

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VMware, Inc.

Petitioner,

v.

Cirba IP Inc.

Patent Owner.

Case PGR2021-00098
U.S. Patent 10,951,459

PATENT OWNER'S RESPONSE

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| 2001 | Declaration of Dr. Vijay Madisetti in Support of Patent Owner’s Response |
| 2002 | List of Materials Considered by Dr. Vijay Madisetti |
| 2003 | <i>Curriculum Vitae</i> of Dr. Vijay Madisetti |
| 2004 | Order, D.I. 1161, <i>Cirba Inc. (d/b/a Densify) and Cirba IP, Inc., v. VMware, Inc.</i> , Case 1:19-cv-0742-LPS (D. Del.), Feb. 24, 2022 |
| 2005 | Memorandum Opinion, D.I. 1160, <i>Cirba Inc. (d/b/a Densify) and Cirba IP, Inc., v. VMware, Inc.</i> , Case 1:19-cv-0742-LPS (D. Del.), Feb. 24, 2022 |
| 2006 | Joint Claim Construction Brief, D.I. 1094, <i>Cirba Inc. (d/b/a Densify) and Cirba IP, Inc., v. VMware, Inc.</i> , Case 1:19-cv-0742-LPS (D. Del.), Feb. 24, 2022 |
| 2007 | DICTIONARY BY MERRIAM-WEBSTER () |
| 2008 | THE MERRIAM-WEBSTER DICTIONARY (2004) |
| 2009 | ROGET’S II THE NEW THESAURUS (3d ed. 2003) |
| 2010 | Newman, Morris et al., IBM, SERVER CONSOLIDATION WITH VMWARE ESX SERVER (January 2005) |
| 2011 | Brodkin, Jon, <i>Virtual Server Sprawl Highlights Security Concerns</i> , April 30, 2008 |
| 2012 | Provazza, Alyssa, <i>FAQ: Devising a Server Consolidation Plan</i> , November 24, 2010 |
| 2013 | VMware, Inc., <i>Virtualization</i> (available at https://www.vmware.com/solutions/virtualization.html) |
| 2014 | The Computer Language Company Inc., <i>Virtual Environment</i> , (available at https://www.computerlanguage.com/results.php?definition=virtual+environment) |
| 2015 | Hammersley, Eric, PROFESSIONAL VMWARE SERVER 1-9 (2007) |
| 2016 | VMware, Inc., <i>Introduction to VMware Infrastructure, Update 2 and later for ESX Server 3.5, ESX Server 3i version 3.5, VirtualCenter 2.5</i> (2008, 2009) |
| 2017 | Defense Industry Daily, <i>The Virtual Armed Forces: US Military Turns to Virtualization</i> , August 15, 2011 (available at https://www.defenseindustrydaily.com/dod-virtual-machines-06991/) |
| 2018 | Steele, Colin, <i>Face-Off: VMware vs. Microsoft in the Hypervisor Wars</i> , May 1, 2009 (available at http://web.archive.org/web/20150909123350/https://itknowledgeexchange.techtarget.com/server-virtualization/face-off-vmware-vs-microsoft-in-the-hypervisor-wars/) |
| 2019 | Kerner, Sean Michael, <i>KVM vs. Xen vs. VMware. Is it a Hypervisor War?</i> , September 6, 2008 (available at |

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| | https://www.internetnews.com/software/print.php/3769911) |
| 2020 | Venezia, Paul, <i>Ramming Microsoft Down IT's Throat</i> , September 21, 2009 (available at https://www.infoworld.com/article/2629925/ramming-microsoft-down-it-s-throat.html) |
| 2021 | Dubie, Denise, <i>VMware, MS Battle Over Virtualization Management</i> , June 27, 2008 (available at https://www.cio.com/article/2435386/vmware--ms-battle-over-virtualization-management.html) |
| 2022 | Rosenblum, Mendel & Garfinkel, Tal, <i>Virtual Machine Monitors: Current Technology and Future Trends</i> , COMPUTER, Vol. 38, No. 5, 39-47 (May 2005) |

Cirba IP Inc. (“Patent Owner”) submits this Response to the Petition of VMware, Inc. (“Petitioner”) seeking post grant review (“PGR”) of U.S. Patent No. 10,951,459 (“the ’459 patent”).

I. INTRODUCTION

The Petition fails to show that any of the challenged claims are unpatentable for lack of written description under 35 U.S.C. § 112(a). Petitioner’s arguments are deficient because they are grounded in improper claim constructions that do not abide by the well-settled principles articulated in *Phillips*¹ and its progeny, and that were rejected by a district court’s recent claim construction order in a related case involving the same patent. Petitioner relies on these erroneous claim construction positions, which improperly narrow the scope of the claims, to argue that the intrinsic record does not contain adequate written description for the “already placed” and “issuing instructions” claim elements. When properly construed, however, it becomes clear that these elements are fully supported by written descriptions throughout the disclosures in the last pre-AIA application in the priority chain of the ’459 patent, *i.e.*, the ’936 application. This pre-AIA support removes Petitioner’s sole basis for claiming post-grant review eligibility.

¹ *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005).

For at least the reasons explained in this Response, Petitioner has not satisfied its burden of showing by a preponderance of the evidence that any challenged claim is unpatentable. The Board should also find that the '459 patent is not eligible for post-grant review, as adequate written description support exists in at least one pre-AIA application in the '459 patent's priority chain.

II. STATUS OF RELATED MATTERS

The '459 patent is the subject of litigation in *Cirba, Inc. d/b/a Densify et al. v. VMware, Inc.*, DDE-1-19-cv-00742-LPS.

III. OVERVIEW OF THE '459 PATENT

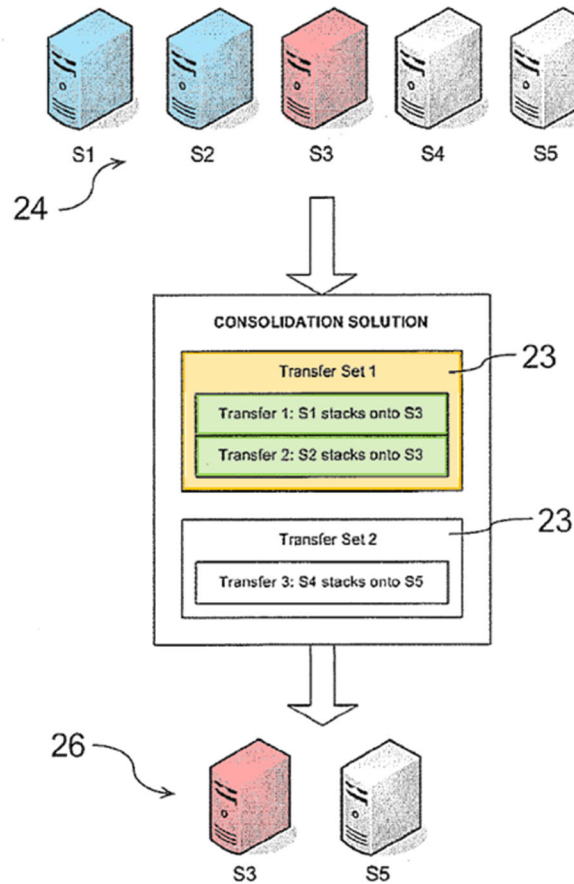
The '459 patent discloses methods and systems for determining compatibility of computer systems. As the information technology industry trended away from large, centralized computer systems (such as mainframes) toward smaller, “distributed systems” of multiple computers operating in parallel, significant practical challenges emerged. Ex. 1001 ('459 patent) at 1:35-58. For example, while distributed approaches allowed computer resources to be deployed in relatively low-cost increments and with greater flexibility, they led to a proliferation of servers (known as “sprawl”), resulting in an overabundance of processing capacity and posing complex and costly system management challenges. *Id.* at 1:51-2:4.

Organizations sought to reduce costs and increase efficiency by consolidating, or “combining,” distributed computing systems. *Id.* at 2:5-42. But identifying

consolidation strategies was often difficult, error-prone, and time consuming due to the virtually infinite number of possible consolidation permutations in large enterprise computing environments, which included suboptimal and incompatible system combinations. *Id.* at 2:43-60. For example, consolidation strategies could employ various techniques of combining computing resources, including “virtualization,” *id.* at 2:14-19, operating system-level (or “OS-level”) “application stacking,” *id.* at 2:20-29, “database stacking,” *id.* at 2:30-36, and physical consolidation, *id.* at 2:37-42, among others. In particular, strategy selections were complicated by various considerations of incompatibility among the computer systems to be consolidated, such as complex systems configurations, diverse business requirements, dynamic workloads, and the heterogenous nature of distributed systems. *Id.* at 2:51-60; *see also id.* at 39:43-52.

The '459 patent discloses novel and inventive solutions for determining placement of and for placing multiple “source” computer systems onto “target” computer systems. Ex. 1001 at 5:57-64; 34:40-48; 39:43-52. Among other things, the '459 patent discloses a “multi-dimensional compatibility analysis” that “evaluates the compatibility of transfer sets that can involve multiple sources being transferred to a common target.” *Id.* at 6:42-45; 7:27-31; 29:37-45, 30:36-44. Referring to annotated Figure 3 below, a “transfer” (green) “describes the movement

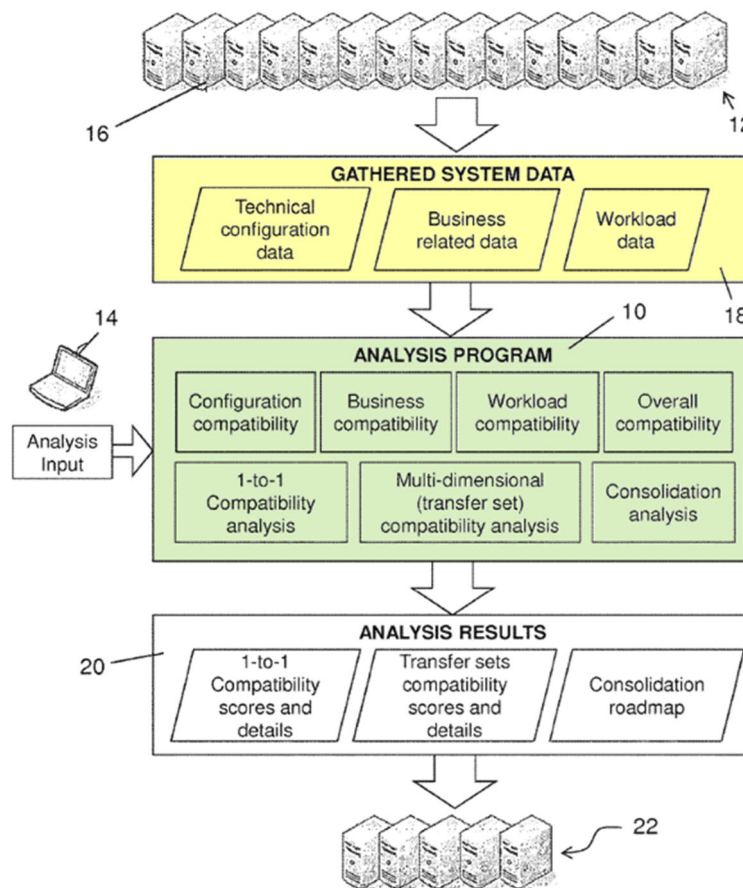
of a single source entity” (blue) onto a target” (red), and “[a] transfer set” (yellow)
 “can be considered one or more transfers that involve a common target.” *Id.* at 6:38.



In a multi-dimensional compatibility analysis, “a transfer set can include multiple sources (N) to be transferred to the target, [and] the analysis may evaluate the compatibility of sources amongst each other (N-by-N) as well as each source against the target (N-to-1).” *Id.* at 30:36-44. In other words, “[a]n N-to-1 *intercompatibility* analysis assesses each source system against the target,” and “[a]n N-by-N *intracompatibility* analysis evaluates each source system against each of the other source systems.” *Id.* at 30:46-53 (emphases added).

Factors that impact whether systems can be combined include technical, business, and workload parameters. *Id.* at 5:40-53, 6:65-7:10, 10:21-23, 15:24-29. Examples of technical parameters include “the operating system, OS version, patches, application settings, hardware devices, etc.” of systems. *Id.* at 5:40-42. Examples of business parameters include “the physical location, organization department, data segregation requirements, owner, service level agreements, maintenance windows, hardware lease agreements, software licensing agreements, etc.” *Id.* at 5:43-49, 6:66-7:2, 39:43-48. Examples of workload parameters include “various resource utilization and capacity metrics related to the system processor, memory, disk storage, disk I/O throughput and network bandwidth utilization.” *Id.* at 5:49-53.

System compatibility with respect to these parameters may be evaluated during the compatibility analysis using “differential rules” and “workload stacking” algorithms. *Id.* at 6:66-7:7. With reference to annotated Figure 1 below, technical (“configuration”), business, and workload parameters, are first obtained through data collection (yellow), and differential rules are then used to evaluate those parameters and determine the compatibility between systems with respect to technical, business, and workload constraints (green). Ex. 1001 at 5:15-24, 5:29-39, 10:21-23, 11:6-9, 15:24-39, 29:48-51, Fig. 1.



The differential rules may be grouped into “rule sets” that allow or prevent systems from being combined for a given consolidation strategy, while meeting requisite compatibility constraints. Ex. 1001 at 7:32-38, 10:21-27. Compatibility constraints may include technical, business, and workload constraints. *Id.* at 10:21-23, 15:24-29, 29:48-51. The constraints can be expressed in rule sets, and a rule set can be used to evaluate system compatibility. *Id.* at 8:12-14; 10:9-11, 10:21-25, 15:24-29. Once specified, the compatibility analyses may be executed, and a placement of source systems onto target systems may be determined. *Id.* at e.g. 6:36-60, 29:36-30:44, 30:54-57, 33:34-53, 36:58-67, 39:5-13, Figs. 3, 51, 52. Instructions

for placing source systems onto target systems in accordance with the determined placement may then be issued. *Id.*

The '459 patent discloses improvements over existing approaches to determining placement of and placing source systems on target systems. For example, the multi-dimensional compatibility analysis evaluates candidate systems for placement against each other “based not only on technical and workload constraints . . . but also business constraints” to determine their compatibility, and not just against arbitrary criteria (such as lease status or financial savings targets). *Id.* at 6:61-65, 15:24-29. The '459 patent's multi-dimensional analysis also enables the placement of sources on targets to be done in accordance with all three types of constraints (i.e., technical, business, and workload) used in the multi-dimensional compatibility analysis. Ex. 1001 at 30:36-44, 39:15-31. It also enables compatibility to be determined with these methods between and among systems either already placed on a specific target system or being evaluated for placement onto a specific target system. Ex. 1001 at 29:37-30:44.

The '459 patent's multi-dimensional compatibility analysis “evaluates the compatibility of transfer sets that can involve multiple sources being transferred to a common target.” Ex. 1001 at 7:26-28. The '459 patent's multi-dimensional compatibility analyses may use as inputs specified or previous consolidation solutions and auto fit input parameters. Ex. 1001 at 9:7-15; 29:37-58.

IV. LEVEL OF ORDINARY SKILL

Petitioner sets forth a level of ordinary skill. Petition at 18-19. Although Patent Owner does not concede that Petitioner’s definition of a person of ordinary skill (“POSA”) is correct, Patent Owner does not offer a competing definition for purposes of this proceeding. The Petition fails to establish unpatentability even if the Board were to apply Petitioner’s definition.

V. CLAIM CONSTRUCTION

A. Governing Principles

The standard for claim construction in post grant review proceedings is “the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.200(b). Thus, claims are construed in accordance with *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) and its progeny.² See 415 F.3d at 1312-13.

² See 83 Fed. Reg. 51,340, 51,341, 51,345, 51,358 (Oct. 11, 2018) (amending 37 C.F.R. § 42.200(b) effective November 13, 2018) (now codified at 37 C.F.R. § 42.200(b) (2019)).

The “starting point in construing a claim term must be the words of the claim itself.” *Takeda Pharm. Co. v. Zydus Pharms. USA, Inc.*, 743 F.3d 1359, 1364 (Fed. Cir. 2014) (citing *Phillips*, 415 F.3d at 1314). “Proper claim construction [also] demands interpretation of the entire claim in context, not a single element in isolation.” *Hockerson–Halberstadt, Inc. v. Converse Inc.*, 183 F.3d 1369, 1374 (Fed.Cir.1999). “While certain terms may be at the center of the claim construction debate, the context of the surrounding words of the claim also must be considered in determining the ordinary and customary meaning of those terms.” *ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed. Cir. 2003).

Claims are not construed in a vacuum. Rather, “the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Phillips*, 415 F.3d at 1313. Indeed, the specification “is the single best guide to the meaning of a disputed term.” *Id.* at 1315.

A patentee may be its own lexicographer. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed.Cir.1996). Thus, “a definition of a claim term in the specification will prevail over a term’s ordinary meaning if the patentee has acted as his own lexicographer and clearly set forth a different definition.” *3M Innovative Properties Co. v. Avery Dennison Corp.*, 350 F.3d 1365, 1371 (Fed. Cir. 2003). But “[w]ithout evidence in the patent specification of an express intent to impart a novel

meaning to a claim term, the term takes on its ordinary meaning.” *Optical Disc Corp. v. Del Mar Avionics*, 208 F.3d 1324, 1334-35 (Fed. Cir. 2000).

To determine whether a patent imparts a special meaning to a claim term, judges may consult general purpose dictionaries. *Vitronics*, 90 F.3d at 1584 n.6. “For example, a judge who encounters a claim term while reading a patent might consult a general purpose or specialized dictionary to begin to understand the meaning of the term, before reviewing the remainder of the patent to determine how the patentee has used the term.” *Phillips*, 415 F.3d at 1324; *see id.* at 1322.

However, it is improper to construe a claim term more broadly than its ordinary meaning “as reflected in dictionary definitions and in the overall context of the intrinsic record.” *See Cross Med. Prod., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1306 (Fed. Cir. 2005). “Broadening of the ordinary meaning of a term in the absence of support in the intrinsic record indicating that such a broad meaning was intended violates the principles articulated in *Phillips*.” *Nystrom v. TREX Co.*, 424 F.3d 1136, 1145-46 (Fed. Cir. 2005). “Although . . . each term standing alone can be construed as having varying degrees of breadth, each term must be construed to implement the invention described in the specification.” *On Demand Machine Corp. v. Ingram Industries, Inc.*, 442 F.3d 1331, 1340, 1344 (Fed. Cir. 2006).

B. Patent Owner's Claim Construction Analysis

1. "source system" and "target system"

Patent Owner proposes that the Board adopt the constructions of "source system" and "target system" ordered by the United States District Court for the District of Delaware in the related proceeding captioned *Cirba, Inc. d/b/a Densify et al. v. VMware, Inc.*, DDE-1-19-cv-00742-LPS. There the district court adopted Patent Owner's proposed construction for "source system" ("a physical, virtual, or hypothetical system from which applications and/or data are moved or are to be moved") and "target system" ("a physical, virtual, or hypothetical system to which applications and/or data are moved or are to be moved"). Ex. 2004 (2/24/2022 claim construction Order) at 1. In adopting Patent Owner's constructions, the court rejected the very same proposed constructions and arguments that Petitioner raises in this proceeding. Ex. 2005 (2/24/2022 Memorandum Opinion) at 9-12.

Patent Owner's support for its constructions in the district court case, which the court found persuasive, are equally applicable here. Ex. 2006 (Joint Claim Construction Brief) at 34-35, 38-40, 42-43; Ex. 1001 at 5:57-64, 6:35-41. The patentees defined "source system" as "a system from which applications and/or data are to be moved," and "target system" as "a system to which such applications and/or data are to be moved," while also making clear that "source systems" include systems that are being moved or are already moved. Ex. 1001 at 5:57-60; Ex. 2006

(Joint Claim Construction Brief) at 34-35, 39. For example, the patent explains that “[c]onsolidation . . . can be considered to include one or more ‘transfers,’” where “[t]he *actual transfer* describes *the movement* of a single source entity onto a target” and “[t]he transfer type (or consolidation strategy) describes how a source entity *is transferred* onto a target, e.g. virtualization, OS stacking etc.” Ex. 1001 at 6:35-41 (emphasis added). The patent also teaches that “[t]he [compatibility] analysis can be performed on an analysis with *pre-existing* source-target transfers,” *Id.* at 34:44-46 (emphasis added),³ and that “the compatibility analysis can evaluate the incremental effect of adding other source systems . . . to the specified transfer sets,” whereby a source system “can be individually assessed against [a] transfer set” that already includes one or more source systems stacked onto a target system. *Id.* at 30:18-26. This demonstrates that the specification is not limited to “forward-looking ‘analysis’ activity” only, but also compatibility analyses involving source systems that are already moved to a target system. To this point, the patent specifically teaches compatibility analyses may be used for purposes other than consolidation, including activities that can be performed *after* source systems have been moved to target systems, including “optimization,” “administration,” and “change.” Ex. 1001

³ This excerpt of the ’459 patent specification corresponds to Paragraph 345 of the ’936 application. *Compare* Ex. 1001 at 34:40-48 *with* Ex. 1009 at [00345].

at 39:43-48. The patent also makes clear that “systems” may be “physical systems, virtual systems or hypothetical models.” *Id.* at 5:65-6:1.

VMware (the Petitioner in this proceeding) (hereinafter referred to as “Petitioner” for clarity) argued in the district court proceeding that “source system” is limited to “a system from which applications and/or data are to be moved,” and “target system” is limited to “a system to which applications and/or data from a source system are to be moved.” Ex. 2006 (Joint Claim Construction Brief) at 34, 42. Petitioner argued that its constructions “follow[] the specification’s express definition” and Patent Owner’s “preliminary response to [Petitioner’s] IPR petition against the ’492 patent,” and that “[t]he PTAB adopted [these] construction[s] when instituting the IPR.” *Id.* at 35-36, 43-44. Petitioner ignored the fact that Patent Owner’s arguments (then and now) are fully consistent with the patentees’ lexicography; Petitioner also blinded itself to other relevant disclosures in the specification, which make clear that the intended scope of “source system” mirrors Patent Owner’s construction. *See Trading Techs. Int’l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1353-56 (Fed. Cir. 2010) (affirming construction that “made two important changes to [an] express definition” in the specification based on additional context in “the claims, the rest of the specification, and the prosecution history”).

Petitioner’s rigid adherence to its improper construction is presumably motivated by the fact that its Section 112(a) argument depends on it. In seeking to

exclude “past or present (real-time) moves” of source systems, Petitioner hopes to convince the Board that, once moved, a “source system” effectively ceases to exist, because it is no longer “an actual source of applications and data.” Paper 2 at 32 (PGR2021-00098, Petition for PostGrant Review of U.S. Patent No. 10,951,459 (hereinafter referred to as “Petition”)). The specification, however, disproves this theory. Throughout the specification, “source systems” that are moved, stacked, or transferred are still referred to as “sources.” Ex. 1001 at, *e.g.*, Figs. 22, 25, 26, 49, 52, 6:1-57, 10:39-53; 15:1-12; 16:54-17:7; 30:1-26. And once placed, a source may still be evaluated for placement elsewhere. *See, e.g., id.* at 29:59-30:44.

The district court rejected Petitioner’s arguments and adopted Patent Owner’s. Although the court acknowledged that “the construction VMware now proposes is the same one the PTAB adopted when instituting the IPR [of the ’492 patent],” and that “VMware argues its construction is consistent with the specification’s express definition,” (Ex. 2005 (2/24/2022 Memorandum Opinion) at 10-11), the court nonetheless found Patent Owner’s construction appropriate and construed “source system” to mean “a physical, virtual, or hypothetical system from which applications and/or data *are moved* or are to be moved”; “target system” was similarly construed. Ex. 2004 (2/24/2022 claim construction Order) at 1 (emphasis added). In so ordering, the court found that the specification supported the specificity set forth in Patent Owner’s construction. Ex. 2005 (2/24/2022 Memorandum Opinion) at 10

(“[T]he specification’s disclosure that the systems may be physical, virtual, or hypothetical is consistent with the express definition while providing more specificity.”) (citing Patent Owner’s arguments in its claim construction brief). The court also concluded that “the patent does not place a temporal limit on the claimed ‘source system’ – that is, *it does not exclude systems that have already been moved* or are currently being moved.” *Id.* (citing Patent Owner’s arguments at the claim construction hearing) (emphasis added). The Board should adopt the district court’s constructions here for the same reasons. Ex. 2001 ¶¶ 75 - 84.

2. “place” and “placement”

The Board acknowledged in its Decision granting institution that Petitioner “makes arguments based on the meaning of the term ‘placement’ in the claims, [but] never conducts a claim construction analysis for the terms “placed” or “placement.” Paper 12 (Institution Decision) at 22.⁴ The Board stated that “[t]o the extent

⁴ Petitioner’s failure to include a claim construction analysis for the “placed” and “placement” terms, while basing the petitioned Grounds on a particular interpretation of those terms, violates the requirements of 37 C.F.R. § 42.204(b)(3). Though the Board invited the parties to address the proper *construction* of these terms during the trial, Petitioner should not be allowed to use its Reply to offer new rationales to show unpatentability under Patent Owner’s proposed construction. *See*

appropriate, the parties may address the proper construction of these terms during the trial. *Id.* Patent Owner addresses construction of these claim terms below.

Based on the plain meaning of the claim terms and the context provided by the surrounding claim language and the '459 patent's specification, the "place" and "placement" terms would be understood by a POSA to mean putting or arranging, *i.e.*, placing or placement of systems includes moving, transferring, stacking or otherwise arranging systems. Ex. 2001 ¶¶ 85 - 87. The district court agreed, finding

Consolidated Trial Practice Guide (November 2019) ("CTPG") at 74 ("Respond' in the context of 37 C.F.R. § 42.23(b) does not mean proceed in a new direction with a new approach as compared to the positions taken in a prior filing. . . . [A] reply or sur-reply that raises a new issue or belatedly presents evidence may not be considered.") (citing *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369–70 (Fed. Cir. 2016)); *see also Axonics, Inc., v. Medtronic, Inc.*, IPR2020-00712, Paper 42 at 34-37 (P.T.A.B. Sept. 22, 2021) (where "Petitioner chose to interpret the claims" in a particular way in its petition, notwithstanding contrary evidence in the specification, "Petitioner's apparent misapprehension of what is disclosed in the [challenged] patent as [of] the filing of its Petition does not afford Petitioner the opportunity to present new arguments in its Reply" under Patent Owner's proposed construction).

“the specification does not limit the scope of the ‘place’ terms to exclude all other actions aside from ‘moving,’ as it additionally includes references to, for example, ‘consolidating,’ ‘stacking,’ and ‘transferring.’” Ex. 2005 (2/24/2022 Memorandum Opinion) at 13.

Independent claims 1, 32, and 63 of the ’459 patent each recite in substantially similar form the following elements that include “place” terms:

- “evaluat[ing] compatibility between the specific source system from the plurality of source systems and one or more other source systems either already *placed* on the specific target system, or being evaluated for *placement* onto the specific target system”
- “evaluat[ing] compatibility ... by evaluating the impact on resource utilization of the specific target system of *placing* the specific source system on the specific target system, in combination with the one or more other source systems, either already *placed* on the specific target system”

Ex. 1001, claims 1, 34, and 63. A POSA would have understood the plain meaning of “place” and “placement” as used in ’459 patent to be consistent with the full panoply of consolidation and transfer analyses disclosed in the ’459 patent, and not limited to the singular concept of “moving the entire source system itself (i.e., not just a part of it”) as Petitioner contends. Ex. 2001 ¶ 90. Petition at 34. Indeed,

Petitioner cites no support—from the specification or otherwise—to support its conclusory statement as to the scope of “placement.”

Not only is Petitioner incorrect in its assertion that “place” and “placement” are limited to moving the entire source system itself, but Petitioner’s argument is inconsistent with Petitioner’s own argument that a “source system” is distinct from its applications and/or data, and that consolidation is limited to “only the applications and data of the source system [being] moved to the target system.” Petition at 32-33. The ’459 patent teaches both. The ’459 patent expressly describes analysis of “compatibilities between systems 16 based on [] parameters to determine if efficiencies can be realized by *consolidating either entire systems 16 or aspects or components thereof*.” Ex. 1001 at 6:62-65 (emphasis added). The ’459 patent goes on to explain that “system,” in the context of the ’459 patent, should be understood to encompass entire systems (e.g., “virtual systems” or virtual machines), in addition to components of said systems. Ex. 2001 ¶¶ 48, 76, 81. For example, the ’459 patent teaches that “systems” can be entire systems (e.g., “computer systems,” “virtual systems,” or “hypothetical systems”). Ex. 1001 at 5:65-6:16. And the ’459 patent further teaches that “systems” may also be “entities” including “components” of said systems. *Id.* at 6:17-28. For example, the ’459 patent discloses the concepts of “[d]atabase stacking, which “combines *data* within a database instance,” as well as “[a]pplication stacking,” which “combines one or more database instances at the

application server level.” *Id.* at 2:30-36 (emphasis added); *see also id.* at 8:32-42, Fig. 3. This is one example of how the ’459 teaches placing applications and/or data, in addition to entire source systems.

Patent Owner’s plain meaning interpretation of the “place” and “placement” terms is consistent with commonly understood definitions of those terms—“to put in or as if in a particular place,” “to put in a particular state,” or “to distribute in an orderly manner.” Ex. 2007 (*Place*, Dictionary by Merriam-Webster, <https://www.merriam-webster.com/dictionary/place> (last visited March 4, 2022)); Ex. 2008 (The Merriam-Webster Dictionary (2004)) at 549; Ex. 2001 ¶ 89. The terms “place” and “placement” appear only in the claims, and the specification does not otherwise redefine or restrict the common understanding of the terms. *See Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004) (“Even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” (internal quotes omitted)). That the precise claim term does not appear in the specification is not dispositive. *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1345 (Fed. Cir. 2016) (“[W]hen examining the written description for support for the claimed invention, we have held that the exact terms appearing in the claim

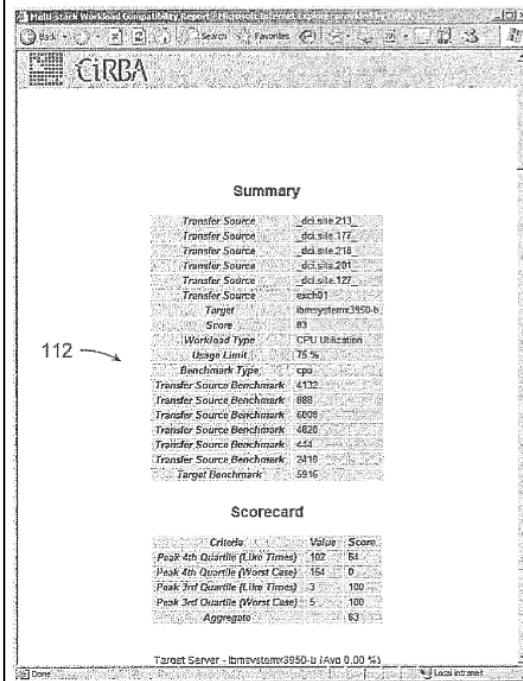
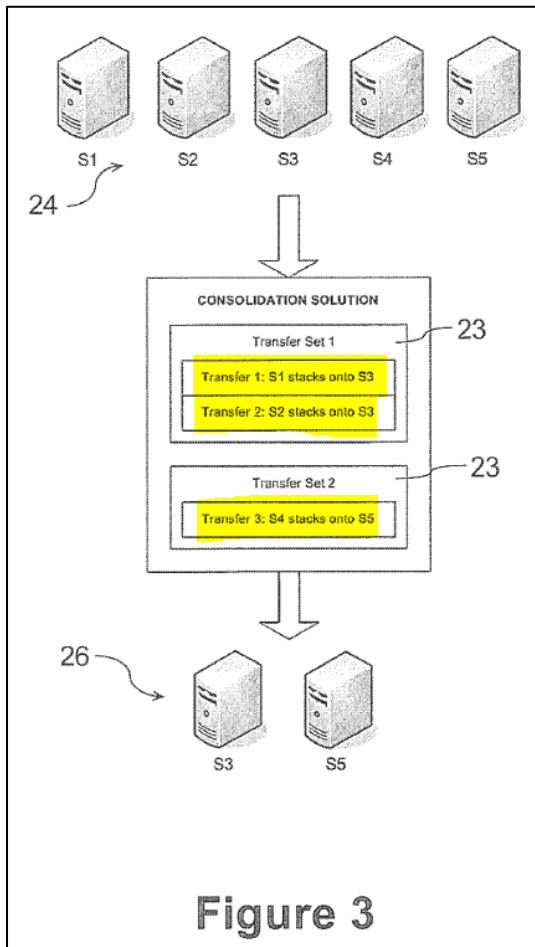
‘need not be used *in haec verba*.’” (quoting *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997))).

Petitioner’s apparent claim construction position improperly attempts to narrow the “place” and “placement” terms by replacing them with the word “move,” but the term “move” is not synonymous with “place.” Ex. 2009 (Roget’s II The New Thesaurus (3d ed. 2003)) at 736; Ex. 2001 ¶ 89. The ’459 patent specification describes numerous examples of what the claim terms “place” and “placement” mean in the context of the patent, including “consolidating,” “stacking,” “moving,” “forward consolidating,” “transferring,” “combining,” “migrating,” “arranging,” “packing,” “fitting,” etc. Below are just a few examples excerpted from the specification:

- “[O]rganizations have become increasingly concerned with such redundancies and how they can best achieve **consolidation** of capacity to reduce operating costs.” Ex. 1001 at 2:5-7 (emphasis added).
- “OS-Level application **stacking** involves **moving** the applications and data from one or more systems to the consolidated system.” *Id.* at 2:20-22 (emphasis added).
- “[H]ypothetical source systems can be . . . **‘forward consolidated’** onto existing target systems.” *Id.* at 6:6-10.
- “Consolidation as described above can be considered to include one or more ‘transfers’. The actual transfer describes the movement of a single source entity onto a target, wherein the specification identifies the source, target and transfer type. The transfer type (or consolidation strategy) describes how a source entity is transferred onto a target, e.g. virtualization, OS stacking etc.” *Id.* at 6:35-41.

- “A transfer set 23 (see FIG. 3) can be considered one or more transfers that involve a common target, wherein the set specifies one or more source entities. the target and a transfer type. *Id.* at 6:42-45.
- “[W]hen computing multi-dimensional compatibility scores (multiple sources ***transferred*** to a single target)” *Id.* at 13:36-38.
- “The analysis employs a workload ***stacking*** model to ***combine*** the source workloads onto the target system. The combined workloads are then evaluated using threshold and a scoring algorithm to calculate a compatibility score for each workload type.” *Id.* at 17:56-60 (emphasis added).
- “The compatibility is evaluated in two directions, e.g. for a Server A and a Server B, ***migrating*** A to B is considered as well as ***migrating*** B to A.” *Id.* at 24:65-67.
- “The preferred output show in FIG. 4 ***arranges*** systems 16 in the map 32 such that 100% compatibility exists” *Id.* at 27:9-12.
- “The transfer auto fit problem can be considered as a significantly more complex form of the classic bin packing problem. The bin packing problem involves ***packing*** objects of different volumes into a finite number of bins of varying volumes in a way that minimizes the number of bins used. The transfer auto fit problem involves ***transferring*** source entities onto a finite number of targets in a way that maximizes the number of transfers. The basis by which source entities are assessed to “***fit***” onto targets is based on the highly nonlinear compatibility scores of the transfer sets. *Id.* at 34:64-35:6.

Further examples of descriptions of “place” and “placement” can be found in the figures of the ’459 patent:



Ex. 1001 at Fig.3 (equating “transfer” with “stacks”); Fig.27 (showing transfer sources and target). The claim terms “place” and “placement” as used in the ’459 patent are commonly used within the virtualization industry consistent with the above disclosures from the specification, which further supports affording them their plain and ordinary meaning. Ex. 2001 ¶ 88.

Petitioner’s attempt to limit “place” to “move” seeks to craft support for its Section 112(a) arguments. If “place” is limited to “move,” then Petitioner presumes it can ignore disclosures that teach evaluating sources against sources that have been

put on transfer sets. *E.g.*, Ex. 1001 at 29:37-30:44. But as the disclosures show, and as explained more fully below, Petitioner’s construction is impermissibly limiting and should be rejected.

For the reasons explained above, and in view of the context provided by the ’459 patent as a whole, a POSA would have understood the claim terms “place” and “placement” to have their plain and ordinary meaning, including “to put in or as if in a particular place,” “to distribute in an orderly manner,” or “putting in a particular position or a suitable place.” Ex. 2001 ¶ 90.

VI. THE 459 PATENT’S PRE-AIA PRIORITY APPLICATIONS PROVIDE ADEQUATE WRITTEN DESCRIPTION FOR THE CHALLENGED CLAIMS

Petitioner argues that the pre-AIA ’936 application fails to provide written description for claims 1-63 of the ’459 patent with respect to two claim limitations found in substantially similar form in each independent claim of the ’459 patent:

- “evaluate compatibility between the specific source system from the plurality of source systems and one or more other source systems either already placed on the specific target system” (Ex. 1001, 40:18- 22 (emphasis added) and “evaluate compatibility . . . by evaluating the impact on resource utilization of the specific target system of placing the specific source system on the specific target system, in combination with the one or more other source systems, either already placed on the

specific target system” (*id.*, 40:28-35 (emphasis added)) (collectively the “already placed” limitations); and

- “*issue instructions to place* the at least one source system on the at least one target system in accordance with the determined placement” (*id.*, 40:37-39 (emphasis added) (the “issuing instructions” limitation).

Petitioner is wrong in asserting that the ’936 application “does not disclose any analysis between a source system and an ‘already placed’ source system, or even the concept of ‘already placed’ source systems in general.”⁵ Petition at 23-24. Petitioner’s arguments are premised on a fundamental mischaracterization of the nature of systems, including source systems, disclosed in the ’936 application, and on a conclusory assertion as to the scope of the claim terms “place” and “placement” vis-à-vis “transferring” (which the District of Delaware has already rejected).

Likewise, Petitioner asserts in a conclusory fashion that “the ’936 application discloses a process that ends with the formulation of a consolidation solution, stopping short of disclosing any instructions ... that could be used to transfer

⁵ As shown in the relational diagram on page 21 of the Petition, the ’936 application issued as U.S. Patent 8,793,679, which is the parent of U.S. 10,523,492, and the grandparent of the ’459 Patent. There is no dispute that the disclosures of the ’936 application are substantively identical to those of the ’459 patent.

applications and data from one system to another to achieve that consolidation solution,” and therefore does not provide adequate written description for the “issuing instructions” limitation. *Id.* at 24. Again, Petitioner mischaracterizes the ’936 application and compounds its error by applying an incorrect construction of the claim terms “place” and “placement.”

For the following reasons, Petitioner’s arguments with respect to the ’936 application should be rejected, and the Board should find that none of the challenged claims of the ’459 patent are unpatentable, and that the ’459 patent is not eligible for post grant review.

A. The ’936 Application Discloses Evaluating Source Systems With “Other Source Systems [] Already Placed On The Specific Target System.”

Titled “Method and System for Determining Compatibility of Computer Systems,” the ’936 application (as well as the ’459 patent), at bottom, is about the “compatibility” of computer systems. The ’936 application describes three different types of compatibility analyses: 1-to-1, N-to-1, and N-by-N. The analyses are employed to evaluate compatibilities among computer systems to determine “consolidation” solutions to consolidate source systems onto target systems. As described below, the compatibility analyses of the ’936 application teach evaluating source and target systems against one another to assess their inter- and intra-compatibilities and arrive at consolidation solutions. The ’936 application thus

describes the analysis of myriad placement and consolidation solutions, including “this [multi-dimensional compatibility analysis, which] takes a consolidation solution as input” and “evaluates the compatibility of each transfer set 23 specified in the consolidation solution.” Ex. 1009 at [00313].

A “transfer set” in the context of the ’936 application is a mapping of sources onto targets (“one or more source entities, the target, and a transfer type”), where the transfer type describes the nature of the source-target relationship (“e.g., virtualization, OS stacking etc.”). *Id.* at [0086] – [0087]. Because the sources go “onto” the target, this mapping is also referred to as a “placement” (which may involve “consolidating,” “stacking,” “moving,” “transferring,” etc., *see* § V.B.2, *supra*). The ’936 application further describes a “consolidation solution” as “one or more transfer sets 23 based on a common pool of source and target entities,” which represents mappings (placements) onto multiple potential targets. *Id.* at [0088]; *see also* [0021], Fig. 3. A consolidation solution may be manually specified by a user, or automatically generated by a consolidation analysis. *Id.* at [00318]. The ’936 application further describes using an existing consolidation solution as an input, and then “evaluating the incremental effect of adding other source systems (specified in the analysis input) to the *specified transfer sets*.” *Id.* at [00313], [00319] (emphasis added). Similarly, the ’936 application teaches that “[compatibility] analysis can be performed on an analysis with *pre-existing source-target transfers*.”

Id. at [00345] (emphasis added). The “pre-existing source-target transfers” described in the ’936 application are equivalent to “pre-existing placements,” which contain “already placed” source systems. Ex. 2001 ¶¶ 103, 105. The ’936 application also describes the issuing of instructions to implement the transfers (placements) of the consolidation solution. Ex. 1009 at [00381]; *see also* [0073], Fig. 52; § VI.B, *infra*. The compatibility analysis of the ’936 patent will continue to contain these executed transfers,⁶ and the “incremental effect of adding other source systems” will then be evaluated against these “already placed” source systems. *See id.* at [00319]. Accordingly, the described evaluation of the compatibility of each transfer set is an evaluation of source systems against “already placed” source systems. *See also id.* at [00314] – [00321]. Ex. 2001 ¶¶ 101 – 105.

Petitioner asks the Board to ignore the described “compatibility” aspects of the ’936 application (and the ’459 patent), based on its unsupported theory that “already placed” source systems effectively disappear after being moved and therefore no longer factor into the compatibility analyses of the ’936 application.

⁶ The ’936 application teaches allowing users to remove pre-existing source-target transfers from an ongoing compatibility analysis (“users can choose to keep or remove existing transfer sets 18 before performing the consolidation analysis”). *See* Ex. 1009 at [0070], [00380], Fig. 49.

See Petition at 28-29, 32-34. But the '936 application is about evaluating (and re-evaluating), incrementally, systems (including source systems) for compatibility to determine consolidation solutions, which necessarily involves assessing new sources for potential placement with already placed sources. *See, e.g.*, Ex. 1009 at, [00313] – [00321]. And, as previously noted, the court in a parallel proceeding on the same patent considered and rejected Petitioner's arguments, finding inadequate support in the intrinsic record. Ex. 2005 (2/24/2022 Memorandum Opinion) at 10. (“[T]he patent does not place a temporal limit on the claimed ‘source system’ – that is, it does not exclude systems that have already been moved or are currently being moved.”).

1. The '936 Application discloses evaluating a source system with other “already placed” source systems.

Petitioner's argument that none of the three types of “compatibility analyses,” nor teachings relating to the “consolidation analysis” disclosed in the '936 application, involves evaluating a source system with another source system “already placed” on a target system ignores clear disclosures to the contrary.

The '936 application describes the computer systems to be analyzed, noting that they “may be physical systems, virtual systems or hypothetical models.” Ex. 1009 at [0082]. With respect to hypothetical systems, the '936 application goes on to note that “[i]n contrast to actual physical systems, hypothetical systems do not

currently exist in the computing environment,” “can be defined and included in the analysis to evaluate various types of ‘what if’ consolidation scenarios,” and that “hypothetical source systems can be used to simulate the case where a new application is to be introduced into the environment **12** and ‘forward consolidated’ onto existing target systems.” *Id.* The ’936 application further discloses that “[i]t will therefore be appreciated that a ‘system’ or ‘computer system’ hereinafter referred, can encompass any entity which is capable of being analysed for any type of compatibility and should not be considered limited to existing or hypothetical physical or virtual systems etc.” *Id.* at [0082] – [0084]. The import of these disclosures, particularly with respect to the disclosed virtual systems and hypothetical models, is that the analyses of the ’936 application contemplates evaluating a source system with another source system that is “already placed.” The “forward consolidation” use case is precisely one such example, disclosing simulation (or evaluation) of a case where a “new application” is introduced into the environment (i.e., an existing environment) and then placed onto existing target systems (along with existing applications/source systems). *Id.* at [0082]. A POSA would have understood that “forward consolidation” in this context discloses the placement of a new system onto a target system on which other pre-existing source systems have already been placed. Ex. 2001 ¶¶ 100.

Petitioner's arguments that none of the compatibility analyses disclosed in the '936 application provides adequate written description support relies on conclusory statements, propped up with cherry-picked excerpts, that fail to give credence to the full scope of the '936 applications disclosure.⁷ For instance, Petitioner ignores that the '936 application discloses the concept of "incremental" evaluations for each of the disclosed analyses that describes the evaluation of source systems with other source systems, including "already placed" source systems. For example, the '936 application describes incrementally transferring one system after another onto a target system using the 1-to-1 compatibility analyses to assess the impact of each transfer:

⁷ 1-to-1 compatibility analysis ("Moreover in a 1-to-1 analysis, each system is evaluated as both a source and a target, which would make no sense if any of the systems were both a source system 'already placed' on a target system.") Petition at 26; N-to-1 compatibility analysis ("Thus, N-to-1 analyses do not evaluate any source systems against other source systems that have been matched with a target system, let alone source systems that have been 'already placed.'") Petition at 28; N-by-N compatibility analysis ("But none of these source systems have been "already placed" on a target system, nor have the applications or data been 'already' transferred to the target system.") *Id.*

The 1-to-1 compatibility analysis evaluates the compatibility of every possible source-target pair combination in the collection of systems 16 on a 1-to-1 basis. This analysis is useful in assessing single transfer consolidation candidates. *In practice, it may be prudent to consolidate systems 16 incrementally and assess the impact of each transfer before proceeding with additional transfers.*

Ex. 1009 at [0095] (emphasis added). A POSA would understand that incrementally transferring source systems onto a target system involves placing source systems onto a target system on which other source systems have already been placed. Ex. 2001 ¶ 101.

Petitioner also ignores the '936 application's disclosure of "incremental" evaluations in the context of the multi-dimensional rule-based compatibility analyses, in which "a transfer set can include multiple sources (N) to be transferred to the target" and "the analysis may evaluate the compatibility of sources amongst each other (N-by-N) as well as each source against the target (N-to-1)." Ex. 1009 at [00321]. The '936 application expressly describes evaluating the "incremental" effect of adding source systems to a set of other source systems, including "already placed" source systems. For example, the '936 application discloses that:

In addition to evaluating the compatibility of the specified transfer sets, the compatibility analyses can evaluate the ***incremental effect of adding other source systems*** (specified in the analysis input) to the specified transfer sets. From the above example consisting of systems S1 to S20, ***the compatibility of the source systems S5 to S20 can be individually assessed against the transfer set T1. Similarly, the compatibility of the source systems S1 to S4 and S11 to S20 can be assessed with respect to the transfer set T2.***

Ex. 1009 at [00319] (emphasis added). Here, the transfer set T1 already includes “[source systems] S1, S2, [and] S3 stacked onto [target system] S4.” *Id.* at [00316]; The incremental effect of adding other source systems (e.g., source systems S5 to S20 in this example) to the set is assessed. *Id.*

A POSA would understand that the above-described assessment of the compatibility of source systems S5 to S20 against transfer set T1 and source systems S1 to S4 and S11 to S20 against transfer set T2 describes evaluating the compatibility of source systems against the “already placed” source systems in transfer sets T1 and T2. Ex. 2001 ¶¶ 102 – 103. Additional context from the ’936 specification informs that understanding. For example, the ’936 describes the example as follows:

For example, consider an analysis comprised of 20 systems, 3 rule sets, 2 workload types and 5 transfer sets 23:

Systems: S1, S2, S3, ... S20

Analyzed with rule sets: R1, R2, R3

Analyzed with workload types: W1, W2

Transfer sets:

T1 (S1, S2, S3 *stacked onto* S4)

T2 (S5, S6, S7, S8, S9 *stacked onto* S10)

T3 (S11, S12, S13 stacked onto S14)

T4 (S15 stacked onto S16)

T5 (S17 stacked onto S18)

Unaffected systems: S19, S20

Ex. 1009 at [00316] (emphasis added). In this example, the analysis discloses individually evaluating source systems S5 to S20 against the existing transfer set T1, which comprises already stacked (or “placed”) source systems S1, S2, and S3 onto

S4. *Id.* at [00319]. Another example describes evaluating the compatibility of source systems S1 to S4 and S11 to S20 against existing transfer set T2, which comprises already placed source systems S5, S6, S7, S8, S9 stacked onto S10. Notably, the '936 specification describes that the “source systems S5 to S20 can be ***individually assessed*** against the transfer set T1.” *Id.* (emphasis added). Notably, the disclosure does not say source system S5 is evaluated only against source system S4 (the target) (or, in the other example, S1 against the target S10) – it says “assess[ing] against the *transfer set T1*” and “*transfer set T2*,” which necessarily include *already placed* sources (S1, S2, and S3 on S4 and S5, S6, S7, S8, and S9 on S10). *Id.* The placement of sources onto targets do not change the fact that they remain *systems*, i.e., they do not cease to exist. The disclosures make clear that even after placement, the placed systems continue to be referred to as “sources” notwithstanding their “already placed” status.

Assessing or evaluating additional possible source system placements in a multi-dimensional compatibility analysis by evaluating that source against already placed sources is entirely consistent with teachings throughout the disclosure regarding evaluating compatibility among systems. Petitioner cannot credibly argue that, in teaching compatibility among systems (in particular, multi-dimensional compatibility), the '936 application should be to read to exclude assessing compatibility with already placed systems. Because the '936 application describes

evaluating source systems individually *against the transfer set*, a POSA would understand the disclosure to teach evaluating the compatibility of specific source systems (e.g., S5) against one or more other source systems “already placed” (here S1, S2, and S3) on the specific target system” (here S4). *See id.*; Ex. 2001 ¶¶ 102 – 105.

Additional context in the ’936 specification supports this understanding. For example, the specification discloses that “[t]he analysis can be performed on an analysis with pre-existing source-target transfers” and that systems can be designated in the analysis input “as a source only, as a target only or as either a source or a target,” which “serve as constraints when defining transfers in the context of a compatibility analysis.” *Id.* at [00345]. In view of this context, a POSA would understand that the transfer sets in an analysis, such as the transfer sets T1 and T2 in the example above, may represent pre-existing source-target transfers, where transfers of source systems to a target system have previously taken place (*i.e.*, where the transfer set includes already-placed source systems).⁸ Ex. 2001 ¶¶ 102 – 105.

Notwithstanding Petitioner’s arguments otherwise, the ’936 application similarly describes the evaluation of source systems against “already placed” source

⁸ Petitioner disputes that this is what paragraph 345 describes, (*see* Petition, 30–31, n.5), but for the reasons explained in section VI.A.2, *infra*, Petitioner is incorrect.

systems in the context of its disclosed consolidation solutions. One such example can be found in paragraph 366, which discloses the following with respect to the “auto fit algorithm” used to search for a consolidation solution for a compatibility analysis:

The candidate transfer sets 23 are then compiled from the source-target candidates. For each target, the candidate sources are sorted in descending order and are *incrementally* stacked onto the target. ***The transfer set score is computed as each source is stacked and if the score is above the minimum allowable score, the source is added to the transfer set 23.*** If the score is below the minimum allowable, the source is not included in the set. This process is repeated until all the sources have been attempted or the maximum number of sources per target has been reached.

Ex. 1009 at [00366] (emphasis added). Again, a POSA would understand the ’936 application describes incrementally evaluating source systems against “already placed” source systems in existing transfer sets. Ex. 2001 ¶¶ 104 – 105.

As will be discussed below (*see* § VI.A.3, *infra*), Petitioner’s arguments are premised on an incorrect and unsupportable claim construction for the “place” and “placement” terms that limits the scope of the terms in a way that Patent Owner did not intend, is based on a mischaracterization of Patent Owner’s prior positions, and is expressly at odds with the disclosures of the ’936 application (and thus the ’459 patent). Petitioner also mischaracterizes the disclosures of the ’936 application in describing the auto fit algorithm and addition of transfer sets to consolidation solutions. *See* Petition at 30-31; Ex. 1009 at [00355] – [00358]. Petitioner’s

argument relies on citation to a single paragraph describing the addition of entities “to the intermediate consolidation solution,” and then makes an unsupported logical leap to assert that this somehow “remov[es] the source and target systems that comprise the transfer set” in a way that prevents any “subsequent iteration [from] evaluat[ing] any source system that has *already* been designated for transfer....” Petition at 30 (emphasis in original). As described above, this logical leap is without merit and easily refuted by the cited disclosures in the ’936 application.

2. Petitioner is incorrect that Paragraph 345 of the ’936 Application’s does not disclose performance of compatibility analyses on “already placed” systems.

In a footnote, Petitioner contends that disclosure in the ’936 application of the compatibility analysis being able to “be performed on an analysis with pre-existing source-target transfers” does not describe source systems that are “already placed” on target systems. *See* Petition at 30–31, n.5. Petitioner further contends the paragraph describes only that disclosed consolidation analyses may be performed using predefined transfer sets and “concerns how transfer sets are defined or chosen.” *Id.* But Petitioner ignores Paragraph 345’s discussion of examples where the compatibility analyses start with a partial consolidation solution already in place, and then add additional placements using the existing transfers as a constraint. Ex. 1009 at [00345]; Ex. 2001 ¶¶ 103, 105. The existing transfers are how the compatibility analysis models “already placed” systems, which as previously

discussed, may be real or virtual systems (*e.g.*, VMs), or hypothetical (not yet provisioned) systems. Ex. 1009 at [00345]; Ex. 2001 ¶¶ 103, 105.

3. Petitioner is incorrect that the '936 Application's definition of a "source system" is incompatible with the concept of "already" placed [or transferred] systems.

Petitioner argues that the '936 application does not disclose "already placed" source systems because it defines "source system" in a way that "can only be meaningful in the context of a future or potential transfer, and not a transfer that has already occurred." Petition at 32. Petitioner further argues that "[a] system whose applications and/or data have *already* moved to another system is no longer a "source," and "a system's applications and data are distinct from the system itself," regardless of whether the system is physical or virtual. *Id.* at 32-33. The Board did not resolve Petitioner's arguments in its institution decision, but observed that Petitioner's arguments did not address the '459 specification's disclosures that "a 'system' or 'computer system' hereinafter referred, can encompass any entity which is capable of being analysed for any type of compatibility and should not be considered limited to existing virtual or hypothetical physical or virtual systems etc." Paper 12 (Institution Decision) at 21; *see also* Ex. 1009 at [0084] – [0085]. Neither, the Board observed, did Petitioner's arguments address the '459 specification's disclosures that "entities can be components that comprise systems such as applications and database instances." Paper 12 (Institution Decision) at 21–22. In

all likelihood, Petitioner did not address these disclosures because they are at odds with Petitioner's arguments.

First, Petitioner's argument that "[a] system whose applications and/or data have *already* been moved to another system is no longer a "source," Petition at 32, is conclusory and incorrect. Once placed, the source system is still a source system – it does not cease to exist, as Petitioner implies. Petitioner seems to argue that, having been placed, the system is no longer a "source" in the sense that it is no longer the thing *from which* applications/data originated. But it is clear from the disclosures that, even after placement, the system still exists and continues to be referred to as a "source" – it is the clear nomenclature used consistently and persistently through the specification. Ex. 1009 at [0089], [00313] – [00321], [00366] – [00370], Fig. 3.

The district court's recent memorandum opinion and order on claim construction for the term "source system" agrees, noting that the '459 patent (and thus the '936 application) "does not exclude [source] systems that have already been moved or are currently being moved." Ex. 2005 (2/24/2022 Memorandum Opinion) at 11.

Second, Petitioner's argument that the definitions of "source system" (and "target system") somehow imply "a system's applications and data are distinct from the system itself" is likewise conclusory and incorrect. Again, the '936 application is clear in its disclosure that "entities can be *components* that comprise systems such

as applications and database instances,” (Ex. 1009 at [0084] (emphasis added)), and “a ‘system’ or ‘computer system ... can encompass *any entity* which is capable of being analysed for any type of compatibility and should not be considered limited to existing or hypothetical physical or virtual systems etc,” (*id.* at [0085] (emphasis added)). And the district court’s recent memorandum opinion and order on claim construction again soundly rejects the same arguments presented here by Petitioner on this issue. The district court noted that in the ’459 patent (and thus the ’936 application) “*components* are not excluded from the scope of ‘source system,’ as the specification does not limit ‘source systems’ to entire systems,” (Ex. 2005 (2/24/2022 Memorandum Opinion) at 11 (emphasis in original)), that “[a] POSA would not read the specification [of the ’459 patent] as teaching that a ‘source system’ is merely the applications and/or data within it,” (*id.* at 14), and that “the claim language does not foreclose placing an entire source system (and not merely its contents) on a target system,” (*id.*).

B. The ’936 Application discloses the claims’ “issuing instructions” limitation.

Petitioner’s argument that the ’936 application fails to provide adequate written description for the “issuing instructions” limitation rests on its flawed construction of the “place” and “placement” claim terms, as discussed above. Petitioner relies on the wrong constructions to support its claim that the ’936

application only “describes an analytical technique that results in recommendations, [but] is silent as to the implementation of these recommendations.” Petition at 36. The intrinsic record disproves Petitioner’s claims.⁹ The Board did not resolve Petitioner’s argument in its institution Decision, but invited the parties to address this limitation further, if appropriate, and Patent Owner does so here.

Petitioner’s argument appears to boil down to impermissibly limiting the scope of “issue instructions” to read out relevant disclosures and craft a lack of written description argument. The claim language is clear: “*issue instructions to place* the at least one source system on the at least one target system *in accordance with the determined placement.*” Petitioner argues that the claims “require both ‘instructions’ and a ‘determined placement.’” Petition at 36, n.8. Patent Owner agrees. Where Patent Owner and Petitioner diverge is in Petitioner’s argument that “[t]he claims of the ’459 patent would preempt any attempt by the Patent Owner to argue that the consolidation solution or roadmap itself constitutes ‘instructions to place the at least one source system.’” *Id.* However, that issue need not be resolved,

⁹ Petitioner’s statement in its purported “summary” of the ’459 patent that “[t]he ’459 patent does not describe any further steps beyond performing the analysis and presenting the analysis results for the user’s consideration” is likewise a mischaracterization of the ’459 disclosure. Petition at 11.

because the '936 application provides adequate written description for both “issu[ing] instructions to place” and doing so “in accordance with the determined placement.”

First, as discussed thoroughly above, the terms “place” and “placement” as used in the “issuing instructions” limitation should be afforded their plain and ordinary meaning—i.e., **not** limited to “movement” as Petitioner would have it. As discussed above, this includes “consolidating,” “stacking,” “moving,” “forward consolidating,” “transferring,” “combining,” “migrating,” “arranging,” “packing,” and “fitting.” *See supra* § V.B.2.

Next, Petitioner attempts to argue that “roadmaps” generated by the consolidation analyses of the '936 application are “the end result” of the '936 application’s analytical techniques” and that “[a]t no point does the application describe issuing instructions to actually move applications or data between systems according to a consolidation solution.” Petition at 36. There are two issues with Petitioner’s argument. First, as just discussed, the plain and ordinary meaning of “place” does not require that the '936 application disclose “issuing instructions to **actually move** applications or data between systems.” Second, Petitioner attempts to conflate as “roadmaps” aspects of the '936 application that in fact describe the “issue instructions” and “in accordance with a determined placement” claim terms. The '936 application does in fact disclose “[a] consolidation solution (or roadmap),”

which “is one or more transfer sets 23 based on a common pool of source and target entities” and “can be included in the analysis results 20.” Ex. 1009 at [0084]; *see also id.* at [0074] (“The analysis program 10 uses the gathered data 18 to evaluate the compatibility of the computer systems 28 and provide a roadmap 20 specifying how the original set of systems can be consolidated to a smaller number of systems 22.”) Below is an exemplary “roadmap” from the ’936 application:

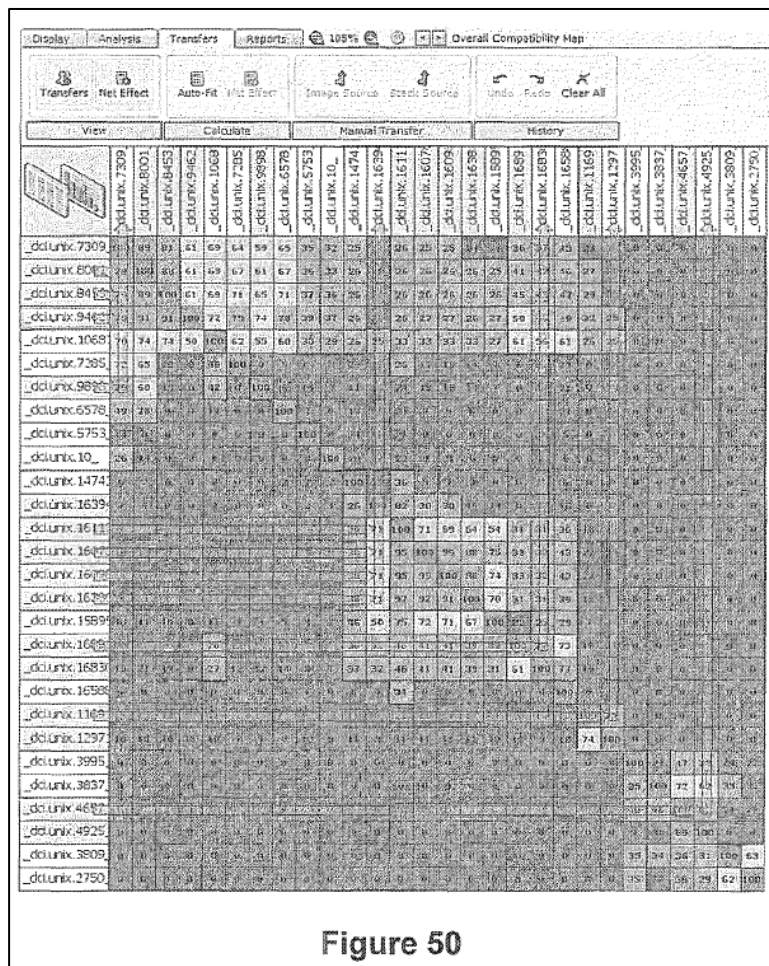
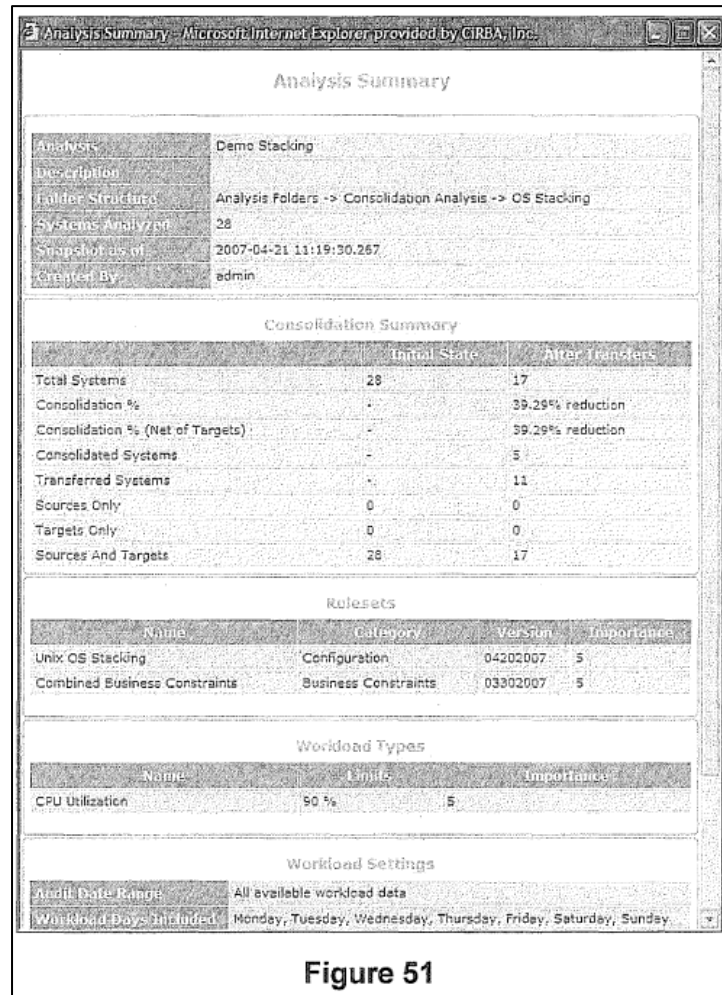


Figure 50

Ex. 1009, Fig.50. Petitioner would have the Board believe that these “roadmaps” are the end result of the analysis disclosed in the ’936 application, but that is not the

case. The '936 application goes on to describe that, once the consolidation analysis is executed, “a consolidation summary” is provided that includes an overview of the consolidation results. *See* Ex. 1009 at [00381]. An exemplary “Analysis Summary” from the '936 application is provided below:



Id. at Fig.51. The '936 application further provides that “the actual transfers proposed by the consolidation analysis” are generated once the consolidation analysis is executed. *Id.* at [00381]. An exemplary output of actual transfers proposed by the consolidation analysis is provided below:

| Transfers | | |
|------------------|-------------|------------------|
| Source | Transfer | Target |
| _dci.unix.9098_ | Stacks onto | _dci.unix.7309_ |
| _dci.unix.8453_ | Stacks onto | _dci.unix.7309_ |
| _dci.unix.9462_ | Stacks onto | _dci.unix.7309_ |
| _dci.unix.8001_ | Stacks onto | _dci.unix.7309_ |
| _dci.unix.16113_ | Stacks onto | _dci.unix.16394_ |
| _dci.unix.16098_ | Stacks onto | _dci.unix.16394_ |
| _dci.unix.16380_ | Stacks onto | _dci.unix.16394_ |
| _dci.unix.16078_ | Stacks onto | _dci.unix.16394_ |
| _dci.unix.4657_ | Stacks onto | _dci.unix.4925_ |
| _dci.unix.16861_ | Stacks onto | _dci.unix.16830_ |
| _dci.unix.11691_ | Stacks onto | _dci.unix.12971_ |

Figure 52

Id. at Fig.52 (depicting source system, transfer method, and target system for an exemplary set of actual transfers). The '936 application discloses that “[t]he actual transfer describes the movement of a single source entity onto a target, wherein the specification identifies the source, target and transfer type,” and “[t]he transfer type (or consolidation strategy) describes how a source entity is transferred onto a target, *e.g.*, virtualization, OS stacking, etc.” *Id.* at [0086].

The above disclosures describe a consolidation solution, as represented by a “roadmap,” (*i.e.*, determined placement) and then once the consolidation analysis is executed, a summary of the consolidation results and a list of actual transfers generated by the consolidation solution (*i.e.*, issued instructions), without user intervention. This should end any inquiry into the adequacy of the written

description in the '936 application of the “issuing instructions” limitation. A POSA would agree that the disclosed roadmaps and system generated list of actual transfers meet the “determined placement” and “issued instructions” claim terms, respectively. Ex. 2001 ¶ 106. Petitioner concedes that the disclosed roadmaps are sufficient to describe the “determined placement” claim term. *See* Petition at 36–37, n.8. It is not clear what more Petitioner would have disclosed to meet the written description requirement for the claim term “issue instructions to place the at least one source system on the at least one target system.” Petitioner’s remaining arguments concerning “*components or devices* responsible for issuing the instructions,” (Petition at 38 (emphasis added)), “issuing instructions through *descriptions of structures* that would *receive and execute* those instructions to carry out the transfers,” (*id.* at 40 (emphasis added)), and “fail[ure] to provide any detail regarding *how to implement* those uses,” (*id.* (emphasis added)) are simply red herrings that highlight the true thrust of Petitioner’s arguments; not satisfied with the disclosure of “issu[ing] instructions,” Petitioner seeks to impose a requirement that the '936 application also disclose written description for receiving, executing, and/or

implementing the transfers arrived at by the consolidation analyses.¹⁰ But the claims of the '459 patent require no such thing, and the '936 application provides adequate written description for the “issuing instructions” limitation.

C. The '459 Patent Provides Adequate Written Description for the Claims

The Board's institution decision accepted Petitioner's contention that the '459 patent's specification is identical to that of the '936 application. Paper 12 (Institution Decision) at 24. Patent Owner does not dispute Petitioner's contention or the Board's adoption of that contention for purposes of this proceeding. Therefore, for the same reasons identified above with respect to the '936 application, the '459 patent's specification also provides adequate written description support for the challenged claims of the '459 patent, including the limitations at issue in the Petition.

¹⁰ The '936 application does in fact disclose “a computer program for determining compatibilities for a plurality of computer systems comprising ... a client for displaying the compatibility score on an interface, the interface being configured to enable a user to specify parameters associated with a map summarizing the compatibility scores and to define and initiate a transfer of one or more of the computer systems to a target computer system.” Ex. 1009 at [0017].

D. Other Pre-AIA Priority Applications

Petitioner also contends that other pre-AIA priority applications incorporated by reference in the '936 application do not provide written description support for the claims of the '459 patent. Petition at 42-47 ('355 application), 48-50 ('308 application), 50-53 ('322 application). In its institution decision, the Board stated that "Petitioner relies on very similar arguments as those it advanced for the '936 application," in support of its arguments that those applications "fail to provide written description support for the 'already placed' limitation." Paper 12 (Institution Decision) at 22. Patent Owner has demonstrated above that the '936 application provides adequate written description support for the '459 patent's claims. Patent Owner reserves the right to make additional arguments with respect to the written description disclosures of the '355, '308, and '322 applications. Patent Owner further reserves the right to address those applications as appropriate in related district court proceedings.

VII. PETITIONER FAILS TO SHOW THAT THE '459 PATENT IS ELIGIBLE FOR PGR

The '459 patent claims priority to the '936 application, which is a pre-AIA application. Ex. 1001 at (63) ("Related U.S. Application Data"). Petitioner alleges that certain elements of the '459 patent's claims lack written description support in the disclosures of the '936 application, and for that reason the '459 patent is also eligible for PGR. Petition at 20-42. But, as explained in § VI, *supra*, Petitioner has

failed to show that the '459 patent's claims lack written description support in the disclosures of the '936 application. Accordingly, Petitioner has failed to show that the '459 patent is eligible for PGR.

VIII. CONCLUSION

For the reasons stated above, the Petition fails to show that any challenged claim is unpatentable for lacking written description support. And because at least the pre-AIA '936 application provides adequate written description for the challenged claims, the Board should also find that the '459 patent is not eligible for post-grant review.

Dated: March 4, 2022

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CERTIFICATE OF COMPLIANCE

The undersigned hereby certifies that Cirba IP Inc.'s Patent Owner's Response consists of 10,103 words, excluding the table of contents, table of authorities, table of exhibits, certificate of service, and this certificate of compliance. This Response complies with the type-volume limitation mandated in 37 C.F.R. § 42.24. In preparing this certificate, counsel has relied on the word count of the word-processing system used to prepare this paper (Microsoft Word).

Dated: March 4, 2022

Respectfully submitted,

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Counsel for Patent Owner

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing **PATENT OWNER'S RESPONSE** was served on March 4, 2022, via electronic mail to VMware-Cirba-IPR@mofo.com, as agreed to by counsel, upon the following counsel for Patent Owner:

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