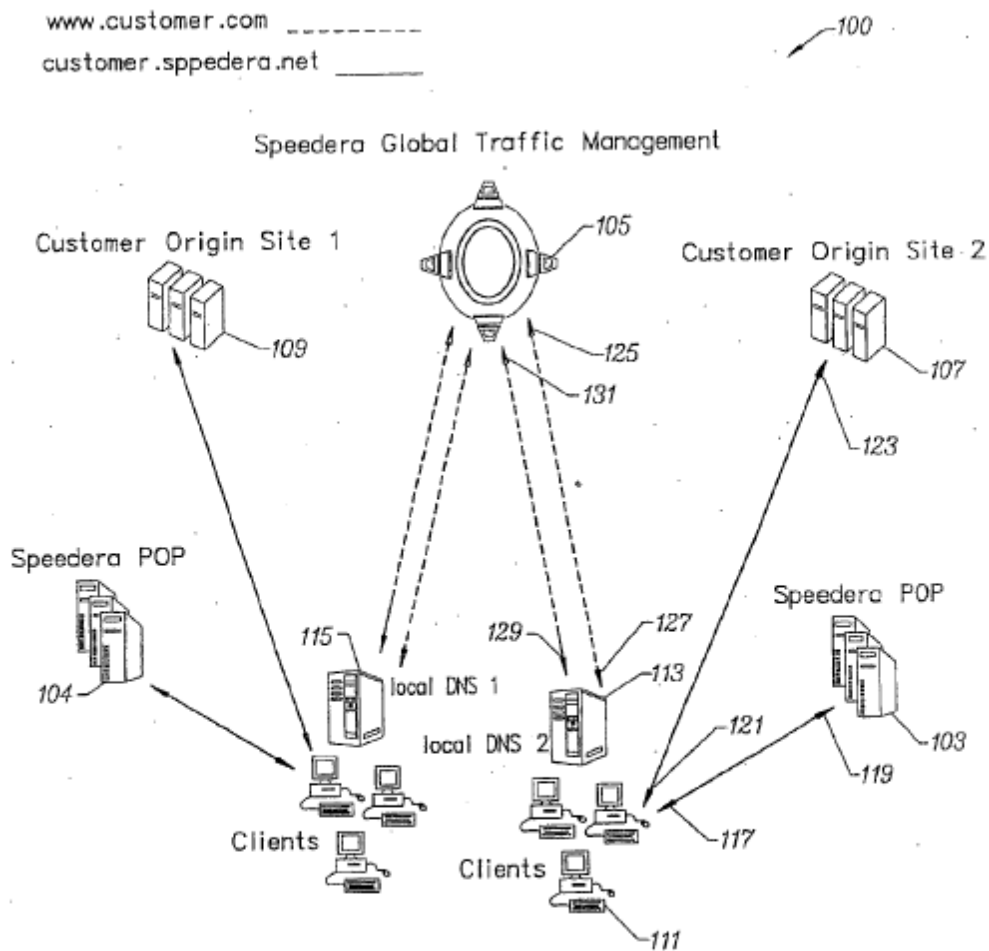


FIG. 1

EX1007, FIG. 1.

In discussing Figure 1, Liu states that “[t]he DNS server (DNS) can be thought of as the traffic director of the system.” EX1007, ¶40. Liu further discusses that its DNS server “receives the static information (the mappings) from the configuration file and the dynamic information (resource availability) from the probes. The configuration file also instructs the DNS server how to weight the various criteria available when making its decisions.” *Id.* Liu states that “[t]he

configuration file contains all the static information about the Speedera Network. It contains the list of POPs [points of presence] and the servers present at each POP. It also contains the list of hostnames serviced by the Speedera Network and maps the hostnames to the servers that can serve the content for that hostname.”

EX1007, ¶205; EX2007, ¶58.

Liu also states that its “network includes a Network Operations Center (NOC), which is dedicated to maintaining the highest possible network availability and performance.” EX1007, ¶70. Liu further states that “[i]n most cases, the network is supported and staffed by specially trained service engineers, the 24-hour, 7 day NOC provides consultation, troubleshooting, and solutions for every issue. The staff can be reached through telephone, email, fax, or online.” *Id.*; EX2007, ¶59.

D. Devanneaux

Devanneaux is generally directed to “content delivery in distributed networks.” EX1008, ¶4. Devanneaux discusses “a given CDN edge server is configured to provide one or more extended content delivery features. To this end, the CDN edge servers are configurable to provide these delivery features on a customer-specific, customer domain-specific, preferably using XML-based configuration files that are distributed to the edge servers using a metadata configuration system such as described above.” EX1008, ¶21; EX2007, ¶61.

E. A POSITA's understanding of a Network Operations Center (NOC) as taught by the applied references.

The Petition relies on a network operations center (NOC) (also known as network operation center) to meet certain features of claims 1 and 27. A POSITA would understand that a NOC was an operation center that around 2011 was known to staff technicians to monitor a network for any issues and/or anomalies that may occur at the network. EX2007, ¶¶62-67. For example, Microsoft Computer Dictionary defines “network operation center” (“NOC”) as “[t]he office in an enterprise that is responsible for maintaining network integrity and improving network efficiency while reducing system downtime.” EX2023, 364; EX2007, ¶62.

There are many examples that describe the NOC being staffed by technicians and/or engineers that can monitor a network 24/7/365 to make sure the technicians and/or engineers can address any issue that may occur in the network being monitored by the staff in the NOC. EX2007, ¶62. For example, in 2011, Wayne (a global innovator of fuel dispensers and technologies) announced opening a NOC for global customers that “enables Wayne technicians to monitor connected customer sites around the world and to provide remote support for Wayne Fusion™ Forecourt Systems and fuel dispensers with in-dispenser media and payment technologies.” EX2024, 1; EX2007, ¶63.

As another example, AT&T had a NOC in 2011 “where the company monitors and maintains its network and services.” EX2025, 2, EX2007, ¶64. At

AT&T's NOC, "[e]mployees at the facility monitor weather conditions, the status of the company's services, and much more from their desks, and by gazing up at the massive screens pictured above." EX2025, 2, EX2007, ¶64.

Yet another example is the European Space Agency's (ESA's) NOC includes a "team [that] is responsible for minute-to-minute remote operation of ESA's Estrack ground station network; the core network comprises 6 stations located in six countries (additional stations are operated under service agreements by institutional and commercial partners)." EX2026, 2; EX2007, ¶65. As another example, Christie®, a global audio-visual solutions company, also includes a NOC that "is a 24/7/365 facility where experienced Christie technicians monitor your visual displays throughout Canada and the United States." EX2027, 1; EX2007, ¶66.



EX2027, 1.

V. LEGAL STANDARDS

The Petition must identify, with particularity, the grounds and evidence that support finding the claims unpatentable. 35 U.S.C. § 312(a)(3). Petitioner must “specify where each element of the claim is found in the [relied upon] prior art patents.” 37 C.F.R. § 42.104(b)(4). To comply with Rule 104(b)(4), the Petition may not rely on expert testimony, common sense, or other “general knowledge” evidence to supply a missing claim limitation. EX2003 (“Rule 104(b) Memo”).

The determination regarding institution must be based on what the Petition actually presents and not what it could have reasonably presented had it been drafted differently. *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016) (holding that the Board is not “free to adopt arguments on behalf of petitioners that could have been, but were not, raised by the petitioner during [the post-grant proceeding]”).

VI. GROUND 1: THE PETITION FAILS TO SHOW THAT LEWIN AND WEIN RENDER OBVIOUS ANY CHALLENGED CLAIM.

The Petition fails to establish Ground 1 meets the claims. For example:

All independent claims:

- “(a) a control core” (claims 1 and 27).
- “(b)(2)(2) obtain customer configuration information associated with at least one customer of the CDN” (claim 1) and “(C) obtaining customer configuration information associated with a particular customer of the CDN” (claim 27).
- “(b)(2)(3) serve to a client a particular resource associated with a particular customer of the CDN in accordance with (i) the global configuration data, and (ii) customer configuration information obtained in (b)(2)(2) and associated with the particular customer” (claim 1) and “(D) serving, to a client, a particular resource associated with the particular customer in accordance with (i) the global configuration data; and (ii) the customer configuration information associated with the particular customer” (claim 27).
- “(b)(2) having joined the CDN, (b)(2)(1) obtain updated global configuration data, if needed” (claim 1) and “(B) selectively obtaining updated global configuration data” (claim 27).

First, the Petition fails to establish that Lewin-Wein discloses or renders obvious “control core,” as recited by both independent claims. Lewin’s network operations center (NOC), a group of people who monitor operations, and registration server are not the claimed “control core.”

Second, the Petition fails to establish that Lewin-Wein discloses or renders obvious obtaining “customer configuration information” associated with a customer of a CDN, as recited by every independent claim. The Petition relies on Lewin-Wein’s configuration files and Lewin-Wein’s ARL, but these configuration files and ARLs are not the claimed “customer configuration information” associated with a customer of a CDN that the claimed particular cache server of said plurality of cache servers obtains.

Third, the Petition fails to establish that Lewin-Wein discloses or renders obvious serving, to a client, a particular resource associated with the particular customer **in accordance with** two configuration/data – “(i) the global configuration data; and (ii) the customer configuration information associated with the particular customer.” Even if the Petition can show “(i) the global configuration data; and (ii) the customer configuration information,” as claimed, the Petition fails to establish that Lewin-Wein discloses serving, to a client, a particular resource associated with the particular customer **in accordance with** these configuration/data.

Finally, the Petition fails to establish that Lewin-Wein discloses or renders obvious obtaining, if needed, (or selectively obtaining) updated global configuration data, as recited by every independent claim. The Petition fails to consider and address Lewin's different and contradictory method for keeping a cache current.

Institution should be denied.

A. The Petition fails to establish that Lewin-Wein's NOC discloses or renders obvious the claimed "control core" (Ground 1; Claims 1 and 27).

Claim element 1(a) recites "control core" (EX1001, 50:53) and the preamble of claim 27 recites "A computer-implemented method, operable in a content delivery network (CDN) comprising: **(a) a control core**; and (b) a plurality of cache servers, the CDN serving resources on behalf of one or more customers of the CDN, the method comprising, by hardware and software on a particular cache server of said plurality of cache servers" (EX1001, 52:51-56). These unique CDN features of claims 1 and 27 allow each particular cache server of a plurality of cache servers to "obtain global configuration data from the control core." EX2007, ¶77.

The Petition states that "Lewin discloses or suggests 1(a)/27(pre)(a)." Pet., 13. More specifically, the Petition relies on Lewin's network operations center (NOC) and registration server to allegedly show the claimed "control core." Pet.,

13. More specifically, the Petition states that “a POSITA would have understood that Lewin’s NOC and registration server collectively constitute a *control core* as claimed because they generally control the CDN—whether its operation or access—consistent with the ’053 patent. *Id.*; *Lanning*, ¶85; ’053 patent, 4:43-44 (‘The control core mechanism 108 controls operation of the CDN’).” Pet., 13 (emphasis in original). Neither Lewin’s NOC nor its registration server teach or suggest the claimed “control core.” EX2007, ¶¶62-67, 70.

At the time of the invention, a POSITA would understand that a NOC was a 24/7/365 physical facility where human technicians would manually monitor a network and customer sites to provide support. *See* Section IV.E; EX2024; EX2025; EX2026; EX2027; EX2007, ¶¶62-67, 71. For example, Liu (used by the Petition for Ground 2) confirms this understanding of a NOC as providing 24-hour, 7 day human staff support for consultation, troubleshooting, and solutions. EX1007, ¶70 (“The network includes a Network Operations Center (NOC), which is dedicated to maintaining the highest possible network availability and performance. In most cases, the network is supported and staffed by specially trained service engineers, the 24-hour, 7 day NOC provides consultation, troubleshooting, and solutions for every issue. The staff can be reached through telephone, email, fax, or online.”); EX2007, ¶72.

Therefore, NOC is a center supported by staff and technicians to monitor a network and support its customers.

NOC is not the claimed “control core” as, for example, illustrated in Figures 1 and 7 of the ’053 patent as server(s) and/or machine(s) that control operation of the CDN. *See, e.g.*, EX1001, 4:43-5:29; EX2007, ¶73.

Similarly, Lewin’s registration server is not the claimed “control core.” Lewin’s registration server is used to register a third party cache. It is not used for controlling the operations of CDN. Lewin states that “upon registration, the third party cache provides the CDN given information as indicated in FIG. 3. Preferably, a registration server 303a-n is used for this purpose.” EX1005, 4:27-29 (emphasis in original). Lewin also states that “cache registration is done through a Secure HTTP GET request to a CDN registration server.” EX1005, 9:5-6. Lewin does not disclose or suggest that its registration server controls the operations of the CDN. Lewin’s registration server is not the same as, and does not disclose or suggest, the claimed “control core.” EX2007, ¶74.

Therefore, Lewin does not disclose or suggest claim limitations 1(a) and 27(pre)(a). EX2007, ¶75.

B. The Petition fails to establish that Lewin-Wein discloses or renders obvious the claimed obtaining “customer configuration information” associated with a customer of a CDN (Ground 1; Claims 1 and 27).

Claim element 1(b)(2)(2) recites “obtain customer configuration information associated with at least one customer of the CDN” (EX1001, 50:63-64) and claim element 27(C) recites “obtaining customer configuration information associated with a particular customer of the CDN” (EX1001, 52:61-62). These unique CDN features of claims 1 and 27 allow each particular cache server of a plurality of cache servers to “obtain customer configuration information associated with at least one customer of the CDN.” EX2007, ¶76.

The Petition relies on Lewin’s configuration files (in addition to Wein’s configuration files) and Lewin’s ARL (in addition to Wein’s ARL) to allegedly show these features. Pet., 17-20. But these configuration files and ARL fail to disclose or suggest the “customer configuration information” limitations of the claims for multiple reasons. EX2007, ¶¶77-78. First, Lewin-Wein’s configuration information does not satisfy the claimed “customer configuration information” because, as Petitioner’s declarant concedes, it is customer-agnostic. Second, the Petition improperly relies on the same prior art teaching to satisfy two distinct and separate claim features. Finally, Lewin-Wein’s ARL is not the claimed “customer configuration information.”

1. Lewin-Wein’s configuration information does not satisfy the claimed “customer configuration information” because, as Petitioner’s declarant concedes, it is customer-agnostic.

Petitioner’s declarant, Mr. Lanning, acknowledges that Lewin’s and Wein’s “configurations are **customer- and object-agnostic**, and are intended more to govern operation of the CDN (e.g., globally).” EX1003, ¶93. Because Lewin’s and Wein’s configuration information is customer-agnostic, it cannot be the claimed “customer configuration information associated with at least one customer of the CDN.” EX2007, ¶¶79-80. For this reason alone, Petitioner fails to establish that Lewin-Wein discloses or renders obvious these claim elements.

2. The Petition improperly relies on the same prior art teaching to satisfy two distinct and separate claim features.

Beyond Lewin’s and Wein’s configuration files being customer-agnostic, the Petition improperly relies on the same configuration files to also allegedly show the claimed “global configuration data” limitations of claim elements 1(b)(1)(1)/27(A). Pet., 14, 15, 18-20. These configuration files cannot be both (a) the claimed “global configuration data” and (b) the claimed “customer configuration information.” And this conclusion is supported by the testimony of Petitioner’s own declarant, Mr. Lanning. EX2007, ¶¶81-82.

First, when discussing the “global configuration data” limitations of elements 1(b)(1)(1)/27(A), the Petition states that “[a] POSITA would have understood that **both Lewin’s and Wein’s configuration information provided**

to the cache constitutes *global-configuration data as claimed*, because it establishes the cache's presence and operation as part of the CDN, consistent with the '053 patent. *Lanning*, ¶93; '053 patent, 14:63-15:19." Pet., 15 (*italics in original*). Mr. Lanning continues, "[i]n other words, these configurations are customer- and object-agnostic, and are intended more to govern operation of the CDN (e.g., globally)." EX1003, ¶93. **Then**, the Petition relies on the same configuration information of Lewin and Wein to allegedly show the claimed "customer configuration information." Pet., 18-20. Both cannot be true.

The claims recite two separate operations for obtaining "global configuration data" and "customer configuration information" – 1(b)(2)(1) and 1(b)(2)(3) or 27(A) and 27(C). Claim 1 recites that obtaining "global configuration data" is upon the cache server joining the CDN and obtaining "customer configuration information" is when the cache server has joined the CDN. One alleged teaching of obtaining configuration information cannot satisfy both claimed separate steps. EX2007, ¶¶83-85.

Additionally, the claimed "global configuration data" and "customer configuration information" are two different sets of information/data. More specifically, the claimed "global configuration data" is global data associated with the CDN and the "customer configuration information" is specific information associated with "a particular customer of the CDN." Lewin's and Wein's

configuration information is not specific to a customer of the CDN, as Mr. Lanning concedes. EX1003, ¶93 (“[T]hese configurations are customer- and object-agnostic, and are intended more to govern operation of the CDN (e.g., globally).”); EX2007, ¶86. Put simply, the same information cannot be both customer-agnostic and customer-specific. Thus, Petitioner’s flawed mapping fails to establish that Lewin-Wein discloses or renders obvious these claim elements.

3. Lewin-Wein’s ARL is not the claimed “customer configuration information.”

Lewin’s ARL (in addition to Wein’s ARL) also does not disclose or suggest the claimed limitations of “obtain[ing] customer configuration information associated with at least one customer of the CDN.” The Petition states that “Lewin also mentions that the CDN utilizes ARLs to direct clients to the CDN,” and then the Petition primarily relies on Wein’s ARL. Pet., 20. But Wein’s ARL does not disclose or suggest the claimed limitations of “obtain[ing] customer configuration information associated with at least one customer of the CDN,” as recited by 1(b)(2)(2)/27(C). EX2007, ¶87.

An ARL (an alternate Uniform Resource Locator (URL) or a modified URL) is part of the content provided by the CDN customer’s site. EX2007, ¶89. Wein’s ARL, which is part of the content, is used for pointing Wein’s client to the CDN and does not provide “customer configuration information associated with a particular customer of the CDN” to Wein’s CDN content server. Nor can it—the

ARL is embedded in the content that is served, not in instructions to the server.

Therefore, Wein's ARL is different from "a particular cache server of said plurality of cache servers" of the claimed CDN "obtaining customer configuration information associated with a particular customer of the CDN," as recited by 1(b)(2)(2)/27(C). EX2007, ¶¶89-92.

Additionally, Wein's ARL provides information that "determine how a CDN content server will handle a request for a given object." EX1006, 3:8-14. The Petition does not explain how Wein's information on handling a request for a given object is the same as the claimed "customer configuration information associated with a particular customer of the CDN." ARLs are created when content is ingested and their creation is not a function of a control core. EX2007, ¶¶93-94.

Therefore, the Petition's reliance on Lewin's or Wein's ARLs does not establish that Lewin and Wein disclose or suggest at least 1(b)(2)(2) "obtain customer configuration information associated with at least one customer of the CDN" or 27(C) "obtaining customer configuration information associated with a particular customer of the CDN." EX2007, ¶95.

- C. The Petition fails to establish that Lewin-Wein discloses or renders obvious the claimed serving, to a client, a particular resource associated with the particular customer in accordance with two configuration/data – “(i) the global configuration data; and (ii) the customer configuration information associated with the particular customer” (Ground 1; Claims 1 and 27).**

Claim element 1(b)(2)(3) recites “serve to a client a particular resource associated with a particular customer of the CDN in accordance with (i) the global configuration data, and (ii) customer configuration information obtained in (b)(2)(2) and associated with the particular customer.” EX1001, 50:65-51:3. And claim element 27(D) recites “serving, to a client, a particular resource associated with the particular customer in accordance with (i) the global configuration data; and (ii) the customer configuration information associated with the particular customer.” EX1001, 52:63-67.

- 1. Lewin-Wein does not disclose or suggest claimed 1(b)(2)(3) and 27(D) as Lewin-Wein does not disclose or suggest the claimed “customer configuration information.”**

The Petition fails to establish that the applied references disclose or render obvious the claimed 1(b)(2)(2) “obtain **customer configuration information** associated with at least one customer of the CDN” or 27(C) “obtaining **customer configuration information** associated with a particular customer of the CDN.” Section VI.B. Since the Petition fails to establish that the applied references disclose or render obvious the claimed “customer configuration information,” the references cannot render obvious 1(b)(2)(3) “serve to a client a particular resource

associated with a particular customer of the CDN in accordance with (i) the global configuration data, and (ii) customer configuration information obtained in (b)(2)(2) and associated with the particular customer” and 27(D) “serving, to a client, a particular resource associated with the particular customer in accordance with (i) the global configuration data; and (ii) the customer configuration information associated with the particular customer.” EX2007, ¶97.

2. The Petition fails to explain how Lewin-Wein would disclose or suggest claimed 1(b)(2)(3) and 27(D).

Even if the references disclosed or suggested both claimed “(i) the global configuration data, and (ii) customer configuration information” (they do not), the Petition fails to explain how the references disclose or suggest “serv[ing] to a client a particular resource associated with a particular customer of the CDN in accordance,” as recited in claims 1 and 27. Pet., 21. The Petition merely states that “Lewin discloses a process of serving a customer’s content to a client” and “Lewin, alone or combined with Wein, teaches that both the CDN and third-party caches have been configured” using the claimed “(i) the global configuration data, and (ii) customer configuration information.” Pet., 21.

More specifically, the Petition states that “Lewin, alone or combined with Wein, teaches that both the CDN and third-party caches have been configured (using *global-configuration data* and *customer-configuration information*) that specifies both URL maps and parsing information to locate the requested content,

as well as configuration details as to how: (1) the third-party cache will handle certain requests; (2) how the CDN will handle certain requests; and (3) how specific content will be handled using ARLs, §§VII.A.3.d-VII.A.3.f(1(b)(1)-1(b)(2)(2)/27(A)-27(C)).” Pet. 21 (*italics in original*). Based on Lewin-Wein’s alleged teaching of the claimed “(i) the global configuration data, and (ii) customer configuration information”), the Petition concludes—without explanation—that “**a POSITA would have understood** that the content would be served *in accordance with each of the global-configuration data* (e.g., configuring the CDN and engagement with third-party caches) and *customer-configuration information* (e.g., configuring how the CDN and/or third-party caches handle customer content.)” Pet., 21 (*italics in original*); EX2007, ¶99.

The Petition does not explain why Lewin’s alleged serving a customer’s content to a client would be in accordance with Lewin’s alleged two configuration information. The mere fact that Lewin may disclose serving content to a client and may disclose different configuration information does not mean Lewin’s alleged serving the content to the client is in accordance with Lewin’s alleged two configuration information. The Petition does not rely on any section of Lewin to support its conclusory assertion that Lewin’s serving is “**in accordance with**” with Lewin’s alleged two configuration information. EX2007, ¶¶98-101.

Therefore, the Petition fails to establish that Lewin and Wein disclose or suggest at least serving, to a client, a particular resource associated with the particular customer in accordance with two configuration/data – “(i) the global configuration data; and (ii) the customer configuration information associated with the particular customer.” EX2007, ¶102.

D. The Petition fails to establish that Lewin-Wein discloses or renders obvious the claimed “[1](b)(2) having joined the CDN, (b)(2)(1) obtain updated global configuration data, if needed” or “[27](B) selectively obtaining updated global configuration data.” (Ground 1; Claims 1 and 27).

Claim element 1(b)(2) and (b)(2)(1) recite “having joined the CDN,” “obtain updated global configuration data, if needed.” EX1001, 50:60-62. And claim element 27(B) recites “selectively obtaining updated global configuration data.” EX1001, 52:59-60.

The Petition first relies on Lewin to allegedly show these features. Pet. 15-16. The Petition then states that Wein also teaches these features. Pet. 16. However, the Petition ignores stated problems with Lewin’s cache for keeping itself current. And the Petition does not address how and why a POSITA would have modified Lewin’s disparate method for keeping a cache current with Wein’s method. EX2007, ¶¶103-104.

In contrast to the claimed “**obtain[ing]** updated global configuration data, **if needed**” or “**selectively obtaining** updated global configuration data,” Lewin’s

cache can only keep itself updated when the cache's registration is expired and the cache re-registers. If Lewin's cache's registration is not expired, it is not updated.

EX2007, ¶¶103-107.

Lewin states, “[a]s also illustrated in FIG. 3, preferably the CDN provides the cache with a time-to-live (TTL) indication 318, which controls how long the registration is valid. **Following expiration of the TTL, the cache may need to re-register to keep itself current.**” EX1005, 5:32-36. Therefore, Lewin's cache must wait until the TTL is expired, then re-register with the CDN to keep itself current.

Lewin's cache is not updated while it is registered with the CDN; it can be updated only after a TTL has expired and the cache has re-registered with the CDN. This operation is different from 1(b)(2) “having joined the CDN, ... (b)(2)(1) obtain updated global configuration data, if needed,” and 27(B) “selectively obtaining updated global configuration data.” EX2007, ¶¶105-106.

Accordingly, Lewin does not disclose or suggest claim limitations 1(b)(2)(1) and 27(B), nor does the Petition establish that a POSITA would have found it obvious to combine Lewin and Wein to allegedly render obvious these claim limitations. EX2007, ¶108.

VII. GROUND 2: THE PETITION FAILS TO SHOW THAT LIU AND DEVANNEAUX RENDERS OBVIOUS ANY CHALLENGED CLAIM.

Ground 2 fails for at least four independent reasons. For example:

All independent claims:

- “(a) a control core” (claims 1 and 27).
- “(b)(2)(3) serve to a client a particular resource associated with a particular customer of the CDN in accordance with (i) the global configuration data, and (ii) customer configuration information obtained in (b)(2)(2) and associated with the particular customer” (claim 1) and “(D) serving, to a client, a particular resource associated with the particular customer in accordance with (i) the global configuration data; and (ii) the customer configuration information associated with the particular customer” (claim 27).
- “(b)(2)(2) obtain customer configuration information associated with at least one customer of the CDN” (claim 1) and “(C) obtaining customer configuration information associated with a particular customer of the CDN” (claim 27).

Independent claim 27:

- “(B) selectively obtaining updated global configuration data” (claim 27).

First, the Petition fails to establish that Liu-Devanneaux discloses or renders obvious “control core,” as recited by both independent claims. Liu’s network operations center (NOC) is not the claimed “control core.”

Second, the Petition fails to establish that Liu-Devanneaux discloses or renders obvious serving, to a client, a particular resource associated with the particular customer in accordance with two configuration/data—“(i) the global configuration data; and (ii) the customer configuration information associated with the particular customer,” as recited by the independent claims. The Petition relies on Liu to allegedly show “the global configuration data” and relies on Devanneaux to allegedly show “customer configuration information.” But the Petition fails to establish how the combination of Liu-Devanneaux would serve a client in accordance with both sets of configuration/data.

Third, the Petition fails to establish that Liu-Devanneaux discloses or renders obvious claimed 1(b)(2)(2) and 27(C). The Petition focuses on the claimed “customer configuration information” and does not explain why Liu-Devanneaux allegedly show the claimed **a cache server obtaining** the customer configuration information.

Fourth, the Petition fails to establish that Liu-Devanneaux discloses or renders obvious selectively obtaining updated global configuration data, as recited

by independent claim 27. The Petition fails to explain how a POSITA would have substituted Liu's push algorithm with a pull algorithm.

Finally, the Petition fails to establish that Liu-Devanneaux discloses or renders obvious obtaining global configuration data from the control core.

The Petition's flaws, therefore, span across both independent claims 1 and 27. Accordingly, the Petition does not establish a reasonable likelihood of success with respect to any claim. Institution should be denied.

A. Similar to Lewin-Wein, the Petition fails to establish that Liu-Devanneaux's NOC discloses or renders obvious the claimed "control core" (Ground 1; Claims 1 and 27).

The Petition states that "Liu alone or combined with Devanneaux teaches or suggests 1(a)/27(pre)(a)." Pet., 42. More specifically, The Petition states that the NOC (Network Operations Center) is the claimed "control core" because Liu states that its configuration files are centrally managed (relying on, for example, Liu, ¶295) and Liu's NOC "contains many different centrally managed tools, like 'NetView, AdminTools and LogServer software.'" Pet., 42-43. EX2007, ¶¶111-112. But Liu states that its NOC provides 24-hour, 7-day staff support for consultation, troubleshooting, and solutions. In other words, Liu's NOC is a professionally staffed call center. As discussed above, NOC is a center supported by staff and technicians to monitor a network and support its customers. NOC is not the claimed "control core" as, for example, illustrated in FIGS. 1 and 7 of the

'053 patent as server(s) and/or machine(s) that control operation of the CDN. *See*, for example, EX1001, 4:43-5:29; EX2007, ¶112.

Although the Petition states that “[t]his is consistent with other prior art, such as Devanneaux [as] Devanneaux discloses another CDN that uses a ‘distributed data transport mechanism...to distribute control information (e.g., metadata to manage content, to facilitate load balancing, and the like) to the edge servers.’ *Devanneaux*, ¶9, Fig. 1,” the Petition mainly relies on Liu to allegedly show the claimed “control core.” Pet., 43. More specifically, the Petition states that “[a] POSITA would have understood, therefore, that Liu’s UDN would have a similar computer-based system (such as a NOC-based system) to control and distribute the ‘centrally managed’ configuration files.” *Id.* But as discussed above, NOC is not the claimed “control core.” Section IV.E and VI.A; EX2007, ¶¶62-67, 110-112.

Therefore, Liu does not disclose or suggest claim limitations 1(a) and 27(pre)(a). EX2007, ¶113.

B. The Petition fails to establish that Liu-Devanneaux discloses or renders obvious the claimed serving, to a client, a particular resource associated with the particular customer in accordance with two configuration/data – “(i) the global configuration data; and (ii) the customer configuration information associated with the particular customer” (Ground 2A; Claims 1 and 27).

Claim 1(b)(2)(3) recites “serve to a client a particular resource associated with a particular customer of the CDN in accordance with (i) the global

configuration data, and (ii) customer configuration information obtained in

(b)(2)(2) and associated with the particular customer.” EX1001, 50:65-51:3.

Independent claim 27(D) recites “serving, to a client, a particular resource associated with the particular customer in accordance with (i) the global configuration data; and (ii) the customer configuration information associated with the particular customer.” EX1001, 52:63-67. Liu and Devanneaux, alone or in combination, do not disclose or render obvious these claim elements.

1. The Petition does not establish that a POSITA would have combined Liu’s alleged “global configuration data” with Devanneaux’s alleged “customer configuration information” to teach or suggest claimed 1(b)(2)(3) and 27(D).

The Petition does not establish how and why a POSITA would have combined Liu’s alleged “global configuration data” with Devanneaux’s alleged “customer configuration information” to render obvious claim limitations 1(b)(2)(2) and 27(D). Therefore, the Petition fails to establish that the applied references disclose or suggest “serve to a client a particular resource associated with a particular customer of the CDN in accordance with (i) the global configuration data,” as recited in the independent claims. EX2007, ¶¶115-118.

The Petition relies on two different references to allegedly show the claimed “global configuration data” and the claimed “customer configuration information.” Pet., 48-49. Then, the Petition improperly relies on a conclusory statement to allege Liu-Devanneaux discloses the claimed serving, to a client, a particular

resource associated with the particular customer in accordance with the two configuration/data. *Id.*

The Petition relies on Liu to allegedly show the claimed “global configuration data” and relies on Devanneaux to allegedly show the claimed “customer configuration information.” *Id.* The Petition then concludes—with little explanation—that “[u]pon combining Liu and Devanneaux, a POSITA would have similarly appreciated that content would be served to clients *in accordance with (i) Lui’s global-configuration data, and (ii) Devanneaux’s customer-configuration information*, because each provides separate rules to control the interactions over the network to serve each customer’s content to clients.” Pet., 49 (*italics in original*); EX2007, ¶116.

In conclusory fashion, Petitioner fails to provide any evidence of why and how a POSITA would have combined disparate methods and systems of Liu-Devanneaux absent hindsight. The mere fact that Liu allegedly shows one part of the claim and Devanneaux shows another part of the claim is insufficient to establish that a POSITA would have been motivated and would have known how to combine different methods and systems of Liu-Devanneaux. EX2007, ¶117. Neither Liu nor Devanneaux disclose or suggest two sets of configuration data/information (i.e., “(i) the global configuration data; and (ii) the customer configuration information associated with the particular customer”) that are used to

“serv[e], to a client, a particular resource associated with the particular customer.”

EX2007, ¶118. Petitioner’s conclusory assertions do not establish otherwise.

2. Liu does not disclose or suggest “a particular cache server ... serving, to a client, a particular resource associated with the particular customer in accordance with (i) the global configuration data,” as claimed.

Even assuming that Liu’s “global configuration files” or “Speedera configuration files” can be analogized to the claimed “global configuration data,” Liu does not disclose or suggest “a particular cache server ... serving, to a client, a particular resource associated with the particular customer in accordance with (i) the global configuration data,” as recited by the claims. EX2007, ¶119.

Regarding “serving, to a client, a particular resource associated with the particular customer in accordance with (i) the global configuration data,” as recited in the independent claims (using their respective language), the Petition relies on Liu’s ¶¶40, 205, 90-96, 269. Pet., 48. But Liu’s directing a request for content to a web cache (relied on at Pet., 48) is not the same as the claimed “a particular cache server ... serving, to a client, a particular resource associated with the particular customer” using “the global configuration data,” as recited in the independent claims (using their respective language). In other words, the Petition asserts that Liu’s DNS server uses Liu’s configuration file to direct a request for content to a web cache. Pet., 48. In contrast, the claims recite “a particular cache server ...

serving, to a client, a particular resource associated with the particular customer” using “the global configuration data.” EX2007, ¶¶121-122.

Similarly, Liu’s instructing network elements about the other servers in the network (relied on at Pet., 48 (citing EX1007, ¶¶40, 205)) is not the same as the claimed “a particular cache server ... **serving, to a client**, a particular resource associated with the particular customer,” as recited in the independent claims (using their respective language). Liu states that its “configuration file contains all the static information about the Speedera Network. ... It also contains the list of hostnames serviced by the Speedera Network and maps the hostnames to the servers that can serve the content for that hostname.” EX1007, ¶205. This portion of Liu provides information that is included in Liu’s configuration file. But it does not provide any discussion of how Liu’s configuration file is allegedly used by “a particular cache server ... [to] **serv[e], to a client**, a particular resource associated with the particular customer,” as recited in the independent claims (using their respective language). EX2007, ¶123.

Liu’s user invalidating old content or wanting a change to be immediately reflected in all caches in the network (relied on at Pet., 48, e.g., EX1007, ¶¶90-96, 269) also does not disclose or suggest “a particular cache server ... **serving, to a client**, a particular resource associated with the particular customer,” as recited in the independent claims (using their respective language). EX2007, ¶124. This

portion of Liu states way to invalidate old content or require a change. But it does not provide any discussion of how Liu’s configuration file is allegedly used by “a particular cache server ... [to] serv[e], to a client, a particular resource associated with the particular customer,” as recited in the independent claims (using their respective language). EX2007, ¶124.

Therefore, the Petition fails to establish that Liu-Devanneaux discloses or renders obvious the claimed serving, to a client, a particular resource associated with the particular customer in accordance with two configuration/data—“(i) the global configuration data; and (ii) the customer configuration information associated with the particular customer.” EX2007, ¶125.

C. The Petition does not establish that Liu-Devanneaux discloses or renders obvious elements 1(b)(2)(2) and 27(C)—“obtaining customer configuration information associated with a particular customer of the CDN” (Ground 2A; Claims 1 and 27).

Claim element 1(b)(2)(2) recites “obtain customer configuration information associated with at least one customer of the CDN.” EX1001, 50:63-64. Claim element 27(C) recites “obtaining customer configuration information associated with a particular customer of the CDN.” EX1001, 52:61-62. The Petition’s analysis focuses on Liu-Devanneaux allegedly showing the claimed “customer configuration information.” Pet., 46-47. Yet, the claims recite **a cache server “obtain[ing]”** the “customer configuration information.” The Petition does not

explain how or why Liu-Devanneaux allegedly shows these additional claim elements. EX2007, ¶126-129.

The Petition states, “Liu discloses that **customers** may configure several parameters to control the delivery of their content. ... A POSITA would have understood that these controllable parameters constitute *customer-configuration information associated with [at least one/a particular] customer of the CDN.*” Pet., 47 (*italics* in original). At best, the Petition discusses Liu’s **customer** may configure several parameters. The Petition does not address Liu’s cache server allegedly obtaining these parameters configured by Liu’s customer. EX2007, ¶127.

Similarly, the Petition states that “Devanneaux discloses using ‘configuration files’ that provide **customers** added features ‘on a domain-specific, customer-specific basis’ to provide greater control over how their content is handled on the network, such as content pre-fetching parameters and optimizations for traffic paths and client-server connections.” Pet., 47. Again, at best, the Petition discusses Devanneaux’s that configuration files provide **customer** added features. The Petition does not address Devanneaux’s cache server allegedly obtaining these configuration files (even if they can be analogized to the claimed customer configuration information, which the Patent Owner does not concede). EX2007, ¶128.

Despite Petitioner’s failed attempts to show that Liu and Devanneaux teach the claimed **cache server “obtain[ing]”** customer configuration information,” the Petition nevertheless concludes that “[u]pon incorporating customer-configuration files (*customer-configuration information*), a POSITA would have appreciated that Liu’s servers would be configured to obtain the configuration files associated with particular customers to determine the customer-defined rules for handling their content, just as Liu does with the global-configuration files.” Pet., 47 (*italics in original*). The Petition’s conclusory assertion is not supported by its analysis of Liu or Devanneaux or any other evidence. Mr. Lanning is not legally allowed to and does not fill the gaps of the Petition, merely repeating the Petition’s conclusory assertion verbatim without further reasoning or evidence. *Compare* Pet., 47, with EX1003, ¶184; *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (P.T.A.B. Aug. 24, 2022) (holding that testimony that “merely repeats, *verbatim*, the conclusory assertion for which it is offered to support ... is entitled to little weight”); *TQ Delta, LLC v. Cisco Systems, Inc.*, 942 F.3d 1352, 1359 (Fed. Cir. 2019) (“This court’s opinions have repeatedly recognized that conclusory expert testimony is inadequate to support an obviousness determination”).

Accordingly, the Petition fails to establish that Liu and Devanneaux disclose or render obvious elements 1(b)(2)(2) and 27(C).

D. The Petition fails to establish that Liu-Devanneaux discloses or renders obvious the claimed “(B) selectively obtaining updated global configuration data.” (Ground 2A; Claim 27).

Independent claim 27(B) recites “selectively obtaining updated global configuration data.” EX1001, 52:59-60. The Petition states: “To the extent ‘selectively obtaining’ (cl. 27) requires ‘pulling’ updated global configuration data, a POSITA would have been motivated to configure Liu’s system to pull such data. [Lanning], ¶180. Pushing and pulling were two of the most prominent ways to distribute information over a network.” Pet., 46.

The Petition, however, does not explain **how** a POSITA would have modified Liu to implement the pull algorithm instead of Liu’s push algorithm. A POSITA would have known that a pull algorithm is different from a push algorithm and requires different capabilities, complexities, and management compared to push algorithm. EX2007, ¶131. For example, a pull algorithm requires that the server decide when a pull is needed and then execute the steps to pull. It entails a complete redesign of the process by which the server determines that a change in configuration is needed. This is further complicated by the problem that a server has no way of knowing that the global data has changed, requiring complex steps such as polling to see if a change has occurred. EX2007, ¶131. These complex steps consume processing power on both the server and the global configuration management system and consume network bandwidth. *Id.*

The fact that Liu does not mention using a pull algorithm as a substitute for its push algorithm is itself evidence that Liu's inventors did not believe using a pull algorithm is a simple substitution of known elements, as the Petition asserts. Pet., 46; EX2007, ¶132. If the substitution was simple, Liu would have provided at least a suggestion in its 452 paragraphs that a pull algorithm can be used instead of or in addition to its push algorithm. Pet., 46; EX2007, ¶132.

Therefore, the Petition has not established that a POSITA would have substituted Liu's push algorithm with a pull algorithm.

E. The Petition fails to establish that Liu-Devanneaux discloses or renders obvious the claimed 1(b)(1)(1) “obtain global configuration data from the control core” or 27(A) “obtaining global configuration data from the control core” (Ground 2A; Claims 1 and 27).

Claim element 1(b)(1)(1) recites “obtain global configuration data from the control core.” EX1001, 50:58-59. Claim element 27(A) recites “obtaining global configuration data from the control core.” EX1001, 52:57-58.

The Petition alleges that Liu's global configuration files or “Speedera configuration” files are the claimed “global configuration data.” Pet., 44. The Petition then states that “a POSITA would have also understood that the server would obtain that configuration file from the location in which the configuration file is being ‘centrally managed,’ such as the NOC (*control core*) to ensure the most-recent version of the configuration file is obtained.” Pet., 45 (*italics in*

original). The Petition also states that the NOC (Network Operations Center) is the claimed “control core” because Liu states that its configuration files are centrally managed (relying on, for example, Liu, ¶295) and Liu’s NOC “contains many different centrally managed tools, like ‘NetView, AdminTools and LogServer software.’” Pet., 42-43.

As discussed above in at least Section VII.A, Liu’s NOC is not the claimed “control core.” Liu’s NOC is a professionally staffed call center and although it provides NetView, AdminTools and LogServer software, there is no teaching or suggestion that Liu’s NOC includes Liu’s global configuration files (which the Petition analogizes to claimed “global configuration data”). EX2007, ¶136.

Additionally, there is no teaching or suggestion that Liu’s web cache servers or DNS cache servers (which the Petition analogizes to the claimed “a plurality of cache servers” – Pet., 43²) obtain Liu’s global configuration files from its NOC.

² The Petition also uses Liu’s **DNS servers** to allegedly show the claimed “**particular cache server** ... serving, to a client, a particular resource associated with the particular customer.” Pet., 48. But Liu is clear that its DNS cache server is different from its DNS server. EX1007, ¶23 (“The edge DNS cache servers are configured to cache the DNS records of the origin DNS server that actually controls the zone.”). It is also clear that the DNS cache servers are different from

EX2007, ¶137. The Petition states that “a POSITA would have also understood that the server would obtain that configuration file from the location in which the configuration file is being ‘centrally managed,’ such as the NOC (*control core*) to ensure the most-recent version of the configuration file is obtained.” Pet., 45 (*italics* in original). But the Petition is merely relying on what a POSITA would have understood for showing two claim features without providing specific evidence from Liu on these specific claim features. EX2007, ¶137. The Petition assumes that Liu’s global configuration files would be in Liu’s NOC and concludes that Liu’s NOC would be the claimed “control core.” The Petition also assumes that Liu’s web cache servers or DNS cache servers would obtain Liu’s global configuration files from Liu’s NOC. But Liu does not disclose or suggest any of the Petition’s assumptions. *Id.*

Therefore, the Petition fails to establish that Liu-Devanneaux discloses or renders obvious the claimed 1(b)(1)(1) “obtain global configuration data from the control core” or 27(A) “obtaining global configuration data from the control core.”

the cache servers that store and serve content, the latter existing in the network to serve content to clients. EX2007, ¶122.

**VIII. ALL GROUNDS: THE PETITION IMPROPERLY RELIES ON
DECLARANT TESTIMONY TO FILL GAPS IN THE PRIOR ART.**

The Petition often presents conclusory statements with little to no explanation on how the applied evidence supports the assertion.

For example, as discussed above in Section VI.C regarding limitations 1(b)(2)(3)/27(D), the Petition relies on the assertion that “a POSITA would have understood that the content would be served in accordance with each of the *global-configuration data* (e.g., configuring the CDN and engagement with third-party caches) and *customer-configuration information* (e.g., configuring how the CDN and/or third-party caches handle customer content).” Pet., 21. As another example, and as discussed in Section VII.C regarding limitations 1(b)(2)(2)/27(C), the Petition relies on the assertion that “a POSITA would have appreciated that Liu’s servers would be configured to obtain the configuration files associated with particular customers to determine the customer-defined rules for handling their content, just as Liu does with the global-configuration files.” Pet., 47. Yet, as another example, and as discussed in Section VII.B regarding limitations 1(b)(2)(3)/27(D), the Petition relies on the assertion that “a POSITA would have similarly appreciated that content would be served to clients *in accordance with (i) Lui’s global-configuration data, and (ii) Devanneaux’s customer-configuration information*, because each provides separate rules to control the interactions over

the network to serve each customer’s content to clients.” Pet., 49. These are just a few examples.

The Director should reject these arguments because they are insufficient to satisfy Petitioner’s burden of persuasion. *See Parus Holdings, Inc. v. Google LLC*, 70 F.4th 1365, 1371 (Fed. Cir. 2023) (noting that a party’s burden “cannot be met simply by throwing mountains of evidence at the Board without explanation or identification of the relevant portions of that evidence”). The statutory basis for *inter partes* review limits invalidity grounds to prior art “consisting of patents or printed publications.” 35 U.S.C. § 311(b). The corresponding regulation requires a petition to “specify where each element of the claim is found in the prior art patents or printed publications relied upon.” 37 C.F.R. § 42.104(b)(4); *see also* 35 U.S.C. § 312(a)(3); EX2003 (Office guidance on the proper application of Rule 104(b)(4)); *Henny Penny Corp. v. Frymaster LLC*, 938 F.3d 1324, 1331-32 (Fed. Cir. 2019).

Such cursory and conclusory analysis falls well short of the Petition’s obligation to perform reasoned analysis—based on the references asserted in its challenges. Because this deficiency is replete throughout the entire Petition, the Director should deny institution.

IX. *CHEVRON* AND *DEEPER* FAVOR DENYING INSTITUTION.

The merits consideration phase of an IPR includes determining whether the

petition presents a sufficient number of grounds/challenges that meet the reasonable likelihood standard. When “a petition meets the standards for institution in relation to fewer than all the challenges presented, or where deficiencies in the petition ... affect only a portion of the challenges presented, the [Board] will evaluate all the challenges and determine whether, in the interests of efficient administration of the Office and integrity of the patent system, the entire petition should be denied.” Trial Practice Guide, § II.D.3 (citing 35 U.S.C. §§ 316(b), 326(b); *accord Chevron Oronite Co., LLC v. Infineum USA L.P.*, IPR2018-00923, Paper 9 (P.T.A.B. Nov. 7, 2018) (informative); *Deeper, UAB v. Vexilar, Inc.*, IPR2018-01310, Paper 7 (P.T.A.B. Jan. 24, 2019) (informative)).

As discussed throughout this Preliminary Response, the Petition suffers from numerous fatal deficiencies. Given these defects, institution of trial should be denied even if some of the claims or Grounds meet the standard for institution (which they do not). It would not be an efficient use of the Board’s valuable time and resources to institute review when resolution of this proceeding would be costly and time-consuming to address challenges that are flawed from the outset. *See* EX2003, 3; 35 U.S.C. § 316(b).

X. CONCLUSION

For at least the foregoing reasons, the Petition has failed to show a reasonable likelihood of prevailing with respect to any challenged claim.

Therefore, the Board should deny institution.

Respectfully submitted,

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CERTIFICATE OF WORD COUNT (37 C.F.R. § 42.24(d))

1. This Patent Owner Preliminary Response complies with the type-volume limitation of 14,000 words, comprising 11,023 words, excluding the parts exempted by 37 C.F.R. § 42.24(a)(1).

2. This Patent Owner Preliminary Response complies with the general format requirements of 37 C.F.R. § 42.6(a) and has been prepared using Microsoft® Word in 14-point Times New Roman font.

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CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e))

I certify that the above-captioned **PATENT OWNER PRELIMINARY RESPONSE UNDER 37 C.F.R. § 42.107(a)** and associated Exhibits 2007-2008, 2011-2027 were served in their entireties on April 8, 2026, upon the following parties via electronic mail:

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