PGR2021-00098
U.S. Patent No. 10,951,459

VMware, Inc., Petitioner

v.

Cirba IP Inc., Patent Owner

September 15, 2022

vmware®

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

Overview

- Background of ’459 Patent
- Evaluating “Already Placed” Source Systems
  - “Mapping” or “Planning to Place” Is Not “Placing”
  - Cirba’s Examples Do Not Include Evaluation of “Already Placed” Source Systems
- “Issuing Instructions to Place”
- PGR Eligibility

Background of the ’459 Patent

’459 Patent Is About Consolidating a Collection of Systems onto a Smaller Set of Those Systems

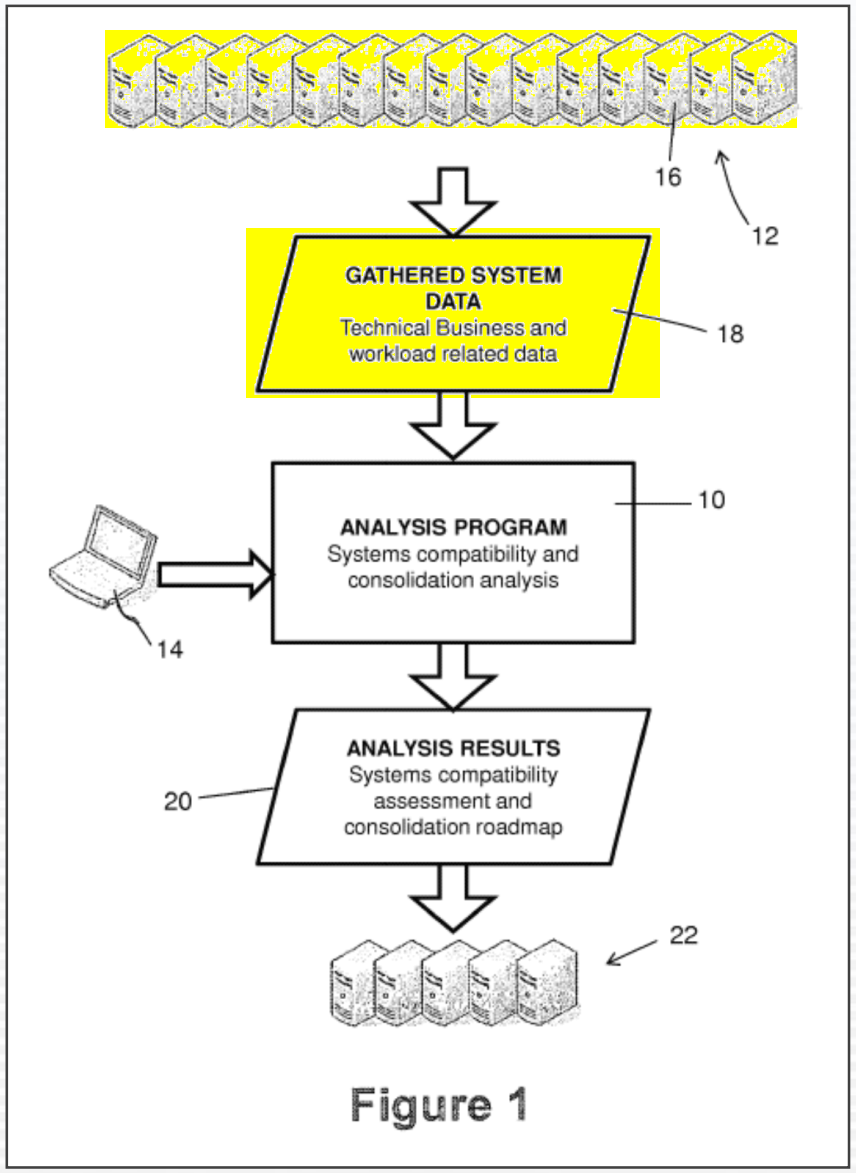
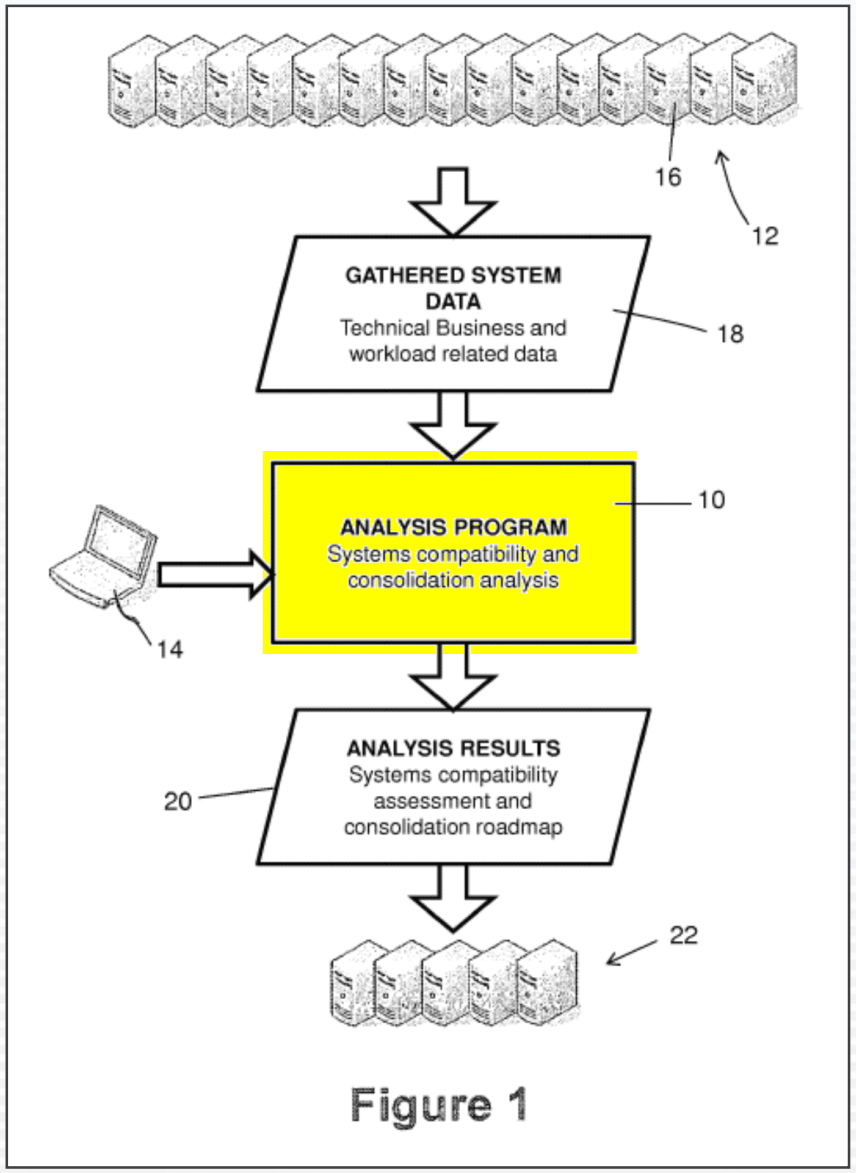


Figure 1

A block diagram of an analysis program **10** for determining compatibilities in computing environment **12** is provided in FIG. **1**. The analysis program **10**, accessed through a computer station **14**, gathers data **18** pertaining to a collection of systems to be consolidated **16**. 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**.

’459 Patent (Ex. 1001) at Fig. 1, 5:16-24
Petition (Paper 2) at 5-7

’459 Patent Is About Consolidating a Collection of Systems onto a Smaller Set of Those Systems



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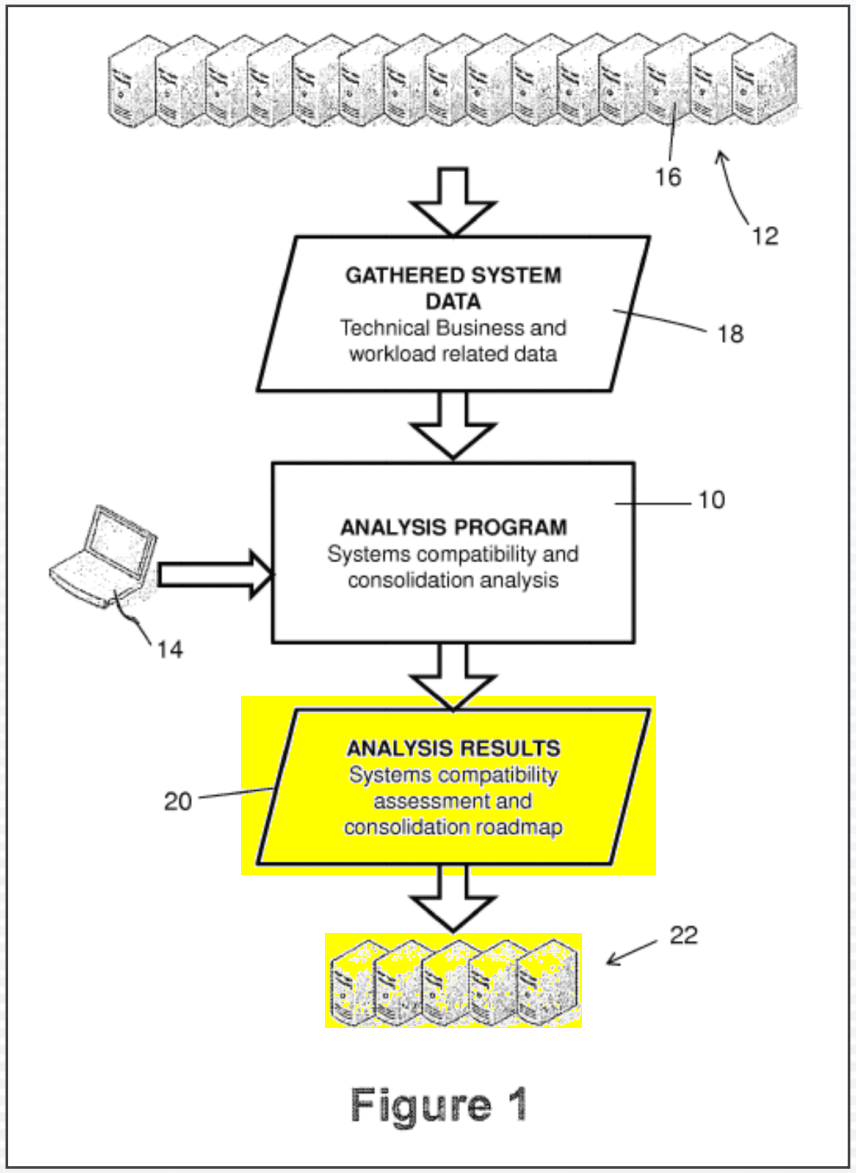

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’459 Patent (Ex. 1001) at Fig. 1, 5:16-24
Petition (Paper 2) at 5-7

’459 Patent Is About Consolidating a Collection of Systems onto a Smaller Set of Those Systems

1. A system for determining placement of source computer systems on target computer systems, the system configured to execute operations causing the system to:

collect data for a collection of computer systems, the collection of computer systems comprising a plurality of source systems and a plurality of target systems;

determine a placement of at least one source system from the collection of computer systems on at least one target system from the collection of computer systems by employing the following operations:

evaluate compatibility between a specific source system from the plurality of source systems and a specific target system from the plurality of target systems by evaluating one or more rules that operate against attributes or data relating to the source and target systems being evaluated;

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, or being evaluated for placement onto the specific target system, to determine if the specific source system can be placed with those other source systems on the specific target system, by evaluating one or more rules that operate against attributes or data relating to the source systems;

evaluate compatibility between the specific source system and the specific any onc of the plurality of target system 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, or being evaluated for placement onto the specific target system; and

issue instructions to place the at least one source system on the at least one target system in accordance with the determined placement.

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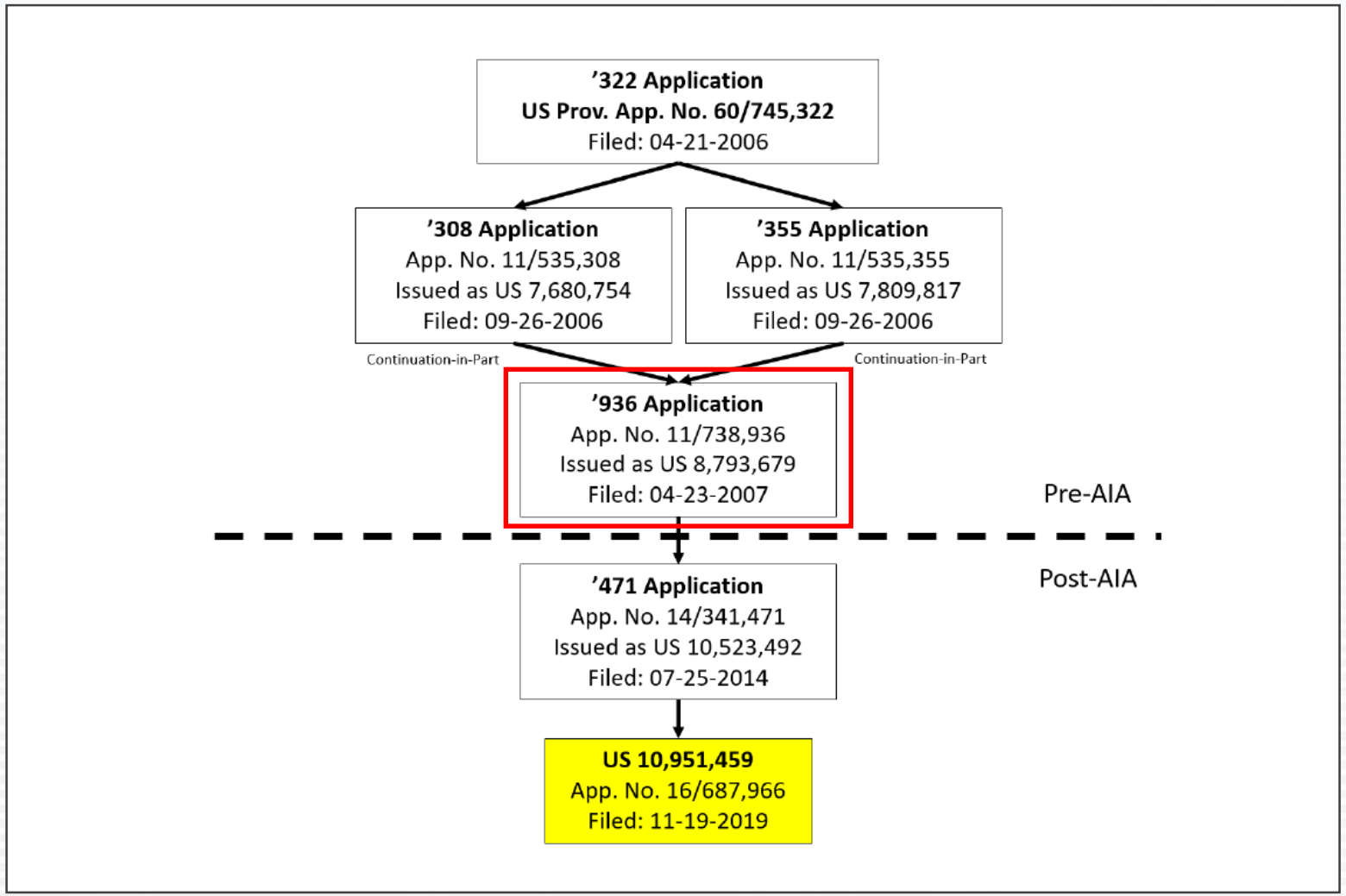
’459 Patent (Ex. 1001) at Claim 1

Only Issue Is Whether '936 Application Provides Written Description



Petition (Paper 2) at 21-23

Evaluating “Already Placed” Source Systems

“Mapping” or “Planning to Place” Is Not “Placing”

Cirba Argues that "Planning to Place" Is "Already Placing"

[00356], [00371], Figs. 1-3, 9, 24(a). By logical extension, an "already placed" source may be a source that is planned for placement on a particular host, but that has not actually been put there, much like an "already placed" guest at one of the wedding tables who hasn't physically sat down.

Patent Owner's Sur-Reply (Paper 23) at 6

Determining a Placement and Placement Are Distinct

1. A system for determining placement of source computer systems on target computer systems, the system configured to execute operations causing the system to:

collect data for a collection of computer systems, the collection of computer systems comprising a plurality of source systems and a plurality of target systems;

determine a placement of at least one source system from the collection of computer systems on at least one target system from the collection of computer systems by employing the following operations:

evaluate compatibility between a specific source system from the plurality of source systems and a specific target system from the plurality of target systems by evaluating one or more rules that operate against attributes or data relating to the source and target systems being evaluated;

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, or being evaluated for placement onto the specific target system, to determine if the specific source system can be placed with those other source systems on the specific target system, by evaluating one or more rules that operate against attributes or data relating to the source systems;

evaluate compatibility between the specific source system and the specific any onc of the plurality of target system 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, or being evaluated for placement onto the specific target system; and

issue instructions to place the at least one source system on the at least one target system in accordance with the determined placement.

’459 Patent (Ex. 1001) at Claim 1
Petitioner’s Reply (Paper 22) at 3

Evaluation Is Part of **Determining a Placement**

determine a placement of at least one source system from the collection of computer systems on at least one target system from the collection of computer systems by employing the following operations:

evaluate compatibility between a specific source system from the plurality of source systems and a specific target system from the plurality of target systems by evaluating one or more rules that operate against attributes or data relating to the source and target systems being evaluated;

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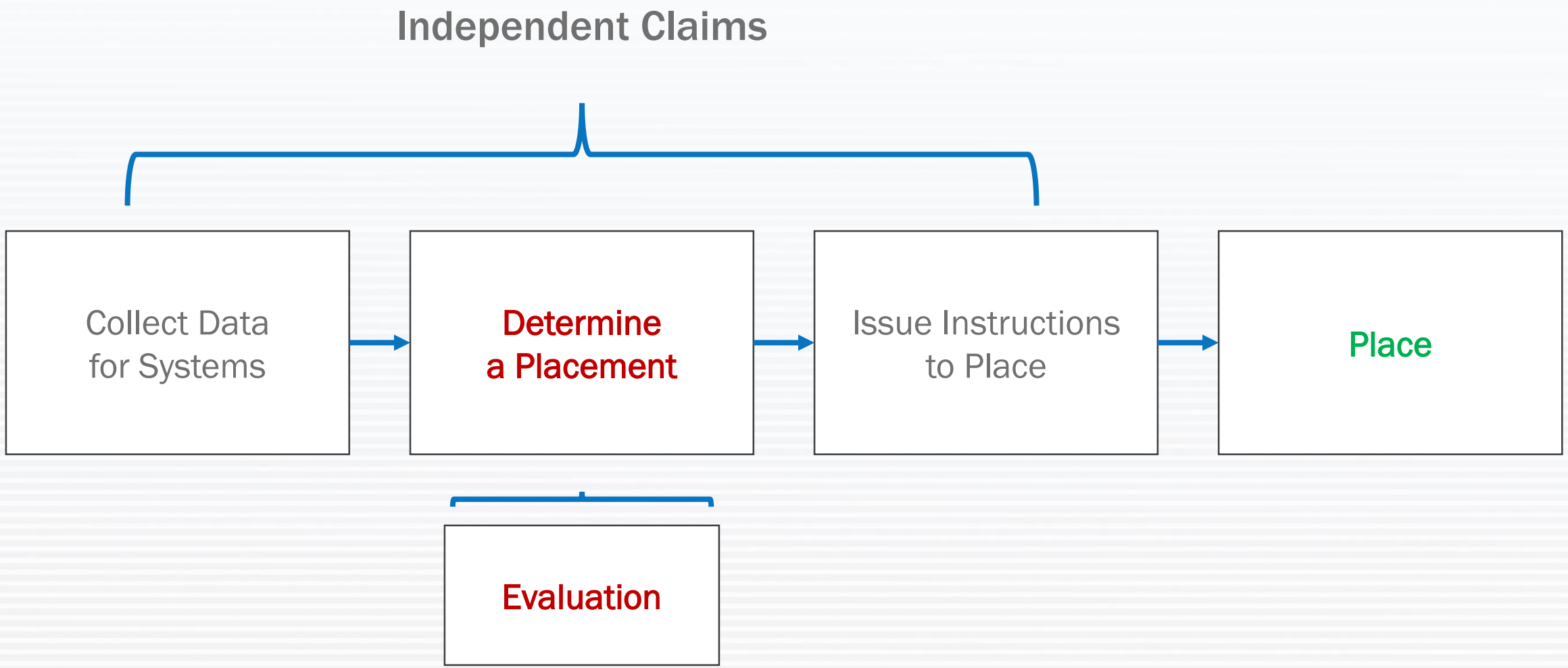
’459 Patent (Ex. 1001) at Claim 1
Petitioner’s Reply (Paper 22) at 3

Placement Does Not Occur During Evaluation



Petitioner's Reply (Paper 22) at 3

"Place" Presumed to Have Same Meaning Throughout Claim

"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,

Petitioner's Reply (Paper 22) at 18-19, n.5

Mapping Is Not Placement

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*

Patent Owner's Response (Paper 14) at 26

Mapping Is Part of the Analytical Evaluation Process

> 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

Patent Owner's Response (Paper 14) at 26

> Petitioner's Reply makes much of the word "mapping" – a term Patent Owner used in its POR to describe transfer sets where sources are put (or stacked) onto targets. POR at 26 ("Because the sources go 'onto' the target, this mapping is also

Patent Owner's Sur-Reply (Paper 23) at 8

Mapping Is Part of the Analytical Evaluation Process

> The multi-dimensional rule-based compatibility analysis differs from the 1-to-1 compatibility analysis since a transfer set can include multiple sources (N) to be transferred to the target, 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) as will be explained in greater detail below. The multi-dimensional workload and overall compatibility analysis algorithms are analogous to their 1-to-1 analysis counterparts.

’459 Patent (Ex. 1001) at 30:36-44
Petitioner’s Reply (Paper 22) at 5

Cirba's Dictionary Definitions of "Placement"

> 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

Patent Owner's Response (Paper 14) at 19

Cirba's Types of Placement Each Actually Alter the Environment

> 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

Patent Owner's Response (Paper 14) at 20
Petitioner's Reply (Paper 22) at 4

Cirba's Types of Placement Each Actually Alter the Environment

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

Patent Owner's Response (Paper 14) at 16-17
Petitioner's Reply (Paper 22) at 4

Transfers Alter the Computing Environment

[0086] 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.

'936 Application (Ex. 1009) at [0086]
Petitioner's Reply (Paper 22) at 3

Consolidations Alter the Computing Environment

[0086] 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.

'936 Application (Ex. 1009) at [0086]
Petitioner's Reply (Paper 22) at 3

District Court Did Not Construe "Placing" to Include Mapping

First, the parties disagree as to whether the word "placement" should be limited to "movement." The Court agrees with Densify that 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." (*See* D.I. 1094 at 45-46) (citing '459 patent at 2:5-7, 18-20, 13:37-40) That some of these actions ***involve*** moving applications and/or data does not compel the narrowing construction VMware seeks. (*See id.* at 47-49) Instead, the Court agrees with Densify that "place" should be given its plain and ordinary meaning in this context, which is broader than "move," and may include, as Densify argues, "put[ting] in a particular position" or "a suitable place." (*Id.* at 45) (citing D.I. 1095-2 Ex. B-1)

Delaware Claim Construction Order (Ex. 2005) at 13-14
Petitioner's Reply (Paper 22) at 25

Prosecution History of the ’492 Patent (Parent)

Claim Rejections – 35 U.S.C. 101

Claims 1-24 have been rejected under 35 U.S.C. 101 for being directed to non-statutory subject matter. The Applicant respectfully traverses the rejections as follows.

Applicant has amended claim 1 as indicated above, 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”. Applicant submits that the rejections under 35 U.S.C. 101 are thereby rendered moot.

If one assumes, for the sake of argument, that evaluating the systems using at least one rule set, and wherein the evaluating includes a compatibility analysis are considered to be an abstract idea, Applicant respectfully submits that additional elements are clearly recited that integrate the abstract idea into a practical application.

In particular, claim 1 as amended recites: “placing the source systems onto the target systems in accordance with technical, business, and workload constraints determined in the compatibility analysis”. That is, claim 1 clearly recites applying the result of the compatibility analysis by placing source systems onto target systems – a practical application of any alleged abstract idea.

’492 Prosecution History (Ex. 1024) at 53-54
Petitioner’s Reply (Paper 22) at 3-4

Prosecution History of the ’492 Patent (Parent)

1. (Currently amended) A computer implemented method for ~~determining compatibility of computer systems for combining~~ placing source systems on target systems, the method comprising:

~~analyzing compatibility parameters for the computer systems to determine whether a source system is compatible with at least one of: i) a target system, and ii) another source system, wherein the compatibility parameters correspond to features or characteristics of the respective computer systems that can be evaluated, quantified, measured, or compared between systems;~~

~~analyzing source system workload data to determine which of the computer systems is operable with another system on the target system; and~~

evaluating one or more source systems against other source systems and against one or more target systems using at least one rule set that evaluates parameters of the systems to determine whether the systems can or can not be placed together on a specific target system, wherein the evaluating comprises one or more of: a 1-to-1 compatibility analysis, an N-to-1 compatibility analysis, or an N-by-N compatibility analysis; and

~~generating an output comprising a workload placement solution based on which of the computer systems is operable and compatible with other systems, to enable one or more placements of source systems onto target systems to be implemented.~~

placing the source systems onto the target systems in accordance with technical, business, and workload constraints determined in the compatibility analysis.

’492 Prosecution History (Ex. 1024) at 47
Petitioner’s Reply (Paper 22) at 4

Wedding Seating Analogy

Wedding Example	Cirba's Analogy	Correct Analogy
The couple creates a seating plan.	The couple places the guests (sources) at tables (targets).	The couple determines a placement for their guests (sources) at tables (targets). But the only thing they have "placed" is the names of the guests (theoretical representations of sources) they have penciled in on a non-final chart next to table numbers (theoretical representations of targets). Nothing has happened to the guests (sources) themselves. They will not be placed until they ***sit down*** at a table on the day of the wedding.
The couple adds new guests to the seating plan by considering where existing guests are assigned.	The couple places the new guests (sources) at tables (targets) by evaluating them with guests who are "already placed" (other sources).	The couple determines a placement for the new guests (sources) at tables (targets) by evaluating them with guests whose names are already in the seating plan. Still, nothing has happened to the guests (sources) themselves.

Patent Owner's Sur-Reply (Paper 23) at 3-4

Cirba's Examples Do Not Include Evaluation of "Already Placed" Source Systems

Source-to-“Already Placed Source” Evaluations

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, or being evaluated for placement onto the specific target system, to determine if the specific source system can be placed with those other source systems on the specific target system, by evaluating one or more rules that operate against attributes or data relating to the source systems;

evaluate compatibility between the specific source system and the specific any onc of the plurality of target system 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, or being evaluated for placement onto the specific target system; and

’459 Patent (Ex. 1001) at Claim 1

Forward Consolidation

Forward Consolidation: Introducing New Applications into the Environment

[0082] The computer systems 16 may be physical systems, virtual systems or hypothetical models. In contrast to actual physical systems, hypothetical systems do not currently exist in the computing environment 12. Hypothetical systems can be defined and included in the analysis to evaluate various types of "what if" consolidation scenarios. Hypothetical targets can be used to simulate a case where the proposed consolidation target systems do not exist in the environment 12, e.g. for adding a system 16. Similarly, 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 16.

'936 Application (Ex. 1009) at [0082]
Petitioner's Reply (Paper 22) at 6

Cirba Points to No Disclosure of "Already Placed" Hypothetical Systems

system, including hypothetical ones. Ex. 1009 at [0082] and [0085]. Petitioner's attempt to graft on a requirement that there be separate discussions pertaining particularly to "hypothetical" systems fails in light of the application's explanation that a system may be "physical, virtual, or hypothetical" and encompasses "any entity which is capable of being analysed for any type of compatibility . . . ." Ex. 1009 at [0082] and [0085]. Thus, discussions of "systems" throughout the application apply equally to hypothetical as well as physical and virtual systems.

Patent Owner's Sur-Reply (Paper 23) at 14

Cirba's Expert Provides No Support for Evaluating "Pre-Existing, Already Placed, Source Systems"

Fig. 12, [0030], [00117], [00155]. A POSA would understand that the "forward consolidation" use case described in the '936 application may involve the creation of hypothetical source systems to determine their compatibility, evaluated against pre-existing, already placed, source systems on existing target systems.

Madisetti Declaration (Ex. 2001), ¶ 100
Petitioner's Reply (Paper 22) at 6

Incrementally Adding to a Transfer Set

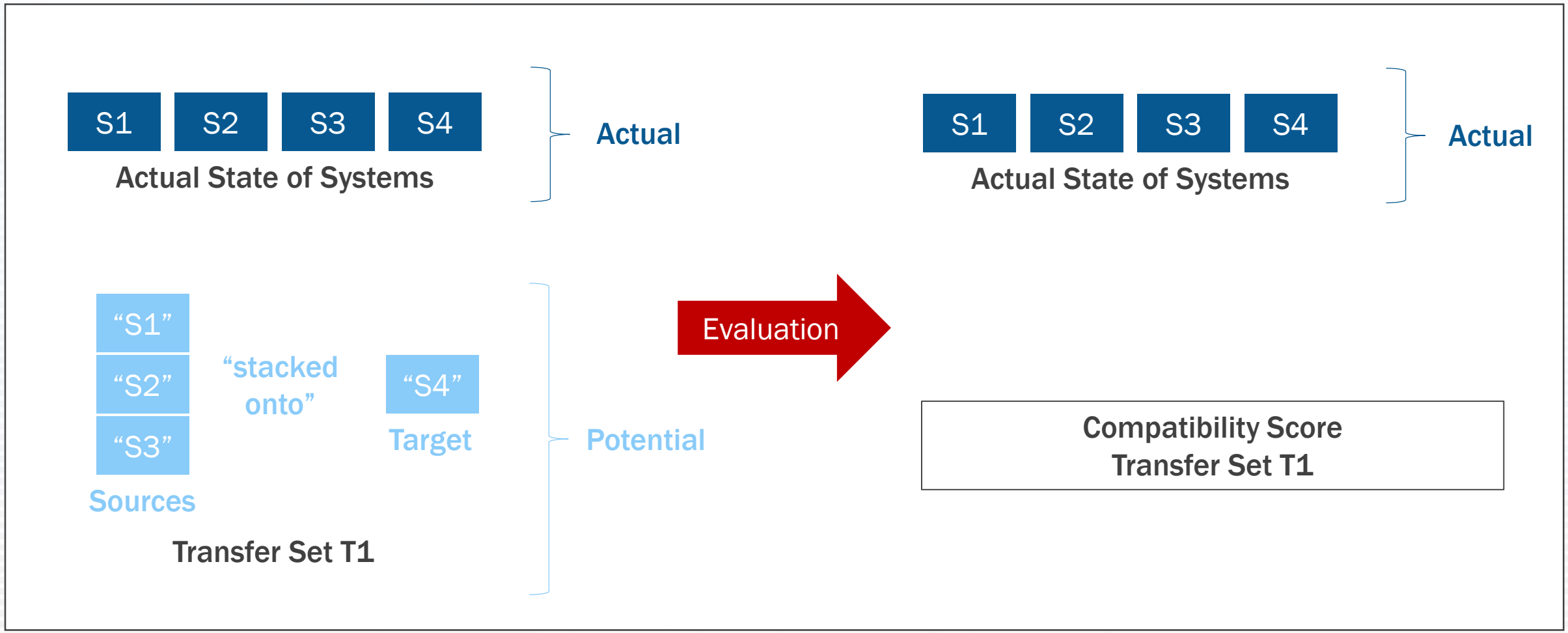
Example from ’936 Application

[00316] For each transfer set 23, a compatibility score is computed for each rule set 28 and workload type 30. An overall compatibility score the transfer set 23 is then derived from the individual scores. 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

’936 Application (Ex. 1009) at [0316]
Petitioner’s Reply (Paper 22) at 8-9

Evaluating a Transfer Set Does Not Entail Actual Stacking



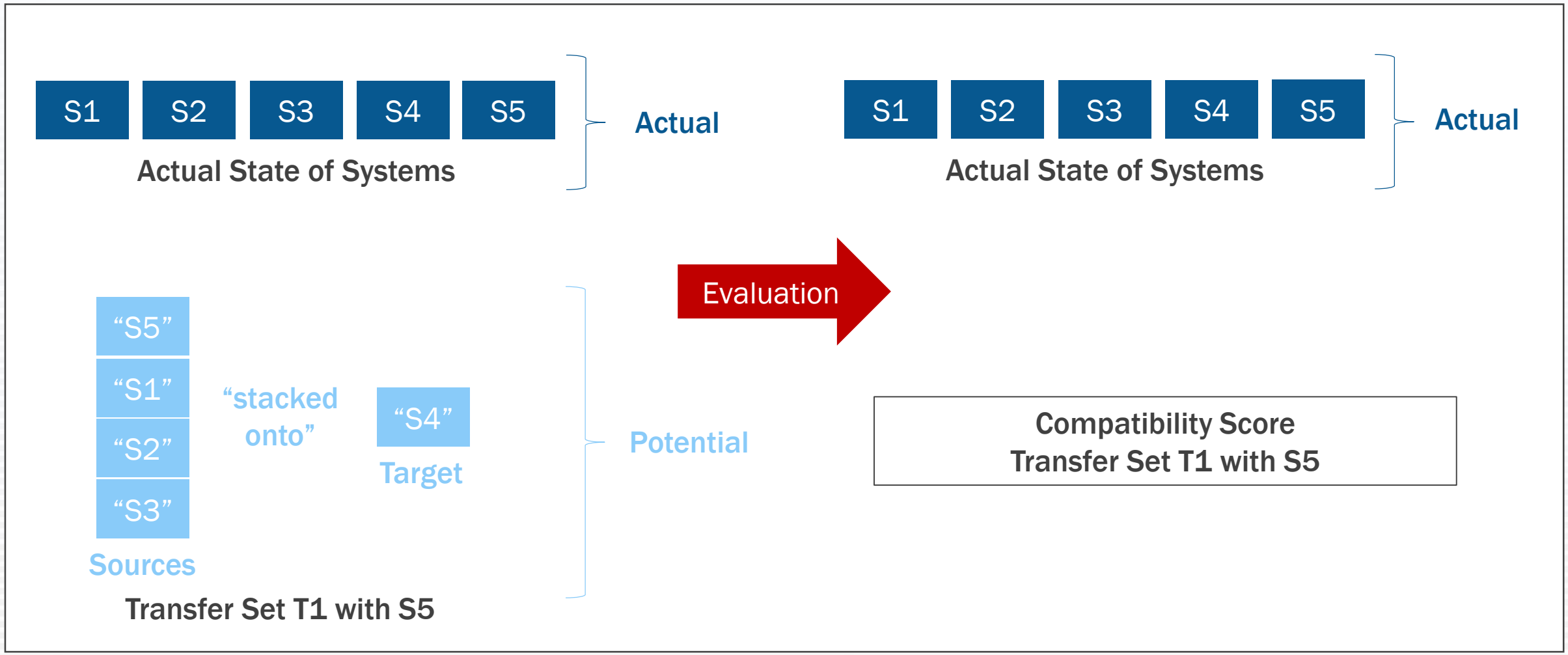
'936 Application (Ex. 1009) at [0316]
Petitioner's Reply (Paper 22) at 9

Example from ’936 Application

[00319] In 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. 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.

’936 Application (Ex. 1009) at [0319]
Petitioner’s Reply (Paper 22) at 9-10

Evaluating Incremental Addition to a Transfer Set Does Not Entail Actual Stacking



'936 Application (Ex. 1009) at [0319]
Petitioner's Reply (Paper 22) at 9-10

Cirba's Expert Agrees that Transfer Sets Are Not Executed

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. And after it completes evaluation, the specification goes into different options and describes, for example, providing a consolidation solution and other things.

Madisetti Deposition Tr. (Ex. 1023) at 21:6-14
Petitioner's Reply (Paper 22) at 9

Cirba's Expert Agrees that Transfer Sets Are Not Executed

Q In the example transfer sets T1 through T5, which of the source systems are already placed?

MR. EKLEM: Objection to form.

THE WITNESS: These are -- I don't think that this shows the results of the evaluations. This is part of the evaluation, still being evaluated, for example. And again, I would have to review this in detail, but it looks like these are transfer sets that are being analyzed.

Madisetti Deposition Tr. (Ex. 1023) at 71:4-14
Petitioner's Reply (Paper 22) at 9

Adding to Existing Consolidation Solution

Consolidation Solutions Are Just Multiple Transfer Sets

[0088] A consolidation solution (or roadmap) is one or more transfer sets 23 based on a common pool of source and target entities. As can be seen in Figure 2, the consolidation roadmap can be included in the analysis results 20. Each source or target entity is referenced at most one time by the transfer sets that comprise the solution.

'936 Application (Ex. 1009) at [0088]
Petitioner's Reply (Paper 22) at 10

Consolidation Solutions Are Just Multiple Transfer Sets

[0088] A consolidation solution (or roadmap) is one or more transfer sets 23 based on a common pool of source and target entities. As can be seen in Figure 2, the consolidation roadmap can be included in the analysis results 20. Each source or target entity is referenced at most one time by the transfer sets that comprise the solution.

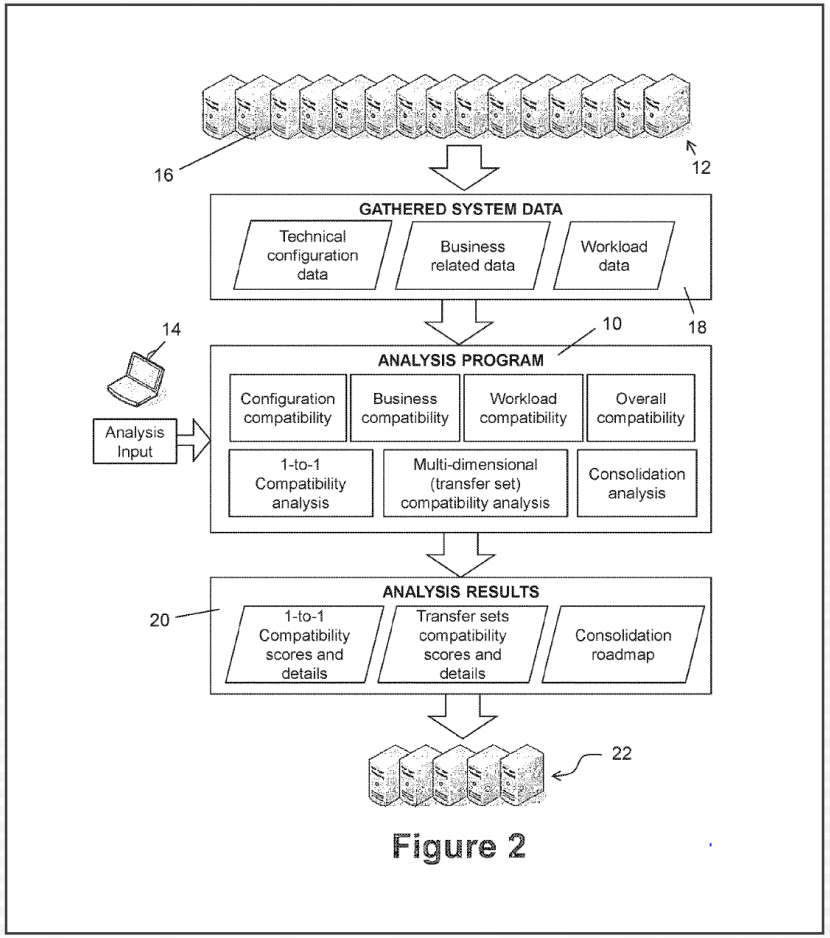


Figure 2

’936 Application (Ex. 1009) at [0088], Fig. 2
Petitioner’s Reply (Paper 22) at 10

Auto Fit Algorithm

Auto Fit Algorithm Does Not Evaluate "Already Placed" Sources

Set up Auto Fit Parameters

[00355] The auto fit algorithm search parameters are then set up. The parameters can vary for each algorithm. Example search parameters include the order by which sources and targets are processed and the criteria for choosing the best transfer set 23.

'936 Application (Ex. 1009) at [0355]
Petition (Paper 2) at 30

Auto Fit Algorithm Does Not Evaluate "Already Placed" Sources

Compile Candidate Transfer Sets

[00356] The next phase compiles a collection of candidate transfer sets 23 from the available pool of sources and targets. The candidate transfer sets 23 fulfill the auto fit constraints (e.g. minimum allowable score, minimum transfers per transfer set, maximum transfers per transfer set). The collection of candidate transfer sets may not represent a consolidation solution (i.e. referenced sources and targets may not be mutually exclusive amongst transfer sets 23). The algorithms vary in the criteria employed in composing the transfer sets. In general, the detailed search algorithms generate more candidate transfer sets than quick searches in order to assess more transfer permutations.

'936 Application (Ex. 1009) at [0356]
Petition (Paper 2) at 30

Auto Fit Algorithm Does Not Evaluate "Already Placed" Sources

Choose Best Candidate Transfer Set

[00357] The next phase compares the candidate transfer sets 23 and chooses the "best" transfer set 23 amongst the candidates. The criteria employed to select the best transfer set 23 varies amongst the algorithms. Possible criteria include the number of transfers, the compatibility score, general compatibility of entities referenced by set and whether the transfer set target is a target-only.

'936 Application (Ex. 1009) at [0357]
Petition (Paper 2) at 30

Even Already *Assigned* Sources Are Removed from Evaluations

Add Transfer Set to Consolidation Solution

[00358] Once a transfer set is chosen, it is added to the intermediate consolidation solution. The entities referenced by the transfer set are removed from the list of available sources and targets and the three preceding phases are repeated until the available sources or targets are consumed.

'936 Application (Ex. 1009) at [0358]
Petition (Paper 2) at 30

Cirba Admits Auto Fit Does Not "Actually Place" Sources

4. The '936 Application's "Auto-Fit Algorithm" Involves "Already Placed" Source Systems

Like the forward consolidation and existing consolidation examples, Petitioner's arguments concerning the auto fit algorithm rely on a determination that "place" be limited to "actual placement" and "source systems" be limited to never-before-placed sources systems. Because neither limitation is warranted, Petitioner's argument fails and disclosures of the auto-fit algorithm disclose "already placed" systems.[9]

Patent Owner's Sur-Reply (Paper 23) at 17

Pre-Existing Source-Target Transfers

"Pre-Existing Source-Target Transfers"

[00345] As part of a compatibility analysis input specification, systems can be designated for consideration as a source only, as a target only or as either a source or a target. These designations serve as constraints when defining transfers in the context of a compatibility analysis. The analysis can be performed on an analysis with pre-existing source-target transfers. Analyses containing systems designated as source or target-only (and no source or target designations) are referred to as "directed analysis."

'936 Application (Ex. 1009) at [0345]
Petitioner's Reply (Paper 22) at 12

The Board Already Noted that Pre-Existing Transfers Are Unexecuted

Ex. 1009 ¶ 345 (emphasis added). The statement emphasized in paragraph 345 above refers to performing the compatibility analysis on "***an analysis with*** pre-existing source-target transfers." The statement does not appear to specify that compatibility is evaluated between a specific source system and another source system "already placed on the specific target system," as the claims require. The reference to "an analysis with" pre-existing source-target transfers, as well as the surrounding discussion of pre-designating systems as sources or targets, suggests that the "pre-existing source-target transfers" may refer to sources to be transferred to the target, rather than sources that have been "already placed" on a target.

Institution Decision (Paper 12) at 19-20
Petitioner's Reply (Paper 22) at 12

"Pre-Existing Transfers" Are "Pre-Existing *Transfer Sets*"

25. The system of claim **1**, wherein the placement takes into account a pre-existing source-target transfer set, and any placements are incremental to the transfer set.

56. The method of claim **32**, wherein the placement takes into account a pre-existing source-target transfer set, and any placements are incremental to the transfer set.

'459 Patent (Ex. 1001) at Claims 25, 56
Petitioner's Reply (Paper 22) at 13, n.4

No Rebuttal in Sur-Reply

5. Analyses That Use Pre-Existing Source-Target Transfers Involve "Already Placed" Source Systems

As everywhere else, Petitioner's arguments against the relevance of analyses using pre-existing source target transfers rely on its supposition that "place" is limited to "actual placement." As everywhere else, Petitioner is wrong. *See also*, *e.g.*, Ex. 1009 at Fig. 49 (option to "Clear existing Transfers"); Ex. 1023 at 89:3-92:19.

Patent Owner's Sur-Reply (Paper 23) at 17-18

1-to-1 Compatibility Analysis

No Source-to-Source Evaluations in 1-to-1 Analysis

[0095] 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.

’936 Application (Ex. 1009) at [0095]
Petitioner’s Reply (Paper 22) at 13-14

No Rebuttal in Sur-Reply

6. 1-to-1 Compatibility Analyses Involve "Already Placed" Source Systems

Patent Owner's POR identified the exemplary disclosure in the '936 application of incrementally transferring sources, one after another, onto a target system using the 1-to-1 compatibility analyses to assess the impact of each transfer. *See* POR at 30-31. Petitioner responds by asserting, in a conclusory fashion and without support, that "Paragraph 95 refers ***generally*** to assessing 'the impact of each transfer' ***on the computing environment as a whole***." Reply at 14 (emphasis added). Petitioner identifies no grounds for disputing that a POSA would understand 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.

Patent Owner's Sur-Reply (Paper 23) at 18

No Mention of Transfer to Same Target in 1-to-1 Analysis

[0095] 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.

'936 Application (Ex. 1009) at [0095]
Petitioner's Reply (Paper 22) at 14

OS-Level Application Stacking

POR Never Argued OS-Level Application Stacking Discloses "Already Placed"

> 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.)

Petitioner's Reply (Paper 22) at 14

> Patent Owner identified "OS-Level application stacking" as an example of "already placed" source systems. POR at 20 (discussing OS-Level application stacking in the context of the "place" terms); Exhibit 1009 at [0009]. Patent Owner's expert testified that a POSA would have understood the specification's disclosures as such. Ex. 1023 at 11:1-12:23, 33:19-34:21, 37:21-38:19, 71:4-73:24, 75:2-14.

Patent Owner's Sur-Reply (Paper 23) at 18

OS-Level Application Stacking Does Not Evaluate Source-to-Source

[0009] OS-Level application stacking involves moving the applications and data from one or more systems to the consolidated system. This can effectively replace multiple operating system instances with a single OS instance, e.g. system A running application X and system B running application Y are moved onto system C running application Z such that system C runs applications X, Y and Z, and system A and B are no longer required. This strategy is applicable to all operation system types, e.g. Windows™, Linux™, Solaris™, AIX™, HP-UX™, etc.

’936 Application (Ex. 1009) at [0009]
Petitioner’s Reply (Paper 22) at 14

Consolidating Under-Utilized Servers

New Argument Raised for the First Time on Sur-Reply

> Of course, "already placed" also includes actual placements. For example, in the Background section of the Application, the patentees discuss "under-utilization" of hardware (like servers) as motivation for seeking out consolidation solutions. Ex. 1009 at [0005]-[0006]. Consolidating "under-utilized" servers includes, for example, combining hosts running fewer-than-optimal applications. Ex. 1023 at 54:15-56:20, 71:4-73:24, 83:14-84:4. In other words, hosts with applications *already placed* on them get evaluated for consolidation with other under-utilized hosts to reduce the overall number of hosts. Ex. 1023 at 12:2-14:20, 37:21-38:19,

Patent Owner's Sur-Reply (Paper 23) at 6-7

No Disclosure of Source-to-Source Evaluations

[0005] While the benefits of a distributed approach are numerous and well understood, there has arisen significant practical challenges in managing such systems for optimizing efficiency and to avoid redundancies and/or under-utilized hardware. In particular, one challenge occurs due to the sprawl that can occur over time as applications and servers proliferate. Decentralized control and decision making around capacity, the provisioning of new applications and hardware, and the perception that the cost of adding server hardware is generally inexpensive, have created environments with far more processing capacity than is required by the organization.

[0006] When cost is considered on a server-by-server basis, the additional cost of having underutilized servers is often not deemed to be troubling. However, when multiple servers in a large computing environment are underutilized, having too many servers can become a burden. Moreover, the additional hardware requires separate maintenance considerations; separate upgrades and requires the incidental attention that should instead be optimized to be more cost effective for the organization. Heat production and power consumption can also be a concern. Even considering only the cost of having redundant licenses, removing even a modest number of servers from a large computing environment can save a significant amount of cost on a yearly basis.

'936 Application (Ex. 1009) at [0005]-[0006]

“Issuing Instructions to Place”

Instructions to Place According to a Determined Placement

> issue instructions to place the at least one source system on the at least one target system in accordance with the determined placement.

’459 Patent (Ex. 1001) at Claim 1

Instructions to Place Are Distinct from Determined Placement

> issue instructions to place the at least one source system on the at least one target system in accordance with the determined placement.

’459 Patent (Ex. 1001) at Claim 1
Petitioner’s Reply (Paper 22) at 15

Cirba Maps Instructions to Place and Determined Placement to the Same Thing

Claim Term	Cirba's Mapping	In Other Words…
"Determined Placement"	consolidation solution (or "roadmap")	set of proposed transfers
"Instructions to Place"	a summary of consolidation results and a list of actual transfers	set of proposed transfers

Patent Owner's Response (Paper 14) at 44
Petitioner's Reply (Paper 22) at 15-17

Consolidation Solutions (Roadmaps) Are Determined Placements

[0074] A block diagram of an analysis program 10 for determining compatibilities in computing environment 12 is provided in Figure 1. The analysis program 10, accessed through a computer station 14, gathers data 18 pertaining to a collection of systems to be consolidated 16. 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.

[0087] A transfer set 23 (see Figure 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.

[0088] A consolidation solution (or roadmap) is one or more transfer sets 23 based on a common pool of source and target entities. As can be seen in Figure 2, the consolidation roadmap can be included in the analysis results 20. Each source or target entity is referenced at most one time by the transfer sets that comprise the solution.

'936 Application (Ex. 1009) at [0074], [0087]-[0088]
Petitioner's Reply (Paper 22) at 16

Figure 50's Compatibility Map Shows Determined Placements

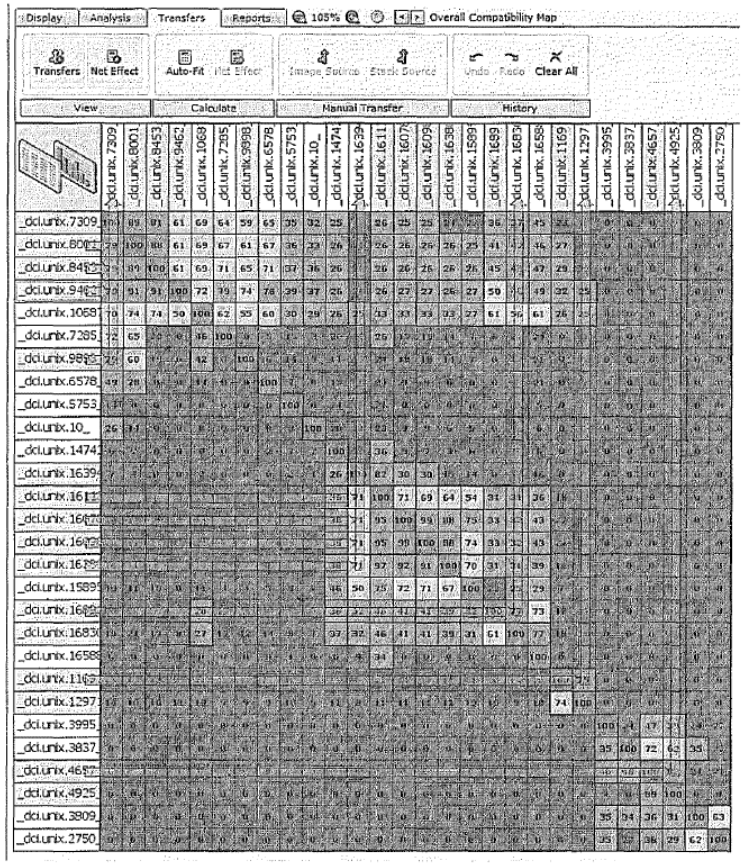
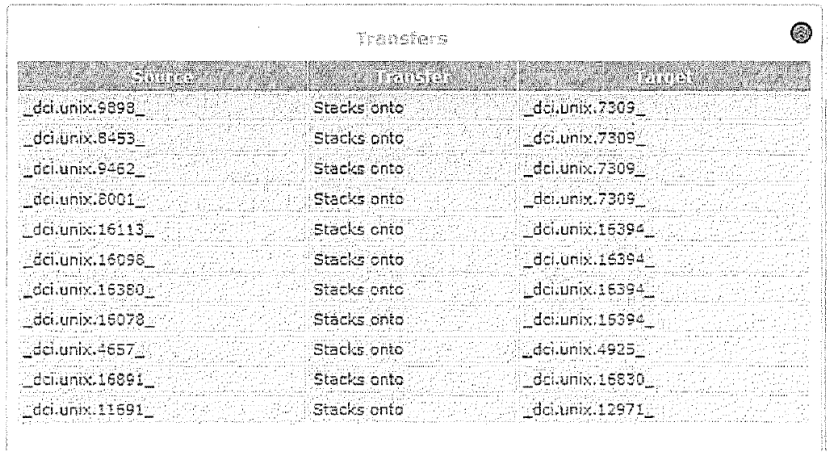


Figure 50

[00381] Once specified, the consolidation analysis can be executed and the chosen transfer sets 23 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. Figure 51 shows that should the proposed transfers be applied, 28 systems would be consolidated to 17 systems, resulting in a 39% reduction of systems. Figure 52 lists the actual transfers proposed by the consolidation analysis.

'936 Application (Ex. 1009) at [0381], Fig. 50
Petitioner's Reply (Paper 22) at 18-20

Figure 52's List of Actual Transfers Shows Determined Placements



Transfers

Source	Transfer	Target
dci.unix.9898	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.16891	Stacks onto	_dci.unix.16830_
dci.unix.11691	Stacks onto	_dci.unix.12971_

Figure 52

[0073] Figure 52 shows the example transfers that comprise the consolidation solution.

[00381] Once specified, the consolidation analysis can be executed and the chosen transfer sets 23 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. Figure 51 shows that should the proposed transfers be applied, 28 systems would be consolidated to 17 systems, resulting in a 39% reduction of systems. Figure 52 lists the actual transfers proposed by the consolidation analysis.

'936 Application (Ex. 1009) at [0073], [0381], Fig. 52
Petitioner's Reply (Paper 22) at 16-17

Cirba's Expert: Source Systems in Figure 52 Are Already Placed

A And the results of the consolidation analysis, for example, 52. Figure 52, if -- where if that's the result of the consolidation analysis, then those would also be source systems that were already placed because they have completed the process of evaluation.

Madisetti Deposition Tr. (Ex. 1023) at 72:7-12
Petitioner's Reply (Paper 22) at 18

Cirba's Expert: Figure 52 "Instructions" Are *Not* Instructions to Place

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. Again, this is a nonlimiting example.

Madisetti Deposition Tr. (Ex. 1023) at 75:2-8
Petitioner's Reply (Paper 22) at 18

Cirba Concedes that Figure 51 Does Not Disclose Instructions to Place

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

Petitioner's Reply (Paper 22) at 20-21

No Response or Mention of Fig. 51

Patent Owner's Sur-Reply (Paper 23)

Cirba Concedes '936 Application Is About Analysis, Not Placement

> stacking. Ex. 2005 at 13-15. As is evident from disclosures throughout the application (including the title) and the claim language, the invention is about *determining compatibility* of systems that can be used in service of forming and/or executing consolidation solutions, capacity planning, optimization, administration, etc. *E.g.*, Ex. 1009 at [0002], [0013], [0074], [0085], [0091], [0094]-[0098],

Patent Owner's Sur-Reply (Paper 23) at 9

Prosecution History of the ’492 Patent (Parent)

Claim Rejections – 35 U.S.C. 101

Claims 1-24 have been rejected under 35 U.S.C. 101 for being directed to non-statutory subject matter. The Applicant respectfully traverses the rejections as follows.

Applicant has amended claim 1 as indicated above, 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”. Applicant submits that the rejections under 35 U.S.C. 101 are thereby rendered moot.

If one assumes, for the sake of argument, that evaluating the systems using at least one rule set, and wherein the evaluating includes a compatibility analysis are considered to be an abstract idea, Applicant respectfully submits that additional elements are clearly recited that integrate the abstract idea into a practical application.

In particular, claim 1 as amended recites: “placing the source systems onto the target systems in accordance with technical, business, and workload constraints determined in the compatibility analysis”. That is, claim 1 clearly recites applying the result of the compatibility analysis by placing source systems onto target systems – a practical application of any alleged abstract idea.

’492 Prosecution History (Ex. 1024) at 53-54
Petitioner’s Reply (Paper 22) at 3-4

Prosecution History of the ’492 Patent (Parent)

1. (Currently amended) A computer implemented method for ~~determining compatibility of computer systems for combining~~ placing source systems on target systems, the method comprising:

~~analyzing compatibility parameters for the computer systems to determine whether a source system is compatible with at least one of: i) a target system, and ii) another source system, wherein the compatibility parameters correspond to features or characteristics of the respective computer systems that can be evaluated, quantified, measured, or compared between systems;~~

~~analyzing source system workload data to determine which of the computer systems is operable with another system on the target system; and~~

evaluating one or more source systems against other source systems and against one or more target systems using at least one rule set that evaluates parameters of the systems to determine whether the systems can or can not be placed together on a specific target system, wherein the evaluating comprises one or more of: a 1-to-1 compatibility analysis, an N-to-1 compatibility analysis, or an N-by-N compatibility analysis; and

~~generating an output comprising a workload placement solution based on which of the computer systems is operable and compatible with other systems, to enable one or more placements of source systems onto target systems to be implemented.~~

placing the source systems onto the target systems in accordance with technical, business, and workload constraints determined in the compatibility analysis.

’492 Prosecution History (Ex. 1024) at 47
Petitioner’s Reply (Paper 22) at 3-4

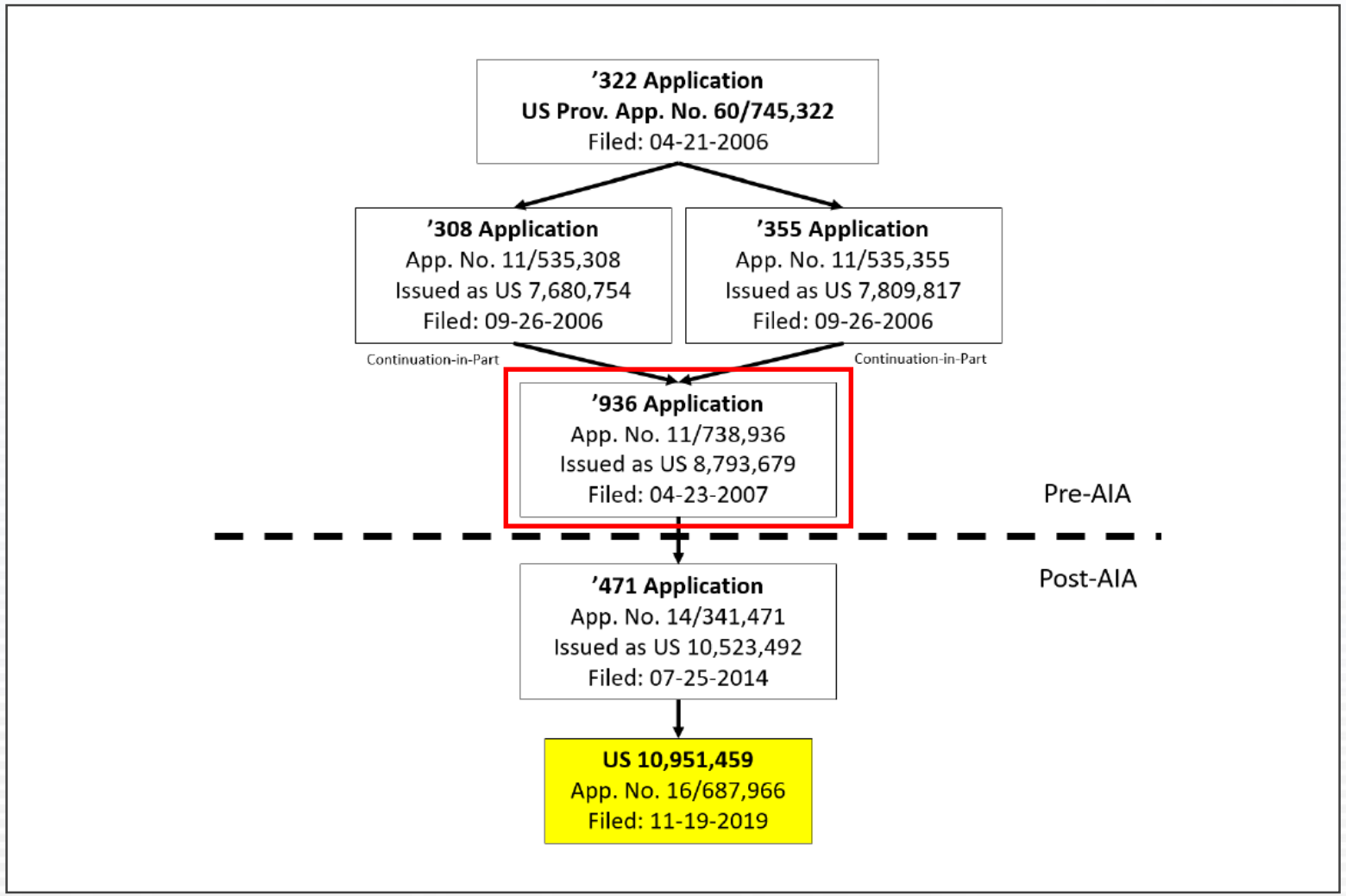
PGR Eligibility

Eligibility Criterion

A patent is eligible for post-grant review if it "contains or contained at any time . . . a claim to a claimed invention that has an effective filing date as defined in section 100(i) of title 35, United States Code, that is on or after [March 16, 2013]."

AIA §§ 3(n)(1), 6(f)(2)(A)
Petition (Paper 2) at 14

Claims Are Eligible Because Pre-AIA Priority Applications Lack Support



Petition (Paper 2) at 21-23

If Not Eligible, the Board Lacks the Power to Issue a Final Written Decision

> For the reasons that follow, we determine Petitioner has failed to show that U.S. Patent No. 8,577,813 B2 (Ex. 1201, "the '813 patent") qualifies for covered business method patent review, such that ***we have no power to determine the unpatentability of the challenged claims. Thus, we vacate our Decision to Institute this proceeding and terminate*** the covered business method ("CBM") patent review under 37 C.F.R. § 42.72.

Apple Inc. v. Universal Secure Registry, LLC, No. CBM2018-00024, Paper 47, at 2 (P.T.A.B. Nov. 19, 2019)
Petitioner's Reply (Paper 22) at 27

If Not Eligible, the Board Lacks the Power to Issue a Final Written Decision

> We emphasize that terminating this proceeding, including ***vacating our Institution Decision and Final Written Decision***, results from a holistic evaluation of multiple considerations. Those considerations include an assessment of where this case stands in light of the RPI and ***time-bar issues***, the development of both the law and Office policy on those issues over the course of the proceeding, and our appraisal of Patent Owner's specific monetary request as a quantification of the sanction.

Atlanta Gas Light Co. v. Bennett Regul. Guards, Inc., No. IPR2015-00826, 2021 WL 202800, at *3 (P.T.A.B. Jan. 20, 2021)
Petitioner's Reply (Paper 22) at 27