

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
Patent: 10,951,459

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

TABLE OF CONTENTS

| | Page |
|--|-------------|
| I. Introduction..... | 1 |
| II. The '936 Application Does Not Disclose Compatibility Evaluations Involving “Already Placed” Source Systems | 2 |
| A. “Mapping” of a Source System to a Target System to Define a Candidate Transfer for Evaluation Is Not “Placement” | 2 |
| B. Patent Owner’s Alleged Support for Evaluations Involving “Already Placed” Source Systems Is Limited to Mapping or Does Not Involve Source-to-Source Evaluations | 5 |
| 1. Forward consolidation of a hypothetical system does not involve “already placed” source systems..... | 5 |
| 2. Evaluating the incremental effect of adding a source system to a specified transfer set does not involve “already placed” source systems..... | 8 |
| 3. Using an existing consolidation solution as an input to a compatibility analysis does not involve “already placed” source systems..... | 10 |
| 4. The '936 application’s “auto fit algorithm” does not involve “already placed” source systems..... | 11 |
| 5. Analyses that use pre-existing source-target transfers do not involve “already placed” source systems. | 12 |
| 6. 1-to-1 compatibility analyses do not involve evaluating a source system with an “already placed” source system..... | 13 |
| 7. The '936 application’s discussion of OS-Level application stacking does not involve “already placed” source systems..... | 14 |
| III. The '936 Application Does Not Disclose the Claimed Limitation of “Issuing Instructions” | 15 |
| A. Neither a “Roadmap” Nor a “List of Actual Transfers” Comprises Issuing Instructions | 15 |
| B. Patent Owner’s Misreading of the '936 Application Contradicts Its Expert and the Application’s Clear Disclosures | 18 |

TABLE OF CONTENTS

| | | |
|-----|---|----|
| C. | Patent Owner Fails to Identify Other Support for “Issuing Instructions” | 20 |
| IV. | Patent Owner’s Proposed Constructions Are Wrong and Inconsequential | 23 |
| A. | Patent Owner’s Construction of “Placement” Exceeds Its Alleged Support for the “Already Placed” and “Issuing Instructions” Limitations..... | 24 |
| B. | Patent Owner Cannot Run from the Specification’s Express Definitions of “Source System” and “Target System” | 25 |
| V. | Post-Grant Review Eligibility | 27 |
| VI. | Conclusion | 27 |

TABLE OF AUTHORITIES

Page(s)

Cases

| | |
|---|-------|
| <i>Apple Inc. v. Universal Secure Registry, LLC</i> , No. CBM2018-00024, Paper 47 (P.T.A.B. Nov. 19, 2019) | 27 |
| <i>Atlanta Gas Light Co. v. Bennett Regul. Guards, Inc.</i> , No. IPR2015-00826, 2021 WL 202800 (P.T.A.B. Jan. 20, 2021) | 27 |
| <i>LizardTech, Inc. v. Earth Res. Mapping, Inc.</i> , 424 F.3d 1336 (Fed. Cir. 2005) | 8, 23 |
| <i>PODS, Inc. v. Porta Stor, Inc.</i> , 484 F.3d 1359 (Fed. Cir. 2007) | 19 |
| <i>VMware, Inc. v. Cirba IP Inc.</i> , Case No. IPR2021-00008, Paper No. 8 (PTAB Feb. 18, 2021) | 26 |

Other Authorities

| | |
|------------------------|----|
| AIA § 3(n)(1) | 27 |
| AIA § 6(f)(2)(A) | 27 |

LIST OF EXHIBITS

| Exhibit Description | Exhibit # |
|---|------------------|
| U.S. Patent No. 10,951,459 (the “’459 patent”), filed as U.S. Patent Application No. 16/687,966 (the “’996 application”) | 1001 |
| ’966 application as originally filed on November 19, 2019 | 1002 |
| ’966 application July 2, 2020 Preliminary Amendment | 1003 |
| ’966 application October 5, 2020 Notice of Allowability | 1004 |
| ’966 application December 10, 2020 Post-Allowance Amendment | 1005 |
| Declaration of Dr. Erez Zadok | 1006 |
| <i>Curriculum Vitae</i> of Dr. Erez Zadok | 1007 |
| U.S. Patent Application No. 14/341,471 (the “’471 application) as originally filed on July 25, 2014 | 1008 |
| U.S. Patent Application No. 11/738,936 (the “’936 application) as originally filed on April 23, 2007 | 1009 |
| U.S. Patent Application No. 11/535,355 (the “’355 application) as originally filed on September 26, 2006 | 1010 |
| U.S. Patent Application No. 11/535,308 (the “’308 application) as originally filed on September 26, 2006 | 1011 |
| U.S. Provisional Application No. 60/745,322 (the “’322 application”) as originally filed April 21, 2006 | 1012 |
| Wood, T., et al., Black-box and Gray-box Strategies for Virtual Machine Migration, NSDI ’07: 4th USENIX Symposium on Networked Systems Design & Implementation, Technical Sessions, pp. 229- 242 (Apr. 11-13, 2007) | 1013 |
| Baker, M., et al., Cluster Computing Review, Syracuse University, Northeast Parallel Architecture Center, Version 1.1 (1995) | 1014 |
| U.S. Patent No. 7,836,452 (“Taylor”) | 1015 |
| U.S. Patent No. 7,616,583 (“Power”) | 1016 |
| U.S. Patent Application Publication No. 2004/0034577 (“Van Hoose”) | 1017 |
| Khanna, G., et al., Application Performance Management in Virtualized Server Environments, 10th IEEE/IFIP Network Operations & | 1018 |

| Exhibit Description | Exhibit # |
|--|------------------|
| Management Symposium, Vancouver, Canada, pp. 373-381 (Apr. 3-7, 2006) | |
| Menascé, D. and Bennani, M., Autonomic Virtualized Environments, International Conference on Autonomous Systems, Silicon Valley, CA (July 19-21, 2006) | 1019 |
| Wolf, C. and Halter, E., Virtualization From the Desktop to the Enterprise, Apress (2005) (“PlateSpin”) | 1020 |
| Declaration of Stephen Liu | 1021 |
| Declaration of Andrea L. Scripa | 1022 |
| Transcript from June 15, 2022 Deposition of Dr. Vijay Madiseti | 1023 |
| Prosecution History of U.S. Patent No. 10,523,492 to Hillier et al. | 1024 |

**Petitioner’s Exhibits 1001 - 1022 were previously filed and are listed again here based on 37 C.F.R. § 42.63.*

***Petitioner’s Exhibits 1023 and 1024 are newly filed.*

I. INTRODUCTION

Patent Owner's strategy in its Response ("POR," Paper 14) betrays the lack of written description support for the claims of the '459 patent in its priority and original applications. Rather than identify actual examples of these concepts in the '936 application—the patent's earliest pre-AIA priority application—Patent Owner invokes claim construction issues that do not impact the analysis.

For the limitations requiring evaluating a source system against a source system "already placed" on the contemplated target, Patent Owner argues for an anything-under-the-sun construction of "placement" to try to capture some written support. But it does not show why placement includes forward-looking mappings that are used purely for analysis and do not alter the actual state of the computing environment. Thus, Patent Owner's examples of evaluations involving "already placed" systems are entirely analytical; the systems have not actually been placed.

For the limitation requiring "issuing instructions" to place a system in accordance with a "determined placement," Patent Owner maps both "instructions" and "determined placement" to the same concept, despite conceding their distinctness. Patent Owner obscures this by pointing to two separate figures, but those figures describe the same thing—transfers recommended by a consolidation analysis. These recommendations cannot be both "instructions" and a "determined placement," which appear in separate and distinct claim steps.

II. THE '936 APPLICATION DOES NOT DISCLOSE COMPATIBILITY EVALUATIONS INVOLVING “ALREADY PLACED” SOURCE SYSTEMS

Patent Owner relies on several examples from the '936 application as allegedly demonstrating the evaluation of source systems with “already placed” source systems. But Patent Owner’s arguments either incorrectly assume that mapping sources to targets when defining transfer sets (which comprise potential, not actual, transfers) qualifies as “placement,” or do not identify source-to-source evaluations (*i.e.*, evaluations of a source with other sources) at all. Thus, none of its examples supports the '459 claims.

A. “Mapping” of a Source System to a Target System to Define a Candidate Transfer for Evaluation Is Not “Placement”

Patent Owner seeks to find support for evaluations with “already placed” source systems by including the “mapping” of sources to targets when defining a transfer set under the umbrella of “placement.” (POR, 26 (citing Ex. 1009, [0086]-[0087]).) Mapping, however, is not placement.

The alleged invention purports to determine “a consolidation solution (or roadmap),” which is “one or more transfer sets [] based on a common pool of source and target entities.” (Ex. 1009, [0088].) “Mapping” occurs when *defining* a transfer set (*i.e.*, identifying and grouping “one or more transfers that involve a common target”). (*Id.*, [0086]-[0087].) It is done purely for analytical purposes, to provide candidates for inclusion—after evaluation—in the consolidation solution.

By contrast, consolidating, stacking, moving, and transferring—Patent Owner’s examples of placement (*see* POR, 26)—occur after the analysis, when the transfers in a chosen transfer set are *executed*. For example, the ’936 application explains that “consolidation” includes “one or more ‘transfers,’” where “actual transfer” is “movement of a single source entity onto a target.” (Ex. 1009, [0086].)

The ’459 claims reinforce that “placement” occurs after and separately from the analytical evaluation process. The claims require “determining placement of source computer systems on target computer systems,” which includes the “evaluate compatibility” steps. (*See, e.g.*, Ex. 1001, 40:2-4, 40:8-36.) When the evaluations are complete, the claimed system will have determined a placement, but not executed it. (*See* Ex. 1023, 28:13-18 (Patent Owner’s expert confirming that the placement determination steps involve only evaluations).)

Actual placement occurs only through a separate claimed step for “issu[ing] instructions *to place*” according to the “determined placement.” (*Id.*, 40:37-39 (emphasis added).) Thus, placement occurs after evaluation and uses its results. By contrast, the “mapping of sources onto targets” is part of the analytical evaluation process, and therefore cannot be “placement” within the meaning of the ’459 patent’s claims.

The prosecution history of the ’459 patent’s parent, U.S. Patent No. 10,523,492, confirms that placement must be more than just part of an analysis,

which is all that mapping is: To avoid a rejection under 35 U.S.C. § 101, Patent Owner amended its claims to “specify a practical application of the previously recited ‘output,’ namely: ‘placing the source systems onto the target systems in accordance with technical, business, and workload constraints determined in the compatibility analysis.’” (Ex. 1024, 53-54; *see also id.* 47-49 (claim amendments).) As the concept of “placing” was added specifically to give the ’492 patent’s claims a non-analytical component, it cannot be merely analytical.

Tellingly, Patent Owner omits “mapping” when arguing for a broad construction of “placement.” (*See generally* POR, 15-23 (Section V.B.2).) Its examples of “placement” involve actual, not potential, changes to the computing environment. For example, Patent Owner argues that “placement” could be “putting or arranging,” or “moving, transferring, stacking or otherwise arranging systems.” (*Id.*, 16-17.) It later adds “consolidating,” “forward consolidating,” “combining,” “migrating,” “arranging,” “packing,” and “fitting,” to the list. (*Id.*, 20.) But all of these actually affect what applications or data are running where. None is purely analytical.

Although Patent Owner presents a handful of quotations out of context to imply that placement occurs during the consolidation analysis, the analysis only simulates placement. For example, Patent Owner emphasizes the word “transferred” when discussing the ’459 patent’s description of “multi-dimensional

compatibility scores (multiple sources *transferred* to a single target).” (POR, 21 (quoting Ex. 1001, 13:36-38).) But this reference to “transfer” merely clarifies what a “multi-dimensional compatibility score” measures. Elsewhere, the patent explains that in a multi-dimensional compatibility analysis, “a transfer set can include multiple sources (N) *to be transferred* to the target.” (Ex. 1001, 30:36-39 (emphasis added).) This clarifies that the sources are not transferred during the analysis. They are only considered for transfer as part of potential scenarios that the analysis evaluates and scores.

Thus, there is no basis to equate the purely analytical act of “mapping” to “placement.” Source systems are not “already placed” just because they have been mapped to a target.

B. Patent Owner’s Alleged Support for Evaluations Involving “Already Placed” Source Systems Is Limited to Mapping or Does Not Involve Source-to-Source Evaluations

Patent Owner offers several examples in the ’936 application of alleged support for evaluations involving “already placed” source systems. In each, the supposed “already placed” source system is one that has been mapped (not placed) or is not actually involved in any evaluation. None satisfies Section 112.

1. Forward consolidation of a hypothetical system does not involve “already placed” source systems.

Patent Owner first relies on the ’936 application’s descriptions of “forward consolidation,” where “hypothetical source systems can be used to simulate the

case where a new application is to be introduced into the environment [] and ‘forward consolidated’ onto existing target systems.” (POR, 29 (quoting Ex. 1009, [0082])).) Per Patent Owner, this discloses evaluations with “already placed” source systems, as it involves “the placement of a new system onto a target system on which other pre-existing source systems have already been placed.” (*Id.*)

That is incorrect. The ’936 application describes forward consolidation exclusively in Paragraph 82. That paragraph never describes compatibility evaluations that compare hypothetical source systems to any other source system, let alone one that is “already placed” on the contemplated target. (*See* Ex. 1009, [0082].) Nor does it indicate that the contemplated target even has “pre-existing source systems” already running on it, as Patent Owner alleges. (*See id.*; POR, 29.) Indeed, Patent Owner offers only its expert’s conclusory opinion to support its contention. (POR, 29 (citing Ex. 2001, ¶ 100).)

Patent Owner notably does not argue that a hypothetical system can be an “already placed” source system within the meaning of the ’459 claims. Rather, it attempts only to map “hypothetical system” to the “at least one source system” being evaluated for placement. (*See* POR, 29 (arguing that forward consolidation evaluates a hypothetical system *for placement* onto target system); *see also* Ex. 2001, ¶ 100 (opining that forward consolidation “may involve the *creation of hypothetical source systems to determine their compatibility*, evaluated against

pre-existing, already placed, source systems on existing target systems”).) Indeed, the ’936 application’s discussion of forward consolidation—the only time it discusses analyses with hypothetical systems—considers hypothetical systems solely as systems being evaluated for placement. (*Id.*, [0082].)

Were Patent Owner to improperly argue for the first time on sur-reply that the ’936 application describes evaluating “already placed” hypothetical systems, that would be wrong. Even if a “system” could be hypothetical in the broad context of the ’936 application, an “already placed” source system—a concept specific to the ’459 claims—could not. This is because the system would no longer be hypothetical after placement. Under the ’459 claims, actual placement occurs through the distinct non-analytical step of issuing instructions, after evaluation, to implement the results of the evaluation, *i.e.*, “determined placement.” (*See* Section II.A, *supra.*) For a hypothetical system, placement would entail actually creating the system (*e.g.*, a “new application”) on the chosen target. (Ex. 1009, [0082].) This is the only possible interpretation of “placing” a hypothetical system in view of the ’492 patent’s prosecution history, where Patent Owner added the concept of “placing” for specifically to bring its claims out of the realm of the analytical (*i.e.*, unpatentably abstract). (*See* Ex. 1024, 53-54.) Thus,

there can be no such thing as an “already placed” hypothetical system.¹

In short, because the ’936 application never mentions source-to-source evaluations or “already placed” source systems when discussing forward consolidation or hypothetical systems, these cannot satisfy Section 112.

2. Evaluating the incremental effect of adding a source system to a specified transfer set does not involve “already placed” source systems.

Patent Owner also asserts that the ’936 application describes evaluations with “already placed” source systems when discussing the “‘incremental’ effect of adding source systems to a set of other source systems” in a transfer set. (POR, 31.) But this incorrectly assumes that a specified “transfer set” includes “already placed” source systems. A transfer set only includes sources mapped to—not placed on—targets to represent candidate transfers for evaluation.

Patent Owner relies primarily on an exemplary analysis in the ’936 application involving source systems S1-S20 and transfer sets T1-T5. (See POR,

¹ Furthermore, Patent Owner’s reliance on the alleged placement of hypothetical systems cannot support the full scope of “system” that Patent Owner claims, which includes physical and virtual systems. (See POR, 28-29). The claims thus fail Section 112. *LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005).

31-33; Ex. 1009, [00316]-[00319].) As the application explains, a transfer set comprises “one or more transfers that involve a common target, wherein the set specifies one or more source entities, the target and a transfer type.” (Ex. 1009, [0087].) In the example, the transfer set “T1 (S1, S2, S3 stacked onto S4)” specifies S1, S2, and S3 as the “one or more source entities,” S4 as the “common target,” and stacking as the “transfer type.” (*Id.*, [00316].) Transfer sets thus define potential transfers (*i.e.*, mappings) that are analyzed to determine whether they should be included in a consolidation solution. For example, the analysis generates an “overall compatibility score” for transfer set T1 to assess whether S1, S2, and S3 should be stacked on S4 when consolidating systems S1-S20. (*Id.*)

At no point in the analysis are the proposed transfers comprising the transfer sets actually executed (*e.g.*, S1, S2, and S3 actually stacked onto S4). Patent Owner’s expert confirmed this at his deposition. (*See, e.g.*, Ex. 1023, 21:6-14 (“Q. Well, what is done with a transfer set after it’s been defined? A. It’s evaluated. Q. And then after it’s been evaluated, what is done with it? A. That’s all. It’s evaluated.”).) He also confirmed that the example transfer sets T1-T5 were not “already placed” and instead “still being evaluated.” (*Id.*, 71:4-14.)

The ’936 application further explains that “[i]n addition to evaluating the compatibility of the specified transfer sets, the compatibility analysis can evaluate the incremental effect of adding other source systems (specified in the analysis

input) to the specified transfer sets.” (Ex. 1009, [00319].) For instance, “the compatibility of the source systems S5 to S20 can be individually assessed against the transfer set T1.” (*Id.*) But, as before, this entails only calculating compatibility scores. No transfers are executed—S1, S2, and S3 have yet to be stacked onto S4.

This context thus shows that the source systems involved in a “specified transfer set” are only mapped to targets, not placed. Patent Owner misinterprets the expression “S1, S2, S3 *stacked onto* S4,” in the context of defining transfer set T1, to imply that S1, S2, and S3 are “already placed” on S4. But they have only been mapped to S4, and the phrase “stacked onto” refers to the potential scenario, submitted for evaluation, in which S1, S2, and S3 would be stacked onto S4. Nothing in the ’936 application suggests actual placement.

3. Using an existing consolidation solution as an input to a compatibility analysis does not involve “already placed” source systems.

Patent Owner’s argument that “using an existing consolidation solution as an input” includes evaluations involving “already placed” source systems fails for the same reasons. (*See* POR, 26.) A consolidation solution is “one or more transfer sets [] based on a common pool of source and target entities.” (Ex. 1009, [0088].) Just as transfer sets do not include “already placed” source systems, *see* Section II.B.2, *supra*, neither do consolidation solutions.

4. The '936 application's "auto fit algorithm" does not involve "already placed" source systems.

Similarly, Patent Owner's "auto fit algorithm" argument confuses mappings in a transfer set with the actual placement necessary for a source to be "already placed." (*See* POR, 35.) The '936 application's description of the algorithm never mentions executing any transfer in a transfer set and thus does not involve an "already placed" source system. (*See* Ex. 1009, [00355]-[00372].)²

² As the Petition explained, the "auto-fit" algorithm uses parameters to select candidate transfer sets for possible inclusion in a consolidation solution. (Petition (Paper 2), 30 (citing Ex. 1009, [00355]-[00358]).) The algorithm then chooses and adds a "best" transfer set to the working consolidation solution. (*Id.*) When this occurs, "[t]he entities referenced by the transfer set are removed from the list of available sources and targets and [the preceding algorithm steps] are repeated until the available sources or targets are consumed." (Ex. 1009, [00358].) Evaluations of additional candidate transfer sets do not include systems in a transfer set already added to the consolidation solution. (Petition, 30.) Patent Owner accuses VMware of mischaracterizing this auto-fit algorithm, but does not explain how. Patent Owner claims only that VMware's position is "easily refuted by the cited disclosures in the '936 application"—but then identifies no such disclosures. (POR, 35-36.)

5. Analyses that use pre-existing source-target transfers do not involve “already placed” source systems.

The '936 application mentions “pre-existing source-target transfers” exactly once, at Paragraph 345. Patent Owner argues that “already placed” source systems are part of compatibility analyses involving these “pre-existing source-target transfers.” (POR, 34, 36-37.) It concedes, however, that these so-called “pre-existing” transfers are part of “a partial consolidation solution already in place,” not an actual consolidation that has been executed. (*Id.*, 36.) Patent Owner further concedes that the existing transfers are “how the compatibility analysis *models* ‘already placed’ systems.” (*Id.* (emphasis added).)³ As Patent Owner recognizes, these “transfers” are analytical tools (“models”) and not actual placements.

As the Board also recognized in its Institution Decision, Paragraph 345’s lone reference to “pre-existing source-target transfers” refers to “sources to be transferred to the target, rather than sources that have been ‘already placed’ on a target.” (Paper 12 at 19-20; *see also* Petition, 31, n.5.) The remainder of Paragraph 345 discusses how “systems can be designated for consideration” as

³ Patent Owner’s expert contends that “pre-existing source-target transfers” are transfers that “have already occurred.” (Ex. 2001, ¶ 103.) This contradicts both Patent Owner’s position and the expert’s position that these transfers are how the analysis “*models* ‘already placed’ systems.” (*Id.*, ¶ 105 (emphasis added)).

sources or targets to provide additional constraints for the compatibility analysis.

This makes clear that “pre-existing source-target transfers” refers to those designations.⁴ A “pre-existing source-target transfer” is a forward-looking mapping of a source to a target, not an actual executed transfer. It cannot support the claimed evaluations involving “already placed” source systems.

6. 1-to-1 compatibility analyses do not involve evaluating a source system with an “already placed” source system.

Finally, Patent Owner points to the ’936 application’s description of 1-to-1 compatibility analyses in Paragraph 95. (*See* POR, 30-31.) But as that paragraph explains, 1-to-1 analyses evaluate “every possible *source-target* pair combination.” (Ex. 1009, [0095] (emphasis added).) To satisfy Section 112, Patent Owner must identify *source-to-source* evaluations where one of the sources is “already placed,” as the ’459 patent’s claims require. Here, the alleged “already placed” source

⁴ Claims 25 and 56 of the ’459 patent further dispel any ambiguity as to Paragraph 345’s interpretation. These dependent claims add the same limitation, “wherein the placement takes into account a pre-existing source-target transfer set, and any placements are incremental to the transfer set.” (Ex. 1001, 41:54-56, 44:21-23.) Besides Paragraph 345’s lone sentence, these claims are the only place where the term “pre-existing” appears in the ’459 patent. These claims confirm that “pre-existing source-target transfer” means “pre-existing source-target transfer *set*.”

systems are not evaluated at all.

Recognizing this, Patent Owner argues that Paragraph 95's reference to "incrementally" consolidating systems "involves placing source systems onto a target system on which other source systems have already been placed." (POR, 31.) But even that is incorrect. Paragraph 95 refers generally to assessing "the impact of each transfer" on the computing environment as a whole. (Ex. 1009, [0095].) It does not describe incrementally transferring sources onto the *same* target in that environment, as Patent Owner assumes.

7. The '936 application's discussion of OS-Level application stacking does not involve "already placed" source systems.

Patent Owner does not argue that the '936 application's reference to "OS-Level application stacking" (*see* Ex. 1009, [0009]) discloses evaluations involving "already placed" source systems. Its expert, however, volunteered this position repeatedly at his deposition. (*See, e.g.*, Ex. 1023, 71:4-72:4, 75:2-14.)

Should Patent Owner improperly raise this argument for the first time on sur-reply, VMware notes that the '936 application's discussion of OS-Level application stacking appears as "Background." That discussion does not mention evaluations of any kind, much less evaluations of source systems with "already placed" source systems. (*See* Ex. 1009, [0009].) Alternatively, should Patent Owner argue that OS-Level application stacking exemplifies one of its other alleged evaluations involving "already placed" source systems, the example would

not satisfy Section 112 for the reasons discussed in Sections II.B.1-6, *supra*.

In short, Patent Owner fails to identify any written support for the limitations requiring evaluation of a source system being considered for transfer against other source systems “already placed” on the contemplated target.

III. THE ’936 APPLICATION DOES NOT DISCLOSE THE CLAIMED LIMITATION OF “ISSUING INSTRUCTIONS”

Patent Owner concedes that the claims require separate support for “instructions” and a “determined placement.” (POR, 40.) Thus, it must identify distinct support in the ’936 application for each to save the claims. It does not. Rather, Patent Owner points to two different displays of the same set of analytical results. It then insists that one describes determined placements, while the other describes issued instructions. Not only does Patent Owner provide no support, but its position contradicts its expert’s opinion and misinterprets the ’936 application. Patent Owner’s strained argument underscores that key concepts of the ’459 patent’s claims are absent from its priority applications.

A. Neither a “Roadmap” Nor a “List of Actual Transfers” Comprises Issuing Instructions

Patent Owner relies on a related set of disclosures in the ’936 application for “issuing instructions”: (1) a “roadmap,” which it argues constitutes a “determined placement”; and (2) “a summary of the consolidation results and a list of actual transfers generated by the consolidation solution,” which it contends are “issued

instructions.” (POR, 44.) These mappings make little sense. The “roadmap” and “list of actual transfers” contain the same information—the results of an analysis identifying a recommended set of transfers. Neither are instructions to place systems according to determined placements.

Roadmaps. The ’936 application explains that a “roadmap” (or “consolidation solution” (Ex. 1009, [0088])) “specif[ies] how the original set of systems can be consolidated to a smaller number of systems” (*id.*, [0074]). It “is one or more transfer sets,” where a “transfer set” is “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.*, [0087]-[0088].)

Accordingly, the roadmap is the result of a consolidation analysis and specifies which source systems are to be transferred to which target systems; instructions are not involved. (*Id.*, [00380]-[00381].) Patent Owner does not contend otherwise, arguing only that the “roadmap” shows a “determined placement.” (POR, 42-44.)

List of Actual Transfers. Instead, Patent Owner contends that Figure 52’s “list of actual transfers” are issued instructions. The ’936 application states little about Figure 52, but its limited discussion confirms that the list of transfers shown is substantively identical to the “roadmap”—and lacks instructions.

| Source | Transfer | Target |
|------------------|-------------|------------------|
| _dcl.unix.9898_ | Stacks onto | _dcl.unix.7309_ |
| _dcl.unix.8453_ | Stacks onto | _dcl.unix.7309_ |
| _dcl.unix.9462_ | Stacks onto | _dcl.unix.7309_ |
| _dcl.unix.8001_ | Stacks onto | _dcl.unix.7309_ |
| _dcl.unix.16113_ | Stacks onto | _dcl.unix.16394_ |
| _dcl.unix.16098_ | Stacks onto | _dcl.unix.16394_ |
| _dcl.unix.16380_ | Stacks onto | _dcl.unix.16394_ |
| _dcl.unix.16078_ | Stacks onto | _dcl.unix.16394_ |
| _dcl.unix.4657_ | Stacks onto | _dcl.unix.4925_ |
| _dcl.unix.16891_ | Stacks onto | _dcl.unix.16830_ |
| _dcl.unix.11691_ | Stacks onto | _dcl.unix.12971_ |

Figure 52

The '936 application says two things about Figure 52's simple table: It "shows the example transfers that comprise the consolidation solution" (Ex. 1009, [0073]), and "lists the actual transfers proposed by the consolidation analysis" (*id.*, [00381]).

As noted, however, a roadmap also is a set of transfers proposed by a consolidation analysis. Figure 52 thus shows the same information as a roadmap. Patent Owner's expert confirmed this. (Ex. 1023, 62:7-24 ("Figure 52 describes the consolidation solution"); *see also* Ex. 1009, [0088] ("A consolidation solution (or roadmap) is one or more transfer sets [] based on a common pool of source and target entities.")) Like roadmaps, Figure 52's list of actual transfers is an analytical result, not a set of instructions.

Put simply, the '936 application describes a set of transfers recommended by

the consolidation analysis in multiple ways. One, represented by Figure 50, is a map of the consolidation scores of the proposed transfers. (Ex. 1009, [00381].)

Another, shown in Figure 52, is a list of those proposed transfers. (*Id.*) Nothing in the '936 application justifies Patent Owner's contention that Figure 52 shows "instructions" issued to carry out those transfers.

B. Patent Owner's Misreading of the '936 Application Contradicts Its Expert and the Application's Clear Disclosures

Reaching for support for "issuing instructions," Patent Owner interprets Figure 52 as a set of instructions "generated by the consolidation solution." (POR, 44.) This interpretation conflicts with its expert, who claims that Figure 52 shows the results of a consolidation analysis including "source systems that were already placed because they have completed the process of evaluation." (Ex. 1023, 72:7-12; *see also id.*, 75:2-7 ("Q. And so each of the source systems identified in the Source column are already placed; is that correct? A. If this is an example of the instructions. *These would be instructions that would describe an already-placed, as an example.*")) (emphasis added.) If Figure 52's source systems were "already placed," as Patent Owner's expert alleges, it would be unnecessary to "issu[e] instructions *to place*" them, as the '459 claims require.⁵

⁵ To the extent Patent Owner's expert opines that Figure 52's source systems are "already placed" because they have already been evaluated and assigned to target

Patent Owner’s misinterpretation of Figure 52 depends on its misreading of the ’936 application. Recognizing that the roadmap and list of actual transfers represent the same underlying information, Patent Owner injects a temporal separation to try to distinguish them. Patent Owner implies that the roadmap precedes the consolidation analysis, and that executing the analysis generates the list of transfers. (POR, 44 (arguing that a consolidation solution is “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 [is] generated by the consolidation solution (*i.e.*, issued instructions)”) (emphasis added).)

This temporal distinction is false. The ’936 application states, in no uncertain terms, that Figure 50’s “map” (which Patent Owner claims is a roadmap)

systems, that would still conflict with Patent Owner’s interpretation of the figure as “instructions to place.” Whether in the context of “already placed” or “instructions to place,” the word “place” is presumed to have a consistent meaning. *PODS, Inc. v. Porta Stor, Inc.*, 484 F.3d 1359, 1366 (Fed. Cir. 2007). Whatever that meaning, the expert’s testimony that Figure 52’s source systems are “already placed” precludes Patent Owner’s interpretation of the figure as “instructions to place” those same systems.

and Figure 52’s list of actual transfers are generated *after* the consolidation analysis is executed. (Ex. 1009, [00381] (“Once specified, the consolidation analysis can be executed and the chosen transfer sets [] are presented in the map as shown in Figure 50. The multi-dimensional compatibility score calculations are also used. Finally, a consolidation summary is provided as shown in Figures 51 and 52.”).) In short, executing a consolidation analysis generates a set of recommended transfers. The alleged “roadmap” in Figure 50 and list of transfers in Figure 52 are two ways of identifying these transfers. Neither are instructions.

C. Patent Owner Fails to Identify Other Support for “Issuing Instructions”

As noted, Patent Owner’s only serious attempt to identify support for “issuing instructions” (Figure 52) is wrong. Patent Owner identifies no other support, and there is none.

It is unclear whether Patent Owner also contends that Figure 51 discloses instructions. Regardless, it does not. Figure 51 is “an example consolidation summary report.” (Ex. 1009, [0072].) It “shows that *should the proposed transfers be applied*, 28 systems would be consolidated to 17 systems, resulting in a 39% reduction of systems.” (*Id.*, [00381] (emphasis added).) It thus presents a high-level overview for the user’s benefit, summarizing the aggregate expected effect of the proposed transfers, as well as a summary of “Rulesets” and “Workload Types” that served as constraints used *during* the consolidation

analysis. (*Id.*, Fig. 51.) None of these are instructions that the chosen transfers be carried out, *i.e.*, to implement the analytical results. Figure 51 lacks directives of any kind, much less instructions to place systems according to a determined placement:

Analysis Summary - Microsoft Internet Explorer provided by CIRBA, Inc.

Analysis Summary

| | |
|------------------|---|
| Analysis | Demo Stacking |
| Description | |
| Folder Structure | Analysis Folders -> Consolidation Analysis -> OS Stacking |
| Systems Analyzed | 28 |
| Snapshot as of | 2007-04-21 11:19:30.267 |
| Created By | admin |

Consolidation Summary

| | Initial State | After Transfers |
|----------------------------------|---------------|------------------|
| Total Systems | 28 | 17 |
| Consolidation % | - | 39.29% reduction |
| Consolidation % (Net of Targets) | - | 39.29% reduction |
| Consolidated Systems | - | 5 |
| Transferred Systems | - | 11 |
| Sources Only | 0 | 0 |
| Targets Only | 0 | 0 |
| Sources And Targets | 28 | 17 |

Rulesets

| Name | Category | Version | Importance |
|-------------------------------|----------------------|----------|------------|
| Unix OS Stacking | Configuration | 04202007 | 5 |
| Combined Business Constraints | Business Constraints | 03302007 | 5 |

Workload Types

| Name | Units | Importance |
|-----------------|-------|------------|
| CPU Utilization | 90 % | 5 |

Workload Settings

| | |
|------------------------|--|
| Audit Date Range | All available workload data |
| Workload Days Included | Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday |

Figure 51

Patent Owner contends that VMware seeks “to impose a requirement that the ’936 application also disclose written description for receiving, executing, and/or implementing the transfers.” (POR, 45-46.) This is false. The Petition highlighted the ’936 application’s lack of such description to foreclose any argument that the application implicitly discloses instructions by indicating that transfers are executed. (*See* Petition, 40-41 (citing Ex. 1006, ¶ 83).) Patent Owner’s critique suggests it is shying away from that argument.

Indeed, Patent Owner does not explain how the ’936 application describes “receiving, executing, and/or implementing the transfers.” (*Id.*) While it points to an isolated reference to “a client for displaying the compatibility score on an interface” (*id.*, 46, n.10), it does not contest that the interface merely “displays analytical results to a user,” who may “independently define and initiate any transfer of their choosing” (Petition, 41). As the Petition explained, this “is not equivalent to ‘issuing instructions’ in accordance with a ‘determined placement.’” (*Id.*) Patent Owner offers no rebuttal.⁶ (*See* POR, 45-46.)

⁶ Patent Owner’s expert testified that the alleged “instructions” in Figure 52 could be intended for a computer program. (Ex. 1023, 64:10-65:20.) But, as explained here, it is undisputed that the ’936 application lacks structures for executing any “instructions to place.” (*See* Petition, 40-41; *see also* Ex. 1006, ¶ 83.) Thus, if

Patent Owner also does not contest that “issuing instructions to carry out a transfer would have been a non-trivial step at the time of the ’936 application.” (Petition, 41-42; *see also* POR, 39-46.) The Petition explained that even if visualizing analytical results as in Figures 50-52 had been easy to implement, “transferring applications and data to run or reside on a new system would have been an involved process,” and a skilled artisan “would have sought guidance from the specification on how to issue instructions to execute such complex and involved transfers.” (*Id.*, 42.) Again, Patent Owner offers no response.

Put simply, there is no disclosure in the ’936 application of instructions to place a system in accordance with a determined placement. Instead of identifying instructions, Patent Owner points to descriptions of what it alleges, elsewhere, are determined placements. The ’936 application thus fails Section 112.

IV. PATENT OWNER’S PROPOSED CONSTRUCTIONS ARE WRONG AND INCONSEQUENTIAL

Patent Owner seeks to rescue its claims by presenting impermissibly broad constructions of “place,” “source system,” and “target system.” These are smokescreens.

Patent Owner contends that the claimed “instructions” can be processed by a computer, this would undisputedly take the full claimed scope beyond the reach of the ’936 application. *LizardTech*, 424 F.3d at 1345.

The only relevant question is whether “placement” includes mapping, which it does not. *See* Section II.A, *supra*. Patent Owner’s only examples of compatibility evaluations with “already placed” source systems involve sources that are *mapped*, not *placed* (if they even involve source-to-source evaluations at all). *See* Section II.B, *supra*. That alone shows that the ’936 application does not disclose “already placed” evaluations. Patent Owner’s constructions of “source” and “target” systems to include systems involved in already executed transfers cannot change this lack of support.

Separately, as explained in Section III, *supra*, the ’936 application does not describe “issuing instructions.” Its entire analytical technique concludes with a set of proposed transfers and stops short of issuing instructions to implement those transfers. This is true regardless of whether the Board adopts Patent Owner’s constructions, which are wrong, as explained below.

A. Patent Owner’s Construction of “Placement” Exceeds Its Alleged Support for the “Already Placed” and “Issuing Instructions” Limitations

Patent Owner proposes that “placement” be construed “consistent[ly] with the full panoply of consolidation and transfer analyses disclosed in the ’459 patent.” (POR, 17.) Patent Owner does this to resist limiting “place” to “move.” (*See id.*, 17-18.)

But Patent Owner’s alleged support for “already placed” confirms that

“place” cannot mean anything beyond “transfer,” which requires movement. (*See, e.g.*, Ex. 1009, [0086] (the goal of the analyses, consolidation, is a set of “transfers,” defined as “movement of a single source entity onto a target”); *id.*, [0087]-[0089], [0095]-[0097], [00313]-[00321], [00342]-[00347] (analyses revolve around “transfer sets”); *see also* Section II.B, *supra*.) Likewise, Patent Owner’s alleged support for “issuing instructions”—and even its arguments—refers exclusively to transfers. (*See, e.g.*, Ex. 1009, [00381] (discussing “actual transfers”); *id.*, Fig. 51 (showing predicted changes “After Transfers”); POR, 43-44 (arguing that “list of actual transfers” are instructions).) Even Patent Owner’s construction of “[source/target] system” as systems from/to which “applications and/or data are moved or are to be moved” incorporates this constraint. (POR, 11.)

Finding no intrinsic support, Patent Owner instead overstates the district court’s construction. The district court merely clarified that “place” could include different forms of transfer, whose nuances might not be captured by “movement” alone. (*See* Ex. 2005, 12-14.) Critically, the court did not construe “place” to include mapping. (*Id.*)

B. Patent Owner Cannot Run from the Specification’s Express Definitions of “Source System” and “Target System”

The ’459 patent’s specification expressly defines “source system” and “target system” as “a system [from/to] which applications and/or data are to be moved.” (Ex. 1001, 5:57-60; Petition, 19.) By adopting these definitions in *inter*

partes review for the '459 patent's parent, the '492 patent, Patent Owner put the public on notice as to what these terms mean. *See VMware, Inc. v. Cirba IP Inc.*, Case No. IPR2021-00008, Paper No. 8, Patent Owner's Preliminary Response, at 5 (PTAB Feb. 18, 2021). It should be held to that meaning.

Patent Owner now seeks to expand "source system" to include systems from which applications or data "have been moved to target systems." (POR, 12.) No evidence supports this. The specification refers only to source and target systems as part of analyses, and those analyses are exclusively "forward-looking," as Patent Owner conceded before the district court. (*See* Ex. 2005, 11.) Nor does Patent Owner identify any place where the specification uses "source system" to indicate a system from which applications and/or data have *already* been moved. (*See* POR, 11-14.) Patent Owner cites only to transfers that have yet to happen (*see, e.g., id.*, 12 ("*actual transfer* describes *the movement* of a single source entity onto a target")) (quoting Ex. 1001, 6:35-41)), or to excerpts where the phrase "source system" is missing entirely (*see, e.g., id.*, 12-13 (citing Ex. 1001, 39:43-48, which never describes source systems)).

Patent Owner's constructions therefore are wrong. But the Board need not decide what "source system" and "target system" mean. The '936 application's lack of support for "already placed" and "issuing instructions" does not depend on the precise meaning of these terms. *See* Sections II-III, *supra*.

V. POST-GRANT REVIEW ELIGIBILITY

As the Petition explained, the '459 patent is eligible for the PGR review because the '936 application, the latest pre-AIA application to which it claims priority, lacks written description support for its claims. Should the Board determine otherwise, this proceeding should be terminated without a Final Written Decision. AIA §§ 3(n)(1), 6(f)(2)(A) (patent must contain or have contained a claim with effective filing date on or after March 16, 2013 to be eligible for PGR); *see also Atlanta Gas Light Co. v. Bennett Regul. Guards, Inc.*, No. IPR2015-00826, 2021 WL 202800, at *3 (P.T.A.B. Jan. 20, 2021) (vacating institution decision and terminating proceeding where petition was time-barred under 35 U.S.C. § 315(b)); *Apple Inc. v. Universal Secure Registry, LLC*, No. CBM2018-00024, Paper 47, at 1 (P.T.A.B. Nov. 19, 2019) (same for CBM-ineligible patent).

VI. CONCLUSION

VMware requests that the Board find claims 1-63 unpatentable for lack of written description under 35 U.S.C. § 112.

Dated: June 24, 2022

Respectfully submitted,

/Diek O. Van Nort/

Diek O. Van Nort, Reg. No. 60,777

MORRISON & FOERSTER LLP

425 Market Street

San Francisco, CA 94105-2482

Tel.: (415) 268-6971

Fax: (415) 268-7522

Email: DVanNort@mofo.com

Certification of Word Count (37 C.F.R. § 42.24)

I hereby certify that this PETITIONER’S REPLY TO PATENT OWNER’S RESPONSE has 5,589 words (as counted by the “Word Count” feature of the Microsoft Word™ word-processing system), exclusive of “a table of contents, a table of authorities, mandatory notices under § 42.8, a certificate of service or word count, or appendix of exhibits or claim listing.”

Dated: June 24, 2022

By: /Diek O. Van Nort/
Diek O. Van Nort, Reg. No. 60,777

Certificate of Service (37 C.F.R. § 42.6(e)(4))

I hereby certify that the attached PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE and supporting materials were served on the below date via email to the following counsel of record for the Patent Owner:

Khue V. Hoang
REICHMAN JORGENSEN LEHMAN & FELDBERG LLP
750 Third Avenue, Suite 2402
New York, NY 10017
khoang@reichmanjorgensen.com
rj_densify@reichmanjorgensen.com

Philip Eklem
REICHMAN JORGENSEN LEHMAN & FELDBERG LLP
1909 K Street, NW
Suite 800
Washington, DC 20006
peklem@reichmanjorgensen.com

Christine E. Lehman
REICHMAN JORGENSEN LEHMAN & FELDBERG LLP
1909 K Street, NW
Suite 800
Washington, DC 20006
clehman@reichmanjorgensen.com

Michael G. Flanigan
REICHMAN JORGENSEN LEHMAN & FELDBERG LLP
100 Marine Parkway, Suite 300
Redwood Shores, CA 94065
mflanigan@reichmanjorgensen.com

Dated: June 24, 2022

By: /Diek O. Van Nort/
Diek O. Van Nort, Reg. No. 60,777