

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VERTIV CORPORATION,
Petitioner

v.

VALTRUS INNOVATIONS LTD.,
Patent Owner

Case No. IPR2025-00668
Patent No. 6,718,277

PATENT OWNER'S PRELIMINARY RESPONSE

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PATENT OWNER’S EXHIBIT LIST

No.	Exhibit Description
2001	<i>Interim Processes for PTAB Workload Management</i>
2002	Vertiv Consolidation Order, No. 2-24-cv-00361 Dkt. 42
2003	DataBank Consolidation Order, No. 2:24-cv-00777 Dkt. 11
2004	Defendant DataBank Holding Ltd.’s Answer and Counterclaims, No. 2:24-cv-00777 Dkt. 12
2005	Defendant TierPoint, LLC’s First Amended Answer, No. 2:24-cv-00777 Dkt. 17
2006	Vertiv Corporation Complaint for Declaratory Judgment, No. 3:24-vc-01152 Dkt. 1
2007	Memo ISO Plf Vertiv’s Resp. in Oppos. to Def’s MTD, No. 3:24-cv-01152 Dkt. 25
2008	Defendant DataBank Holdings, Ltd.’s Unopposed Motion to Change Lead Counsel, No. 2:24-cv-00777 Dkt. 51
2009	Notice of Appearance Daniel Schwartz on Behalf of TierPoint, 2:24-cv-00776 Dkt. 15
2010	Letter from Alexander to Berkowitz dated May 21, 2025 on behalf of DataBank Regarding Discovery Disputes
2011	Letter from Alexander to Berkowitz dated May 21, 2025 on behalf of TierPoint regarding discovery disputes
2012	Email from Girgis to Berkowitz dated April 1, 2025 attaching “Vertiv’s Invalidity Contentions” on behalf of DataBank and TierPoint
2013	Email from Girgis to Berkowitz attaching documents produced by DataBank dated April 1, 2025
2014	Email from Girgis to Berkowitz attaching documents produced by TierPoint dated April 1, 2025
2015	Order denying stay in <i>Cardware Inc. v. Samsung Elecs. Co., Ltd.</i> , No. 2:22-cv-00141-JRG-RSP
2016	Docket Control Order, No. 2:24-cv-00361 Dkt. 60
2017	Netlist Order Denying Stay, No. 2:22-CV-00293 Dkt. 689
2018	Amended Docket Control Order, No. 2:24-cv-00777 Dkt. 32
2019	Vertiv’s Motion to Intervene, No. 2:24-cv-00142 Dkt. 46
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2021	Vertiv Corporation’s Invalidity and Ineligibility Contentions and Disclosures Pursuant to Patent Rule 3-3, No. 2:24-cv-00361
2022	Defendants’ Invalidity and Ineligibility Contentions and Disclosures Pursuant to Patent Rule 3-3, No. 2:24-cv-00777

No.	Exhibit Description
2023	Guidance on USPTO’s recission of “Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation”
2024	Docket Navigator Statistics for Judge Gilstrap
2025	Federal Court Statistics
2026	Email from Girgis to Berkowitz attaching Vertiv’s Invalidity Contentions on behalf of DataBank dated April 1, 2025
2027	Vertiv's First Supplemental Initial and Additional Disclosures, 2:24-cv-00361
2028	DataBank’s Initial and Additional Disclosures, 2:24-cv-00777
2029	TierPoint’s Initial Disclosures Pursuant to Discovery Order, 2:24-cv-00777
2030	Appendix 1 to Vertiv’s Preliminary Ineligibility Contentions for U.S. Patent No. 6,718,277, No. 2:24-cv-00361
2031	Appendix 1 to Ineligibility Contentions for Patent 6,718,277 served by Vertiv on behalf of DataBank
2032	Docket Navigator Report Showing Payment of Maintenance Fees for U.S. Patent 6,718,277
2033	Press Release by Vertiv, titled “ <i>Veteran technology executive Rob Johnson to lead new standalone company following sale to Platinum Equity</i> , dated Dec. 1, 2016), available at https://www.vertiv.com/en-in/about/news-and-insights/news-releases/2016/emerson-network-power-rebrands-as-vertiv--appoints-new-ceo/
2034	Vertiv Timeline, available at https://www.vertiv.com/49c2fd/globalassets/images/infographics/vertiv-timeline-infographic-en-gl-2025-1.pdf
2035	Form 10-K for Emerson Electric. Co. (Filed: November 25, 2008; period: September 30, 2008)
2036	“An Introduction to Vertiv,” available at https://www.vertiv.com/globalassets/documents/blog/vertiv-corporateoverview-pr-en-gl_174923_01.pdf
2037	Information Disclosure Statement dated October 13, 2009 from prosecution history of U.S. Patent Application No. 11/873,236
2038	U.S. Patent No. 7,857,214
2039	U.S. Patent No. 6,535,382
2040	Information Disclosure Statement dated April 5, 2013 from prosecution history of U.S. Patent Application No. 12/887,961
2041	U.S. Patent No. 8,562,084

No.	Exhibit Description
2042	U.S. Patent No. 12,289,867
2043	Office Action and Notice of References Cited from prosecution history of U.S. Pat. No. 12,289,867, dated December 27, 2024

I. INTRODUCTION

On February 26, 2025, Petitioner Vertiv Corporation (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1-21 (the “Challenged Claims”) of U.S. Patent No. 6,718,277 (“the ’277 Patent”; EX1001), asserting three Grounds. Petitioner asserts that all Challenged Claims are anticipated by U.S. Patent No. 6,283,380 (“*Nakanishi*,” Ground 1); that claims 1-6, 8-17, and 19-21 are anticipated by U.S. Patent Publication No. 2002/0149911A1 (“*Bishop*,” Ground 2), and that all Challenged Claims are rendered obvious by the combination of *Nakanishi* and *Bishop* (Ground 3). On April 14, 2025, the Board issued a Notice of Filing Date Accorded for the Petition and set the time for filing Patent Owner’s Preliminary Response. Paper 5.

On June 13, 2025, pursuant to the Director’s interim process memorandum, Patent Owner filed a brief requesting discretionary denial of the Petition. Paper 6. Patent Owner believes that discretionary denial is particularly appropriate under the circumstances of this case. However, should the Board reach the merits, it should deny institution.

As explained in detail below, neither of Petitioner’s prior art references disclose key elements of the Challenged Claims. Specifically, neither *Nakanishi* nor *Bishop* discloses comparing an empirical atmospheric/thermal map to a template atmospheric/thermal map, as required by every Challenged Claim. Petitioner’s

backup obviousness ground—combining *Nakanishi* and *Bishop*—simply relies on the same disclosures as its anticipation grounds, with only conclusory arguments about alleged modifications to the references, which also fails to meet its burden. Finally, Petitioner fails to name all the real parties in interest or privies, which is an independent statutory requirement for the Board to consider the Petition at all.

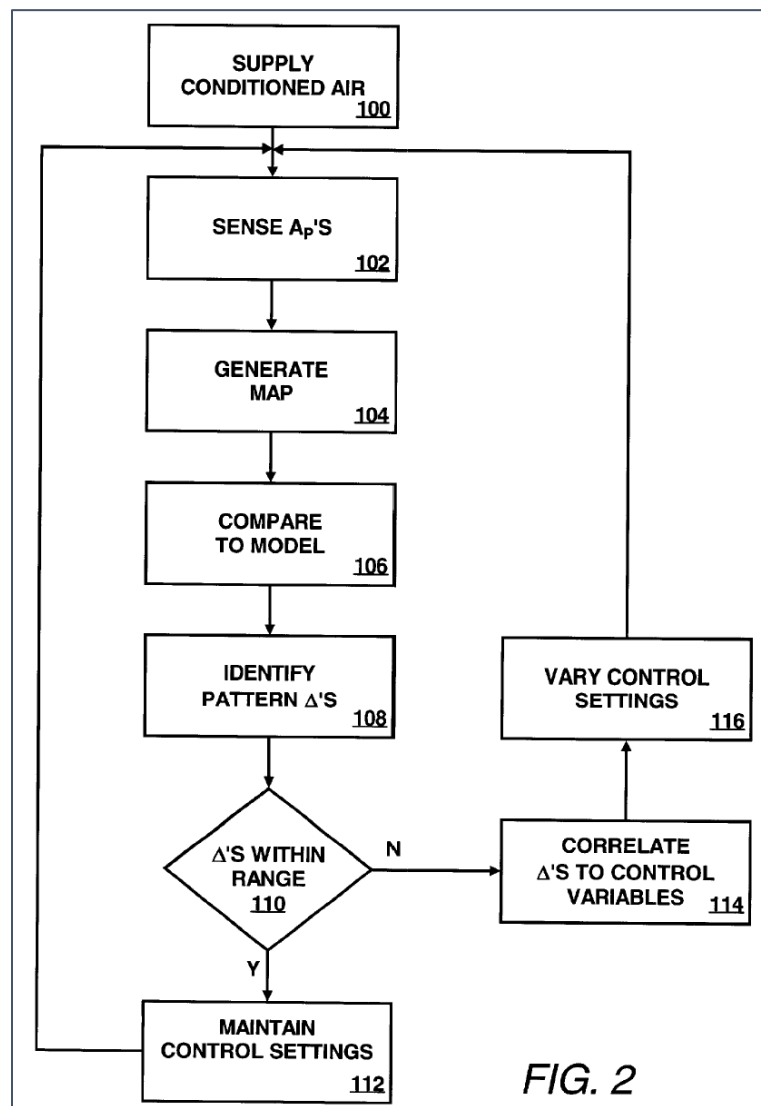
II. OVERVIEW OF THE '277 PATENT

The '277 Patent, titled “Atmospheric Control Within a Building,” discloses “[a] method and system for controlling atmospheric conditions within a building.” EX1001, Abstract. As the patent explains, “[c]onventional data center air conditioning units do not vary their cooling output based on the distributed, location-specific needs of the data center,” and as a result, these “conventional cooling systems typically operate at 100 percent of capacity on a continuous basis, thereby cooling all electronic packages, regardless of need.” EX1001, 2:20-31. This type of cooling results in “unnecessarily high operating expenses to sufficiently cool” data center racks. EX1001, 2:32-35. The '277 Patent notes additional drawbacks with prior art systems and methods, such as the use of “relatively inaccurate and unsophisticated methods of monitoring and adjusting temperature distribution that result in less than optimal data center cooling efficiency.” EX1001, 2:36-39.

To overcome these drawbacks in the prior art, the '277 Patent discloses a novel method and system for controlling atmospheric conditions within a building.

It does so by supplying conditioned fluid inside the building and then sensing atmospheric parameters in various locations. EX1001, Abstract. The patent describes a method that includes generating an empirical atmospheric map and comparing it to a template atmospheric map to identify pattern differentials and perform corrective action to reduce the pattern differentials. EX1001, Abstract.

Figure 2 of the '277 Patent illustrates a flow chart of an embodiment of this method:



EX1001, FIG. 2.

Petitioner challenges claims 1-21 of the '277 Patent, all of which are method claims and of which claims 1 and 12 are independent claims. Independent claim 1 recites, with labeling as added by Petitioner:

1[pre] A method of controlling atmospheric conditions within a building, said method comprising the steps of:

1[a] supplying a conditioned fluid inside said building;

1[b] sensing at least one atmospheric parameter in a plurality of locations inside said building;

1[c] generating an empirical atmospheric map from the results of said sensing step using software for processing input from said sensing step and for producing output in the form of said empirical atmospheric map;

1[d] comparing said empirical atmospheric map to a template atmospheric map; and

1[e] identifying pattern differentials between said empirical and template atmospheric maps.

EX1001, cl. 1; *see also* EX1001, 9 (“Certificate of Correction”). Dependent claims 2-11 recite further details. Claim 12 is also an independent method claim, which recites similar steps directed to sensing temperatures and generating “thermal” maps, rather than “atmospheric” maps. EX1001, cl. 12; *see also* EX1001, 9 (“Certificate of Correction”). Dependent claims 13-21 then recite further details.

For purposes of this Patent Owner Preliminary Response (“POPR”), Patent Owner focuses on certain dispositive issues. In particular, Patent Owner identifies flaws in Petitioner’s theories for independent claim 1, which, for purposes of this POPR, apply to each of the dependent claims 2-11, as well as apply to independent claim 12 and its dependent claims, claims 13-21.¹

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

A. *Nakanishi* Does Not Disclose Generating a Template Atmospheric Map or Comparing an Empirical Atmospheric Map to a Template Atmospheric Map.

Petitioner asserts that *Nakanishi* anticipates each of the Challenged Claims. Petition (Paper 1), 18. However, as demonstrated below, *Nakanishi* does not disclose key elements of independent claim 1 (and similarly, independent claim 12), and therefore does not anticipate any Challenged Claim.

To begin, *Nakanishi* was cited during prosecution of the ’277 Patent and appears on the face of the patent. EX1001, Title Page (citing U.S. Patent No. 6,283,380 to *Nakanishi*); *see also* EX1003, 299 (Examiner’s consideration of *Nakanishi* during prosecution). Thus, to prove anticipation by *Nakanishi*, Petitioner

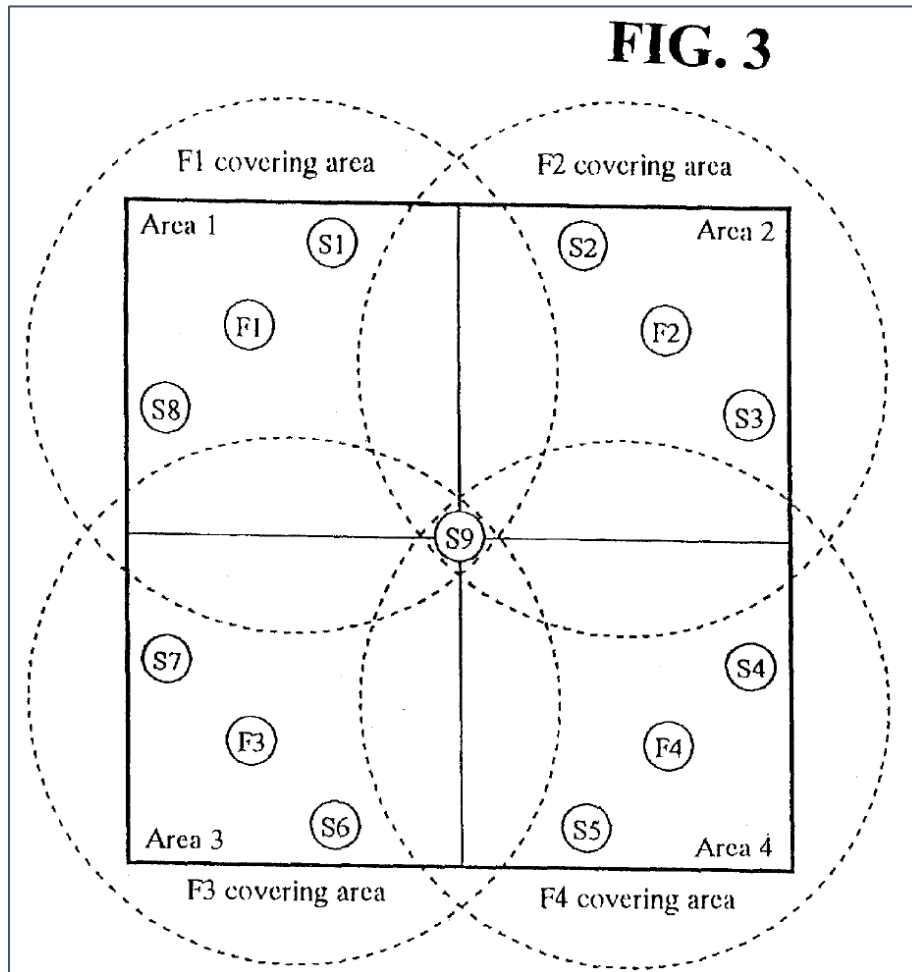
¹ Petitioner refers back to, and applies, its analysis for independent claim 1 for its assertions regarding independent claim 12. *See, e.g.*, Petition (Paper 1), 39-40. In other words, Petitioner’s claim 1 and claim 12 analysis rise and fall together.

has “the added burden of overcoming the deference that is due to a qualified government agency presumed to have properly done its job, which includes one or more examiners who are assumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art and whose duty it is to issue only valid patents.” *Shire LLC v. Amneal Pharms., LLC*, 802 F.3d 1301, 1307 (Fed. Cir. 2015) (cleaned up). Petitioner cannot do so here.

Nakanishi discloses an “air conditioning system and air conditioning method.” EX1005, Title. More particularly, it discloses a system that “estimates a temperature distribution in a room through a simulation and controls airflow rates and airflow directions of a plurality of fans on the basis of the simulation result.” EX1005, Abstract. *Nakanishi* does this by using temperature sensors and airflow rates, which it then analyzes to determine “whether obtained temperatures are in a predetermined temperature range,” after which it can adjust the airflow rate or direction of a fan. EX1005, Abstract.

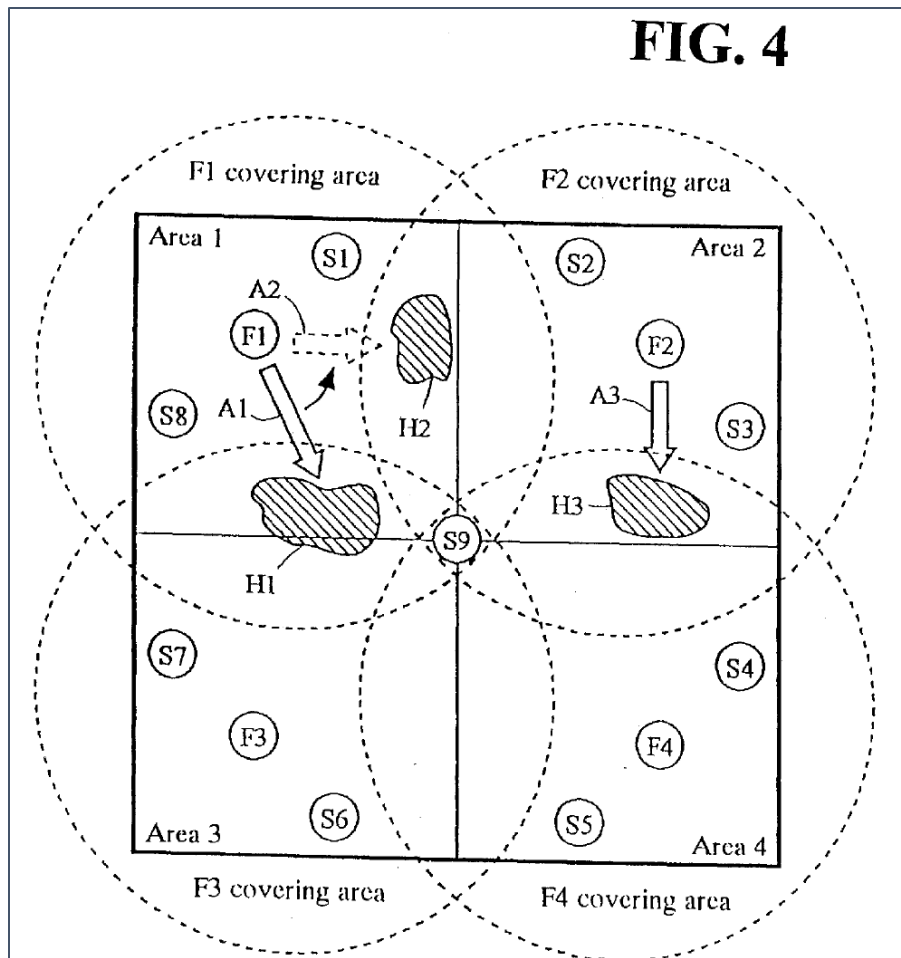
Nakanishi does not disclose, describe, or discuss the concept of an atmospheric or thermal “map” anywhere in its specification, figures, or claims, as required by independent claims 1 and 12, respectively. Instead, *Nakanishi*’s method of monitoring “temperature distribution” is the type of solution that the ’277 Patent explicitly describes as a “relatively inaccurate and unsophisticated method[]” that results in “less than optimal data center cooling efficiency.” *See* EX1001, 2:36-39.

Nakanishi illustrates two exemplary conceptual diagrams that show the areas in a room containing temperature sensors and fans. Figure 3 from *Nakanishi*, reproduced below, “is a diagram conceptually showing cooling by fans.” EX1005, 2:14.



EX1005, FIG. 3.

Figure 4 of *Nakanishi*, reproduced below, “is a diagram conceptually showing cooling of high-temperature regions by fans.” EX1005, 2:15-16.



EX1005, FIG. 4.

Nakanishi explains that it can use a remote PC to perform a “simulation on the basis of the temperature values and the current airflow rate and airflow direction of each fan to obtain a temperature distribution in the computer room.” EX1005, 5:37-40. The computer can re-run the simulation at predetermined intervals, and collect temperature data from sensors to determine whether the temperature “in the previous cycle is in a set temperature range.” See EX1005, 5:64-6:10.

Petitioner relies on *Nakanishi*'s disclosure of a "temperature distribution" generated with commercially available software for disclosure of the "empirical atmospheric map" step claimed in 1[c]. Petition (Paper 1), 20-22. Petitioner also asserts that *Nakanishi* discloses a "template atmospheric map" in Figure 3. Petition (Paper 1), 25-26. According to Petitioner, because *Nakanishi* purportedly "includes the capability of displaying an image of the simulated temperature distribution on a monitor," a "POSITA would understand that the image displayed represents a template atmospheric map when all temperatures of the distribution are within the prescribed range." Petition (Paper 1), 24. Petitioner does not cite to anything in support of its assertion regarding a POSITA's alleged "understand[ing]." See Petition (Paper 1), 24.² And, even if Petitioner's expert declaration is searched and

² Petitioner does this elsewhere—*i.e.*, Petitioner makes an assertion about a POSITA's "understand[ing]" without any factual support—for various key propositions. See also, *e.g.*, Petition (Paper 1), 25-26 ("A POSITA would immediately understand that when all temperatures are within the prescribed range the displayed image representing the temperature distribution throughout the computer room would lack any shaded regions."); see also *id.*, 27 ("A POSITA would understand that this necessarily entails storing data defining the prescribed temperature range at locations throughout data center.").

considered (which the Board need not do), the expert declaration is simply a copy-and-paste of the Petition, without additional support or explanation. *See Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9, 15 (PTAB Aug. 24, 2022) (precedential) (denying institution and giving little weight to expert opinion that “merely repeats, *verbatim*, the conclusory assertion for which it is offered to support.” (emphasis in original)).

And finally, Petitioner asserts, without support or citation, that Figure 4 of *Nakanishi* discloses comparing the empirical and template maps because it “illustrates Nakanishi’s capability to identify and display the location and size of hot spots as a result of this comparison.” Petition (Paper 1), 26-27. Petitioner also attempts to fill in gaps—without citation or support—as to what a POSITA would allegedly “understand.” *See* Petition (Paper 1), 27 (“A POSITA would understand that this necessarily entails storing data defining the prescribed temperature range at locations throughout data center.”); *cf. Xerox*, IPR2022-00624, Paper 9, 15.

However, Petitioner’s arguments fail because *Nakanishi* does not disclose “comparing said *empirical atmospheric map* to a *template atmospheric map*” as required by claim step 1[d]. Petitioner asserts that *Nakanishi*’s Figure 3—a blank conceptual diagram showing nothing about a room’s temperatures or other atmospheric conditions—discloses a “template atmospheric map.” Petition (Paper 1,) 26 (“Figure 3 of Nakanishi ... discloses such an optimal state and represents a

template atmospheric map.”). But this requires reading into *Nakanishi* that a “POSITA would understand” that the “image” (*i.e.*, the blank Figure 3, reproduced above) represents a situation where all temperatures are within a prescribed range. *Nakanishi* never discloses this, and nowhere in its description of Figure 3 or elsewhere in *Nakanishi*’s specification can Petitioner find support for this overbroad view. Confirming this failure, Petitioner cites to *nothing* in its attempt to bridge-the-gap through its unsupported proposition that “[a] POSITA would immediately understand that when all temperatures are within the prescribed range the displayed image representing the temperature distribution throughout the computer room would lack any shaded regions.” Petition (Paper 1), 25-26; *cf. Xerox*, IPR2022-00624, Paper 9, 15; *see also Intelligent Wellhead Sys., Inc. v. Downing Wellhead Equip., LLC*, IPR2024-00583, Paper 9, 16-18 (PTAB Sept. 12, 2024) (denying institution where Petitioner failed to show that allegedly anticipatory reference disclosed all claim limitations); *Qualcomm Inc. v. Network Sys. Techs., LLC*, IPR2024-00355, Paper 9, 46-47 (PTAB June 17, 2024) (same).

Nakanishi describes Figure 3 as “a diagram conceptually showing cooling by fans.” EX1005, 2:14. Figure 3 contains no information about temperatures or atmospheric conditions at any of the locations on the diagram. Instead, it simply shows the location of fans and temperature sensors. In contrast, the ’277 Patent explains that the template map “basically represents a thermal map of an optimally

operating data center cooling system,” which can be generated either in real-time or prior to the comparison with the empirical atmospheric map. EX1001, 6:36-43. The ’277 Patent further explains that generating the map with CFD software takes into account various inputs such as “heat loads from the racks within the data center, velocity of the cooling fluid flowing throughout the data center, temperature, pressure, and the like in the data center.” EX1001, 6:46-50. None of these inputs are considered by *Nakanishi* in Figure 3—that diagram only shows a simplified layout of the location of sensors and fans, not anything about temperatures or other atmospheric conditions.

Petitioner’s assertion that *Nakanishi* compares an empirical atmospheric map to this template atmospheric map therefore also fails. *Nakanishi* only mentions the concept of generating an “image” once, where it discloses “image-displaying a simulated temperature-distribution state on a monitor in a monitoring room.” EX1005, 7:62-67 (discussing Figure 6). *Nakanishi* never discloses generating an image of a template map at all—Petitioner’s only assertion that it does relies on a conclusory and unsupported statement that a POSITA would understand that the conceptual diagram in Figure 3 represents a situation where all the temperatures of the distribution are within a prescribed range. And *Nakanishi* plainly does not disclose comparing an empirical atmospheric map to a template atmospheric map in

order to identify pattern differentials (as required by step 1[e]), since it never generates a template atmospheric map in the first place.

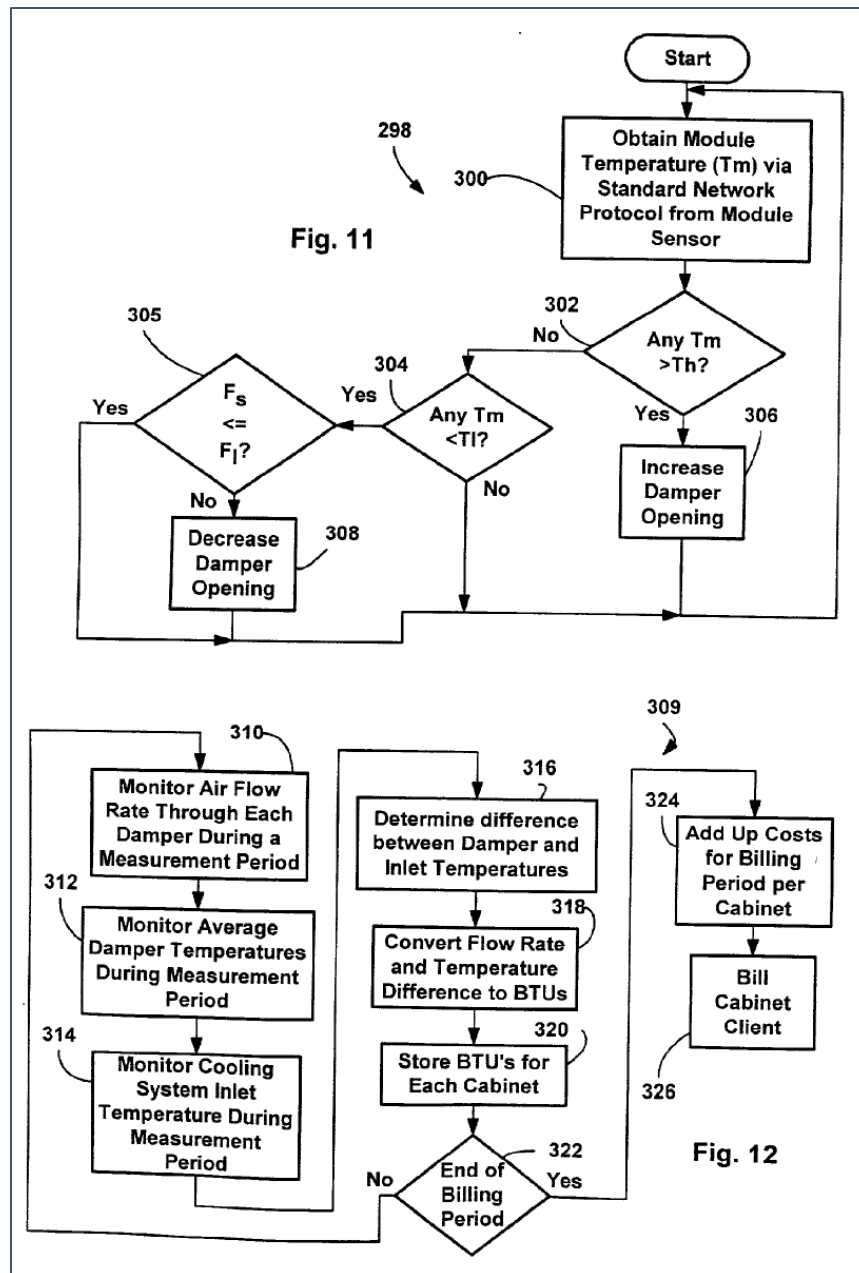
Because *Nakanishi* lacks these key elements of independent claim 1 (and likewise independent claim 12), Petitioner cannot meet its burden of proving anticipation of independent claims 1 or 12 or any of the dependent claims. Petitioner has thus failed to show a reasonable likelihood of success for any Challenged Claim in its Ground 1.

B. *Bishop* Does Not Disclose Generating a Template Atmospheric Map or Comparing an Empirical Atmospheric Map to a Template Atmospheric Map.

Petitioner next asserts that *Bishop* anticipates challenged claims 1-6, 8-17, and 19-21. Petition (Paper 1), 41. However, as demonstrated below, *Bishop*'s mere mention of the concept of prior art abilities to generate temperature maps does not disclose the claimed generation or comparison of empirical and template atmospheric maps. *Bishop* therefore does not anticipate any of the Challenged Claims in Ground 2.

Bishop, titled "Cooling System for Electronic Equipment Cabinets," discloses a specific arrangement of a cooling system within individual cabinets in data centers. EX1006, Abstract. Specifically, *Bishop* discloses a plenum-based apparatus for providing cool air to individual cabinets containing electronic modules. EX1006, Abstract; [0003]. All of *Bishop*'s figures and claims are directed to this cooling





EX1006, FIG. 12.

Bishop is not directed to atmospheric mapping and discloses nothing in its specification or claims describing how to perform or use any such mapping generally or as part of its invention. Instead, *Bishop* describes the concept of a temperature map only in the context of criticizing the prior art. Specifically, *Bishop* explains that

a prior art solution to “the critical environment temperature disparity problem” was to take temperature readings at various locations throughout a room and then feed the readings “into a computer that generates a three dimensional map of temperature in the environment as a function of the location within the environment.” EX1006, [0017]-[0018]. As *Bishop* explains, however, this method was a “manual procedure” that required an administrator to continuously place sensors, collect temperature readings, and use a computer to generate a temperature map. EX1006, [0017]. As a result, it was “extremely labor intensive and thus costly,” and required being repeated each time the configuration of the environment was modified since it could change temperature patterns. EX1006, [0017].

The only other place *Bishop* mentions temperature mapping is in its paragraph [0106], where it discusses the idea of using sensors (75) on the outside of the individual cabinets—cabinets for which *Bishop* purports to have invented a novel, plenum-based cooling system for. *Bishop* explains that (theoretically), readings from exterior cabinet sensors 75 could be used to “generate a three dimensional temperature graph for observation by an environment administrator.” EX1006, [0106]. Again, *Bishop* provides no detail on how those temperature graphs would be generated, and simply mentions that they could be used by an administrator for manual evaluation—the same concept criticized earlier in the specification.

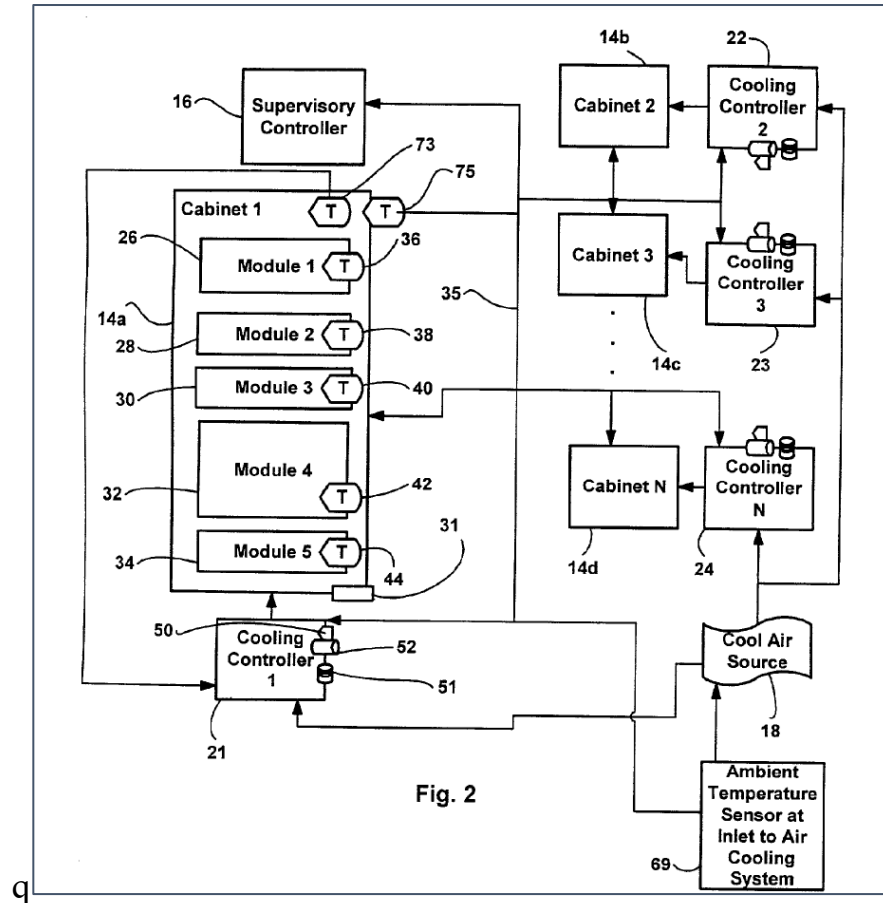
Petitioner asserts—relying on *Bishop* paragraph [0106]—that *Bishop* discloses generating an empirical atmospheric map by using temperature readings from external cabinet sensors 75 to generate a three-dimensional temperature graph. Petition (Paper 1), 44. Petitioner then asserts that *Bishop* also compares temperature readings to threshold temperatures to determine whether they are in the optimal range between the low threshold temperature and the high threshold temperature. Petition (Paper 1), 45-46. Petitioner asserts that *Bishop* therefore generates a “template atmospheric map” because its set of model atmospheric conditions correspond to all locations in the data center. Petition (Paper 1), 47. Petitioner’s arguments fail.

Petitioner cannot show that *Bishop* discloses the claimed requirements relating to generating or comparing empirical or template atmospheric maps. At most, *Bishop* discloses the general idea of generating a manual temperature map showing data collected by sensors in a computer room. However, *Bishop* merely discloses generating a temperature map and then manually allowing an environment administrator to use it—the same concept it specifically criticizes in the background as being “extremely labor intensive and thus costly.” EX1006, [0017]; [0106]. Moreover, *Bishop* only explains the concept of temperature maps as something in the prior art—but applicant admitted prior art cannot form the basis of an IPR ground even where the patent owner itself admits prior art in the specification, let alone

when a third-party prior art patent allegedly admits something as prior art. *See Qualcomm Inc. v. Apple Inc.*, 134 F.4th 1355, 1366 (Fed. Cir. 2025). Nor can the disclosure of alleged general knowledge that *Bishop* criticizes be “combine[d]” with *Bishop*’s later disclosure of its improved “system” to show *anticipation* by *Bishop*, as Petitioner conclusorily asserts. *See* Petition (Paper 1), 46-47 (asserting, without support or citation, to “[c]ombin[e] these teachings” from *Bishop* paragraphs [0017] and [0106]); *cf. Intelligent Wellhead*, IPR2024-00583, Paper 9, 16-18 (denying institution and finding Petitioner failed to show a reasonable likelihood of success for an anticipation ground where “the combinability of these embodiments is not readily apparent”); *see also, e.g., Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369-70 (Fed. Cir. 2008).

Bishop also never discloses generating a template atmospheric map at all—nowhere in the background or specification does *Bishop* make any mention of generating a map of template atmospheric conditions. Petitioner’s assertion that *Bishop* compares temperature sensor readings to template conditions confuses two embodiments in *Bishop*. Petitioner cites to paragraphs [0081]-[0085] of *Bishop*, which describe an embodiment that uses temperature sensors *inside* the cabinets and determining whether the cooling system disclosed in *Bishop* is properly cooling that equipment. *See* EX1006, [0081] (“In FIG. 2 the temperature sensors in modules 26, 28, 30, 32[,] and 34 are identified by numerals 36, 38, 40, 42[,] and 44,

respectively.”). *Bishop* explains it uses those module temperature readings to compare against threshold temperature conditions for the individual modules, and can open and close a damper to the cabinet to increase or decrease airflow and cooling to the individual racks. EX1006, [0085]. However, Petitioner then relies on the separate disclosure in paragraph [0106] of *Bishop* to assert that *Bishop* uses temperature sensor measurements from sensors 75 *outside* of the cabinets to generate a temperature map. These elements are illustrated in Figure 2, reproduced below:



EX1006, FIG. 2.

Bishop never discloses comparing temperatures from sensors 75 against any threshold temperature measurements. *Bishop* also never discloses using the temperature readings from the individual modules to generate a temperature map. Indeed, *Bishop* is not even directed to a cooling system that allows the temperatures *outside* of the cabinets to be modified to change cooling—that disclosure is limited to opening the damper to increase or decrease cooling inside individual racks to change the temperatures of the modules. EX1006, [0085].

Therefore, *Bishop* never discloses comparing any generated temperature map to a template atmospheric map, as required by claim 1 (and similarly claim 12). Because *Bishop* fails to disclose the required elements of claims 1 and 12, it fails to anticipate any of the challenged claims. Petitioner has thus failed to show a reasonable likelihood of success for any Challenged Claim in its Ground 2.

C. A POSITA Would Not Have Combined *Nakanishi* and *Bishop* and the Combination Fails to Meet the Claims.

Petitioner’s backup ground asserts that claims 1-21 would have been obvious based on *Nakanishi* as modified in view of *Bishop*. Petition (Paper 1), 62 (citing over 120 paragraphs of its expert’s declaration [EX1002, ¶¶387-509]). However, Petitioner’s conclusory arguments fail to show that any modifications would result in the claims being met, and fail to provide a motivation to combine or reasonable expectation of success.

As set forth above in Sections III.A and III.B, neither *Nakanishi* nor *Bishop* discloses key elements of independent claim 1, including, among others, comparing an empirical atmospheric map to a template atmospheric map (and similarly, independent claim 12). Petitioner appears to simply assume that a POSITA would have been able to modify *Nakanishi* in view of *Bishop*, but provides no arguments in the Petition for why or how that would be done for most of the claim elements. See Petition (Paper 1), 62-63 (asserting, without explanation or analysis, that the “Nakanishi/Bishop Combination renders obvious” elements 1[pre], 1[a], 1[b], and 1[c]) “for the same reasons herein provided for each individual reference”).

Beyond this failure, for step 1[d], regarding comparing an empirical atmospheric map to a template atmospheric map, Petitioner asserts that it would have been obvious to modify *Nakanishi* in view of *Bishop*. Petition (Paper 1), 63-65. However, Petitioner fails to meet its burden.

First, Petitioner’s assertion that *Nakanishi*’s system “already has the capability to generate thermal map images and teaches such visualizations (both empirical and template) as an effective way to monitor and assess computer room temperature conditions,” Petition (Paper 1), 64-65, is incorrect. As discussed above in Section III.A, *Nakanishi* discloses nothing about template atmospheric maps and instead is directed to manual temperature distribution simulations that the ’277 Patent criticizes as ineffective.

Second, Petitioner’s assertion that “Bishop is analogous art and teaches visually comparing thermal maps for identifying hot spots, which is the same purpose of Nakanishi,” Petition (Paper 1), 65, is also incorrect. *Bishop* does not teach comparing thermal maps at all, let alone the concept of identifying hot spots by comparing an empirical atmospheric map to a template atmospheric map. Instead, as discussed above in Section III.B, *Bishop* criticizes prior art methods of thermal map generation as manual and costly, and is not directed to the same solution or purpose as *Nakanishi* (or the claimed subject matter of the ’277 Patent, for that matter). *See, e.g., The Chamberlain Grp., LLC v. Overhead Door Corp.*, IPR2022-00842, Paper 9, 37 (PTAB Oct. 25, 2022) (denying institution where Petitioner failed to show reference was analogous art to the challenged patent); *see also Wang Labs., Inc. v. Toshiba Corp.*, 993 F.2d 858, 864 (Fed. Cir. 1993) (“The Allen-Bradley art is not in the same field of endeavor as the claimed subject matter merely because it relates to memories. It involves memory circuits in which modules of varying sizes may be added or replaced; in contrast, the subject patents teach compact modular memories.”); *Circuit Check Inc. v. QXQ Inc.*, 795 F.3d 1331, 1335 (Fed. Cir. 2015) (“The jury was instructed that the field of the invention is circuit board testers and test fixtures used in the manufacture of electronics. The disputed prior art — rock carvings, engraved signage, and Prussian Blue — is not part of the field of circuit board testers and test figures.”) (cleaned up).

Third, Petitioner’s assertion that performing a visual comparison between an empirical and template atmospheric map would have been a “fairly low-cost and readily interchangeable” solution, Petition (Paper 1), 65, flies in the face of the ’277 Patent and the prior art. The ’277 Patent makes plain that the temperature distribution methods like those in *Nakanishi* were inaccurate and unsophisticated. EX1001, 2:36-40. *Nakanishi* criticizes prior art “manual method[s]” of monitoring temperatures based on temperature sensors throughout the computer room. EX1005, 1:12-30. And *Bishop* explains that the very temperature mapping Petitioner relies on here was “extremely labor intensive and thus costly.” EX1006, [0017]. Thus, Petitioner’s conclusory assertion that a POSITA would have been motivated to implement this type of manual comparison of data to improve cooling is belied by its own evidence.

Lastly, Petitioner attempts to fill in the gaps using “combined teachings of *Nakanishi* and *Bishop* and a POSITA’s knowledge of conventional technologies, tools, and practices, and Dr. Abraham had personally done this before the priority date of the ’277 patent.” Petition (Paper 1), 63. Although not cited by Petitioner here,³ a review of Petitioner’s expert’s declaration for step 1[d] reveals the expert

³ As it does throughout its Petition, Petitioner block-cites its expert’s declaration for step 1[d], Petition (Paper 1), 63 (citing EX1002 ¶¶404-416), and then proceeds to make numerous assertions—without citation or support—as to what references

provides no additional analysis or explanation to support a “POSITA’s knowledge of conventional technologies, tools, and practices” or his personal-use assertion. *See* Petition (Paper 1), 63; *see also Xerox*, IPR2022-00624, Paper 9, 15. And Petitioner’s seeming use of a POSITA’s knowledge and its expert’s own alleged use as the basis for its Ground 3 assertion regarding step 1[d] is also violative of 35 U.S.C. §311(b). *See Qualcomm*, 134 F.4th at 1366-67; *Ingenico Inc. v. IOENGINE, LLC*, 136 F.4th 1354, 1366 (Fed. Cir. 2025).

allegedly disclose and the knowledge of a POSITA. Patent Owner respectfully submits that this approach is improper and that Patent Owner (and the Board) should not have to search and piece together the record. *See, e.g., Juniper Networks, Inc. v. Finjan, Inc.*, IPR2019-00031, Paper 8, 28 (PTAB Mar. 25, 2019) (denying institution and “not[ing] the program code modifications are not discussed in any detail in the Petition and are only superficially discussed in the Nielson Declaration, forcing the Board and Patent Owner to search the record to discover the extent of the alleged modifications.”); *Elmos Semiconductor SE v. Texas Instruments Inc.*, IPR2024-00802, Paper 9, 35-36 (PTAB Nov. 5, 2024) (denying institution and agreeing with Patent Owner that “Petitioner inappropriately invites the Board and Patent Owner to search the record for evidence that might support the full breadth of Petitioner’s contentions”).

In sum: because Petitioner cannot show that *Nakanishi* or *Bishop*, alone or together, disclose the elements of claim 1 (and similarly claim 12), or that a POSITA would have been motivated to combine these references to meet the claims, Petitioner's obviousness ground fails. Petitioner has thus failed to show a reasonable likelihood of success for any Challenged Claim in its Ground 3.

IV. THE BOARD SHOULD NOT CONSIDER THE PETITION BECAUSE PETITIONER FAILED TO NAME ALL REAL PARTIES IN INTEREST AND PRIVIES

As an independent basis for denying institution, the Board should not consider the Petition because Petitioner failed to name all real parties-in-interest and privies. Here, Petitioner identified only Vertiv Corporation as a real party in interest. Petition (Paper 1), §II.A. However, as explained below, Petitioner is funding, directing, and controlling the litigation between Patent Owner and various district court defendants, including at least DataBank and TierPoint, making at least those parties RPIs or privies here that should have been identified in the Petition.

A. Proper Identification of RPIs is Required by Statute to Consider a Petition.

Section 312(a)(2) states that a Petition “may be considered only if ... the petition identifies all real parties in interest.” 35 U.S.C. §312(a)(2). As the Consolidated Trial Practice Guide explains:

The core functions of the “real party-in-interest” and “privies” requirements are to assist members of the Board

in identifying potential conflicts, and to assure proper application of the statutory estoppel provisions. The latter, in turn, seeks to protect patent owners from harassment via successive petitions by the same or related parties, to prevent parties from having a “second bite at the apple,” and to protect the integrity of both the USPTO and federal courts by assuring that all issues are promptly raised and vetted.

CTPG, 12-13.

In determining if a party is a “real party-in interest” or “privy” the Office applies a flexible standard and “avoid[s] rigid definitions or recitation of necessary factors.” *Id.*, 13. Central to the RPI inquiry is a consideration of facts that “justify applying conventional principles of estoppel and preclusion.” *Id.* As to privy:

The notion of “privity” is more expansive, encompassing parties that do not necessarily need to be identified in the petition as a “real party-in-interest.” The Office intends to evaluate what parties constitute “privies” in a manner consistent with the flexible and equitable considerations established under federal caselaw. Ultimately, that analysis seeks to determine whether the relationship between the purported “privy” and the relevant other party is sufficiently close such that both should be bound by the trial outcome and related estoppels.

Id., 14-15.

A common consideration in determining whether a party is a privy is whether the party “exercised or could have exercised control” over a party. *Id.*, 16. Customers of a supplier have previously been considered RPIs if the manufacturer has indemnified the supplier and has the opportunity to control litigation involving the supplier’s use of the manufacturer’s goods. *See Ventex Co. Ltd. v. Columbia Sportswear N.A., Inc.*, IPR2017-00651, Paper 148, 8-9 (PTAB Jan. 24, 2019) (“The exclusive business relationship between Ventex and Seirus relating to the accused Heatwave fabric, and Ventex’s express desire to shield its customers and potential buyers from infringement lawsuits by Columbia strongly suggest that Ventex filed the Petition, at least in part, on Seirus’s behalf”); *PayPal, Inc. v. Ioengine, LLC*, IPR2019-00884, Paper 22, 9 (PTAB Oct. 3, 2019) (“*PayPal v. Ioengine*”) (“Although Petitioner and Ingenico are not codefendants in a single patent infringement proceeding, Ingenico filed a declaratory judgment action seeking a declaration that Ingenico and its customers, including Petitioner, do not infringe the ’047 patent and Patent Owner filed patent infringement counterclaims. The two district court actions have been consolidated for pre-trial purposes. Ingenico’s supplying products to Petitioner that Patent Owner alleges infringe the ’047 patent, the indemnification agreement between Petitioner and Ingenico, and the consolidated district court proceedings constitute a sufficiently significant relationship between Ingenico and Petitioner for purposes of applying the General

Plastic factors.”); *Volkswagen Grp. of Am., Inc. v. Arigna Tech. Ltd.*, IPR2021-01263, Paper 16, 11 (PTAB Jan. 21, 2022) (finding that “a customer-supplier relationship, with agreements between them that required one to indemnify the other” is sufficient to show that a non-party is a real party in interest).

B. Petitioner Failed to Identify All RPIs.

Here, Petitioner did not identify the correct RPIs or privies. Petitioner directs and controls two consolidated district court litigations involving the '277 Patent, *Valtrus Innovations Limited v. DataBank Holdings Ltd.*, No. 2:24-cv-00777 (EDTX) (Lead Case) and *Valtrus Innovations Limited v. TierPoint, LLC*, No. 2:24-cv-00776 (EDTX) (Member Case) (together, the “*DataBank* Action”). The *DataBank* Action is a consolidated case involving two of Petitioner’s customers, DataBank and TierPoint. These cases were consolidated for all pre-trial activities, but the individual cases remain active for separate trials. EX2003, 1 (Consolidation Order)⁴. In both cases, Patent Owner has asserted that Petitioner’s customers directly infringe claims

⁴ With the exception of any patents (cited by column and line number) and citations to paragraph numbers, Patent Owner uses the exhibit page numbering in the lower righthand corner of the Exhibits. For example, exhibit page number 12 of Exhibit 2007 (cited below in the following paragraph in this Section IV.B) corresponds to numbered page 8.

from the '277 Patent, and both DataBank and TierPoint have asserted defenses and counterclaims alleging that the '277 Patent is invalid and not infringed. EX2004, 10, 15-16; EX2005, 7-8, 10.

Petitioner has also claimed that there is declaratory judgment jurisdiction between it and Patent Owner because Petitioner “is contractually bound to indemnify and defend customers against patent infringement claims related to the use of Vertiv products pursuant to various contracts and sales agreements.” EX2006, 12 (¶67). Petitioner has likewise admitted that it has indemnity obligations to DataBank and TierPoint and that, as part of those indemnification agreements, Petitioner “has the right to select counsel, *direct and control* the defense of the claims directed to Vertiv technology and generally control settlement negotiations.” EX2007, 12 (emphasis added). Per Petitioner, “[u]nsurprisingly, [Petitioner’s] customers have pursued those contractual rights” and have “demand[ed] that Vertiv indemnify and defend the claims directed to [Petitioner’s] technology.” EX2007, 12. As a result of those indemnification obligations, Petitioner has engaged the same lawyers in both actions, and Petitioner’s counsel has appeared on behalf of both DataBank and TierPoint. EX2008, 1-2; EX2009, 1. As part of that representation, Petitioner’s counsel has managed the day-to-day aspects of the litigation in the DataBank Action, including document productions, correspondence, and service of invalidity contentions. *See* EX2010, EX2011, EX2012, EX2013, EX2014. Petitioner has also

served invalidity contentions *bearing Petitioner's name*. EX2012 (serving “[o]n behalf of Tierpoint and DataBank” invalidity contentions including “Attachments: 2025-04-01 – Vertiv’s Invalidity Contentions – Cover Pleading.pdf”); *see also* EX2022 (contentions cover pleading).

In analogous circumstances, the Board has acknowledged that such supplier-customer indemnification agreements affect the consideration of estoppel in IPR proceedings. *See, e.g., Ventex*, IPR2017-00651, Paper 148, 8-9; *PayPal v. Ioengine*, IPR2019-00884, Paper 22, 9; *Volkswagen*, IPR2021-01263, Paper 16, 11. Here, the Board should reject Petitioner’s claim that it “is not a party to” the *DataBank* Action, Petition (Paper 1), 73, and acknowledge Petitioner’s central role in DataBank’s and TierPoint’s defense, including their invalidity arguments and strategy.

Importantly, Petitioner’s failure to name all of the real parties in interest (“RPIs”) or privies means that it failed to meet the statutory requirements under 35 U.S.C. §312(a)(2) (A Petition “may be considered *only if*” the “petition identifies all real parties in interest”) (emphasis added); *see also* 37 C.F.R. §42.8(b)(1). Petitioner identifies only Vertiv Corporation as an RPI or privy to the Petition and entirely ignores the roles of DataBank and TierPoint (and the *DataBank* Action) (as well as additional RPIs and privies from the earlier litigations). *See* Petition (Paper 1), 1.

But, as explained above, Petitioner has admitted that it has entered into indemnity agreements with DataBank and TierPoint (and others) and controls the

defenses of both DataBank and TierPoint in the *DataBank* Action. The indemnification requirements of its agreements and the direction and control that Petitioner exerts over the *DataBank* Action makes DataBank and TierPoint RPIs or privies to this Petition. *Ericsson Inc. v. Regents of the Univ. of Minn.*, IPR2017-01213, Paper 56, 5, 14 (PTAB June 19, 2020) (finding that “supply agreements” that “require” a party to “indemnify” its customers against patent infringement and the “opportunity to control the defense” of other defendants creates a privity relationship between a petitioner and other “district court defendants”); *Bungie, Inc., v. Worlds Inc.*, IPR2015-01264, Paper 64, 35, 45 (PTAB Jan. 14, 2020) (finding that a non-party is a privy when an “indemnification provision” supports a finding that the Petitioner and non-party “had a preexisting business relationship regarding the defense of infringement allegations” and the non-party “benefited from the filing of the petitions” making the non-party RPI and finding the Petition “time-barred under § 315(b)”); *PayPal, Inc. v. Personal Web Techs., LLC*, IPR2019-01111, Paper 27, 23 (PTAB Nov. 22, 2019) (finding non-party to be a privy when it had a supplier-customer relationship with Petitioners, the non-party has “performed pursuant to [an] indemnity agreement” and “actually assumed control of the lawsuits involving its customers [and] defended them”); *Clear-Vu Lighting, LLC v Univ. of*

Strathclyde, IPR2019-00588, Paper 24,⁵ 9 (PTAB Sept. 30, 2019) (finding that a party is an RPI when it “would have been obligated to fund and control the defense” of a related patent litigation); *RPX Corp. v. Applications in Internet Time, LLC*, IPR2015-01750, Paper 128, 9, 25 (PTAB Oct. 2, 2020) (on remand from the Federal Circuit, finding that a Salesforce, a customer of RPX, was an RPI “given the significant relationship between Salesforce and RPX and the strong economic incentives on RPX to represent Salesforce’s interests”).

C. The Board’s Prior Decisions Permitting Parties to Not Name all RPIs are Incorrect and Procedurally Void.

Patent Owner recognizes that certain prior Board decisions, including *SharkNinja Operating LLC v. iRobot Corp.*, IPR2020-00735, Paper 11, 10-11 (PTAB Oct. 13, 2020) (precedential), found that the Board should not deny institution based on a failure to name all RPIs when there is no time bar implication due to the “interests of cost and efficiency.”⁶ Respectfully, these decisions are both

⁵ Public version available at Paper 28.

⁶ Patent Owner also respectfully submits that this is an important consideration under the facts here, as Petitioner filed its Petition only days before the statutory deadline for its RPIs and privies. *See* EX2020, 2; EX2019, 8. Not only does Petitioner’s affirmative failure demonstrate that Petitioner has failed, as a matter of law, to meet

incorrect as a matter of law and are procedurally void because they are not the product of required notice-and-comment rulemaking. The Director is authorized to de-designate precedential decisions and issue a decision correctly interpreting the statute.

V. CONCLUSION

For the reasons explained above, Patent Owner respectfully submits that the Board should deny institution of the Petition.

Dated: July 14, 2025

Respectfully submitted,

/Patrick Colsher/

Patrick Colsher (Reg. No. 74,955)

Counsel for Patent Owner

the IPR statutory requirements, but without a decision, Petitioner could file additional Petitions and force both Patent Owner and the Board to expend further unnecessary resources.

CERTIFICATE OF COMPLIANCE

I hereby certify that this paper complies with the type-volume limitation of 37 C.F.R. §42.24 (as determined by the Microsoft Word word-processing system used to prepare this paper) because it contains 6,254 words, excluding the parts of the paper exempted by 37 C.F.R. §42.24(a).

Dated: July 14, 2025

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CERTIFICATE OF SERVICE

I hereby certify that the foregoing document was served on July 14, 2025, via electronic mail upon counsel of record for Petitioner at the following email addresses:

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