

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

CIRBA INC. (d/b/a DENSIFY)	:	
and CIRBA IP, INC.,	:	
	:	
Plaintiffs,	:	
	:	
v.	:	C.A. No. 19-742-LPS
	:	
VMWARE, INC.,	:	
	:	
Defendant.	:	

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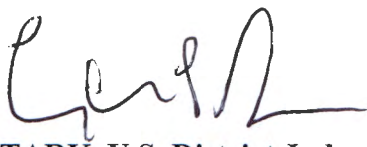
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MEMORANDUM OPINION

November 26, 2019
Wilmington, Delaware



STARK, U.S. District Judge:

Plaintiffs Cirba Inc. and Cirba IP, Inc. (collectively, “Plaintiffs” or “Densify”) filed suit against Defendant VMware, Inc. (“Defendant” or “VMware”) on April 25, 2019, alleging infringement of their U.S. Patent Nos. 8,209,687 (“the ‘687 Patent”) and 9,654,367 (“the ‘367 Patent”). (D.I. 1) The patents-in-suit related to virtualization technology and management of virtual environments.

Presently before the Court is the issue of claim construction. The parties submitted their joint claim construction brief on October 24, 2019. (D.I. 270) The parties’ submissions included expert declarations. (D.I. 271, Exs. A-1, A-2, B-1) The Court held a claim construction hearing on November 1, 2019. (*See* Transcript (“Tr.”))

LEGAL STANDARDS

The ultimate question of the proper construction of a patent is a question of law. *See Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 837 (2015) (citing *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 388-91 (1996)). “It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (citation and internal quotation marks omitted). “[T]here is no magic formula or catechism for conducting claim construction.” *Id.* at 1324. Instead, the court is free to attach the appropriate weight to appropriate sources “in light of the statutes and policies that inform patent law.” *Id.*

“[T]he words of a claim are generally given their ordinary and customary meaning. . . . [which is] the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Id.* at 1312-13 (internal citations and quotation marks omitted). “[T]he ordinary meaning of a claim term is its meaning to the ordinary artisan after reading the entire patent.” *Id.* at 1321

(internal quotation marks omitted). The patent “specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Vitronics Corp. v. Conception, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

While “the claims themselves provide substantial guidance as to the meaning of particular claim terms,” the context of the surrounding words of the claim also must be considered. *Phillips*, 415 F.3d at 1314. Furthermore, “[o]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment . . . [b]ecause claim terms are normally used consistently throughout the patent.” *Id.* (internal citation omitted).

It is likewise true that “[d]ifferences among claims can also be a useful guide For example, the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.” *Id.* at 1314-15 (internal citation omitted). This “presumption is especially strong when the limitation in dispute is the only meaningful difference between an independent and dependent claim, and one party is urging that the limitation in the dependent claim should be read into the independent claim.” *SunRace Roots Enter. Co., Ltd. v. SRAM Corp.*, 336 F.3d 1298, 1303 (Fed. Cir. 2003).

It is also possible that “the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316. It bears emphasis that “[e]ven when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004)) (alteration in original) (internal quotation marks omitted).

In addition to the specification, a court “should also consider the patent’s prosecution history, if it is in evidence.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995), *aff’d*, 517 U.S. 370 (1996). The prosecution history, which is “intrinsic evidence,” “consists of the complete record of the proceedings before the [Patent and Trademark Office] and includes the prior art cited during the examination of the patent.” *Phillips*, 415 F.3d at 1317. “[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Id.*

“In some cases, . . . the district court will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period.” *Teva*, 135 S. Ct. at 841. “Extrinsic evidence consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Markman*, 52 F.3d at 980. For instance, technical dictionaries can assist the court in determining the meaning of a term to those of skill in the relevant art because such dictionaries “endeavor to collect the accepted meanings of terms used in various fields of science and technology.” *Phillips*, 415 F.3d at 1318. In addition, expert testimony can be useful “to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.” *Id.* Nonetheless, courts must not lose sight of the fact that “expert reports and testimony [are] generated at the time of and for the purpose of litigation and thus can suffer from bias that is not present in intrinsic evidence.” *Id.* Overall, while extrinsic evidence “may be useful to the court,” it is “less reliable” than intrinsic evidence, and its consideration “is

unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence.” *Id.* at 1318-19. Where the intrinsic record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper. *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308 (Fed. Cir. 1999) (citing *Vitronics*, 90 F.3d at 1583).

Finally, “[t]he construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.” *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998). It follows that “a claim interpretation that would exclude the inventor’s device is rarely the correct interpretation.” *Osram GmbH v. Int’l Trade Comm’n*, 505 F.3d 1351, 1358 (Fed. Cir. 2007) (quoting *Modine Mfg. Co. v. U.S. Int’l Trade Comm’n*, 75 F.3d 1545, 1550 (Fed. Cir. 1996)).

CONSTRUCTION OF DISPUTED TERMS

A. The “each” terms¹

Term	Plaintiff	Defendant	Court
“Evaluating each virtual guest against each virtual host and other virtual guests”	“Evaluating each virtual machine of the plurality of virtual machines against each virtual host included in the placement validation and any other virtual machines from among the plurality”	“Evaluating each virtual machine against each virtual host and other virtual machines” Alternatively, indefinite	“Evaluating each virtual machine against each virtual host and other virtual machines”
“Each virtual guest”	“Each virtual machine of the plurality of existing physical systems” / “each virtual machine of the plurality of	Plain meaning	Plain meaning

¹ These terms appear in claims 2, 3, and 7 of the ‘687 Patent.

	existing virtual guests” / “each virtual machine of the plurality of virtual machines”		
“Each virtual host”	“Each virtual host of the plurality of existing physical systems” / “each virtual host included in the placement validation”	Plain meaning	Plain meaning

The parties’ disputes regarding these terms essentially reduce to whether (i) each virtual machine in the virtualized environment must be compared to other virtual machines, and (ii) each virtual machine in the virtualized environment must be compared against each virtual host in the virtual environment. Densify argues that “each virtual guest” must be evaluated against only the virtual hosts included in the placement analysis (and not against each virtual host in the virtualized environment). (D.I. 270 at 7-9, 12-16) By contrast, VMware contends that “each virtual guest” must be evaluated against each virtual host in the virtualized environment (and not only against a subset of those virtual hosts). (D.I. 270 at 9-12, 18-22)

VMware’s position rests largely on the claim language itself. To VMware, Densify’s proposed construction would improperly eliminate the claim requirement that the evaluation step be performed on “each virtual host and other virtual guests,” and replace it with a lesser requirement that the evaluation step need be performed only with respect to a subset of the virtual environment. Under Densify’s construction, the evaluation step would be required to occur only with respect to those virtual hosts that have been selected for inclusion in the “placement validation,” and with respect to only some virtual guests among a plurality of machines. (D.I. 270 at 10)

Densify counters by relying heavily on the patent specification. In Densify’s view, “[t]he patent specification leaves no doubt that not all virtual hosts need be included in the placement validation analysis,” so validation need not be performed on all virtual hosts in the existing virtualized environment. (D.I. 270 at 13) Rather, Densify insists that the method may be performed on “one or more virtual hosts.” (D.I. 270 at 13; *see also* ‘687 Patent at 38:57-59)

The Court agrees with VMware. The claim language is clear. Densify’s proposed construction would improperly narrow the set of virtual hosts and virtual guests that need to be evaluated. Relatedly, Densify provides no persuasive reason for reading “placement validation” into the claims.

The Court recognizes that both sides point to arguably absurd results that may arise from adopting the other side’s proposed construction. Densify insists that VMware’s proposed construction would make non-infringement as easy to accomplish as adding a physical machine to a virtual environment solely for the purpose of excluding that single physical machine from the comparison analysis, and programming the system to accomplish such an exclusion. (*See, e.g.*, Tr. at 35-36, 38-39, 57, 65) On the other hand, VMware contends that under Densify’s proposed construction, one would infringe as soon as any comparison is done between any two virtual guests in the virtual environment. (*See, e.g.*, Tr. at 40-44) Regardless of the accuracy of these arguments, the Court is required to adopt the construction that is best supported by the evidence, which the Court has done.

B. The “each candidate” terms²

Term	Plaintiff	Defendant	Court
“Each candidate virtual guest”	“Each computer system being considered for	“Each computer system being considered for	“Each computer system being considered for

² These terms appear in claims 1, 13, and 16 of the ‘687 Patent.

	conversion to a virtual machine or different type of virtual machine, of the plurality of systems”	conversion to a virtual machine”	conversion to a virtual machine”
“Each candidate virtual host”	“Each computer system being considered for conversion to a virtual host or different type of virtual host, of the plurality of systems”	“Each computer system being considered for conversion to a virtual host”	“Each computer system being considered for conversion to a virtual host”

The dispute over these terms comes down to whether the claims cover both the physical-to-virtual (“P2V”) and virtual-to-virtual (“V2V”) embodiments described in the specification, as Densify contends (D.I. 270 at 28-30), or whether, instead, the claims are limited to P2V embodiments, as VMware contends (D.I. 270 at 25-26). The Court agrees with VMware.

As is clear from the claims and the specification, these limitations are directed to pre-virtualization, physical machines. The claim language is directed to physical computer systems that are “candidate[s]” for *conversion* to virtual machines. (‘687 Patent, cls. 1, 13, 16) Densify has identified no persuasive reason to reach the seemingly illogical conclusion that a virtual machine could be a candidate for “conversion” into being a virtual machine. Further support for VMware’s proposal is found in the preambles to claims 1 and 13, which relate to methods for designing a virtualized environment “based on an existing physical environment.” Additionally, the specification defines “guest candidates” as “those being considered for conversion to virtual machines” and explains that, “[i]n general,” such candidates “must be physical systems and not already virtual machines.” (‘687 Patent at 25:63-65) The specification also clarifies that the

virtualization process “begins with guest candidates . . . and virtualization host candidates.”
(‘687 Patent at 29:39-41)

While the specification also states that “although the examples provided herein are directed to P2V analyses, the principles and processes are equally applicable to transformational [V2V] analysis” (‘687 Patent at 6:17-21), on the whole the intrinsic evidence more strongly supports VMware’s proposal. It also appears that one of the claims not containing the disputed limitation (claim 3) covers this embodiment. (D.I. 270 at 43-46)

Densify’s proposal to add the qualifier “of the plurality of systems,” in describing the systems that are considered for conversion, is unwarranted, for the same reasons given above in connection with the “each” limitations.

C. The candidate guest limitations: “candidate virtual guests” / “a set of virtualization guest candidates”³

Plaintiff Plain meaning Alternatively, “computer system being considered for conversion to a virtual machine or different type of virtual machine” / “a set of computer systems that are being considered for conversion to a virtual machine or different type of virtual machine”
Defendant “Computer server being considered for conversion to a virtual machine” / “a set of computer servers that are being considered for conversion to virtual machines”
Court “Computer server being considered for conversion to a virtual machine” / “a set of computer servers that are being considered for conversion to virtual machines”

The parties again dispute whether the claims are limited to P2V embodiments, as VMware contends, or also extend to V2V embodiments, as Densify argues. (D.I. 270 at 43-46)
The Court again agrees with VMware, for the same reasons as given above.

³ This term appears in claims 1, 6, 13, 16, and 17 of the ‘687 Patent.

D. The candidate host limitations: “candidate virtual host” / “a set of virtualization host candidates” / “virtual host candidates”⁴

<p>Plaintiff</p> <p>Plain meaning</p> <p>Alternatively, “computer system being considered for conversion to a virtual host or different type of virtual host / a set of computer systems that are being considered for conversion to a virtual host or different type of virtual host”</p>
<p>Defendant</p> <p>“Computer server being considered for conversion to a virtual host” / “a set of computer servers that are being considered for conversion to virtual hosts” / “computer server being considered for conversion to a virtual host”</p>
<p>Court</p> <p>“Computer server being considered for conversion to a virtual host” / “a set of computer servers that are being considered for conversion to virtual hosts” / “computer server being considered for conversion to a virtual host”</p>

For the reasons discussed above with respect to the guest limitations, the Court will adopt VMware’s proposed constructions of the candidate host limitations, as the parties’ arguments in connection with these terms are substantively the same as those already considered. (D.I. 270 at 42-46)

⁴ This term appears in claims 1, 6, 13, 16, and 17 of the ‘687 Patent.

E. “An existing physical environment comprising a plurality of systems”⁵ / “a plurality of existing physical systems”⁶

Plaintiff “An existing computing environment comprising a plurality of systems” / “a plurality of existing computer servers”
Defendant “A computing environment having a plurality of computer servers that are not virtualized” / “a plurality of computer servers that are not virtualized”
Court “A computing environment having a plurality of computer servers that are not virtualized” / “a plurality of computer servers that are not virtualized”

Densify faults VMware’s proposed constructions for imposing an unwarranted negative limitation (i.e., “that are not virtualized”). Generally, according to Densify, negative limitations are not warranted unless the patentee clearly and unequivocally disclaimed subject matter. (D.I. 270 at 34) VMware responds that its constructions do not impose negative limitations but merely reflect the plain meaning of “existing physical environment.” (D.I. 270 at 36) The Court agrees with VMware. The intrinsic evidence reflects a distinction between “existing physical environments” and “virtualized environments.” (*See, e.g.*, ‘687 Patent at 6:10-12) (“to transform an existing physical environment . . . into a virtualized environment”) Hence, a person of ordinary skill in the art (“POSA”) would understand that “an existing physical environment” is not a “virtualized environment.”

The parties also dispute whether the “existing physical environment” portion of the preamble is limiting.⁷ (D.I. 270 at 34-37) “[A] preamble limits the invention if it recites

⁵ This term appears in claims 1, 13, 16, and 17 of the ‘687 Patent.

⁶ This term appears in claim 2 of the ‘687 Patent.

⁷ This language is found in the preambles to claims 1 and 13. Claims 16 and 17 depend from claim 13.

essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim.” *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (internal quotation marks omitted). In other words, “when the preamble is essential to understand limitations or terms in the claim body, the preamble limits claim scope.” *Id.* Moreover, “[w]hen limitations in the body of the claim rely upon and derive antecedent basis from the preamble, then the preamble may act as a necessary component of the claimed invention.” *Pacing Techs., LLC v. Garmin Int’l, Inc.*, 778 F.3d 1021, 1024 (Fed. Cir. 2015) (internal quotation marks omitted). “Conversely, a preamble is not limiting where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.” *Catalina Mktg.*, 289 F.3d at 808 (internal quotation marks omitted).

The Court agrees with VMware that the preamble here is limiting because it (i.e., “existing physical environment comprising a plurality of systems”) provides the antecedent basis for “said plurality of systems.” (D.I. 270 at 36-37)

The Court also agrees with VMware that “existing physical environment” refers only to a pre-virtualization computing environment and, thus, the claim covers only P2V embodiments. (D.I. 270 at 37-39) The claim language and specification support this conclusion. As VMware argues (D.I. 270 at 37-39), if the term were intended to cover all computing environments, it would have been drafted using less obscure words than “existing physical.” The doctrine of claim differentiation bolsters the Court’s conclusion: the asserted claims are directed to “designing a virtualized environment based on an existing physical environment” whereas, by contrast, claim 7 is directed to “existing virtualized environment[s].” (D.I. 270 at 38; *see also* ‘687 Patent, cls. 1, 7) The specification uses “existing physical environment” in connection with a P2V transformation, and contrasts it with “virtual environment,” which describes already-

virtualized environments. (D.I. 270 at 38-39; *see also* ‘687 Patent at Abstract, 6:6-12, 24:40-44, 33:49-34:11)

Densify argues that nothing about the words “existing physical” excludes computer systems running hypervisor software, i.e., software added to physical servers to add virtualization to the physical environment. (D.I. 270 at 39-40) The Court disagrees. Densify’s proposed construction would improperly broaden the claim to include *any* computing environment, but – as already explained – the Court finds that the claims encompass only P2V (and not also V2V) transformations.

F. “Identifying the existence of virtual machines with suboptimal placements”⁸

<p>Plaintiff</p> <p>Plain meaning</p> <p>Alternatively, “identifying the existence of virtual machines with less than optimal placements as determined by the evaluation step”</p>
<p>Defendant</p> <p>Indefinite</p>
<p>Court</p> <p>“Identifying the existence of virtual machines with less than optimal placements as determined by the evaluation step”</p>

The ‘687 Patent teaches identifying “suboptimal placements” as part of the “Ongoing Management” features, which “can be used to re-analyze the environment based on latest configuration, business and workload data to determine actions to improve compatibility and load balancing.” (‘687 Patent at Fig. 42, 33:66-34:3) As part of this improvement process, claim 7 is directed to “mov[ing] existing virtual machines and/or virtualization hosts to different clusters.” (‘687 Patent at 34:3-6)

⁸ This term appears in claim 7 of the ‘687 Patent.

Densify argues that the claim itself provides an objective standard by which “suboptimal” is to be measured. (D.I. 270 at 49) According to Densify, “[i]f the movement of one or more virtual machines to [an] alternative placement[] would improve the overall guest-host configuration as determined by the evaluation step, the current placement of that virtual machine is necessarily considered ‘suboptimal.’” (D.I. 270 at 49) Thus, Densify argues, “suboptimal” is assessed relative to the objective outcome of the evaluation step, which uses “one or more rule sets.” (D.I. 270 at 49, 54) Densify points to Figure 44, which illustrates the “VM Rebalancing” process, and the specification’s discussion of analysis “based on the current VM placements.” (D.I. 270 at 50; *see also* ‘687 Patent at Fig. 44, 35:11-13)

VMware counters that “suboptimal” is indefinite, as it is a subjective term of degree with no objective boundaries. (D.I. 270 at 51-52, 54-55) To VMware, the evaluation step merely describes comparing virtual guests and virtual hosts using rule sets, and does not provide a standard for determining which placements would fall into the “suboptimal” category. (D.I. 270 at 54) VMware also argues that Densify’s reliance on the concept of “improvement” merely replaces one subjective measure (“suboptimal”) with another (“able to be improved”). (D.I. 270 at 55)

“[A] patent’s claims, viewed in light of the specification and prosecution history, [must] inform those skilled in the art about the scope of the invention with reasonable certainty.”

Nautilus, Inc. v. Biosig Instruments, Inc., 572 U.S. 898, 910 (2014). “Indefiniteness must be proven by clear and convincing evidence.” *Sonix Tech. Co., Ltd. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017). Terms of degree or approximation are not inherently indefinite. *See Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370 (Fed. Cir. 2014) (“[A]bsolute or mathematical precision is not required.”). Such terms will be found definite when they provide

“enough certainty to one of skill in the art when read in the context of the invention.” *Id.* “All that is required is some standard for measuring the term of degree.” *Exmark Mfg. Co. Inc. v. Briggs & Stratton Power Prods. Grp., LLC*, 879 F.3d 1332, 1346 (Fed. Cir. 2018).

VMware falls short of demonstrating by clear and convincing evidence that a POSA could not discern, with reasonable certainty, whether a virtual machine has suboptimal placements, i.e., whether the placements could be improved. The Court will adopt Densify’s alternative construction.

G. “Business constraint”⁹

<p>Plaintiff</p> <p>“What should go together or stay apart based on business criteria”</p>
<p>Defendant</p> <p>“A restriction or limitation based on a business parameter, such as physical location, organization department, data segregation requirements, owner, service level agreements, maintenance windows, hardware lease agreements, or software licensing agreements”</p>
<p>Court</p> <p>“A restriction or limitation based on a business parameter, such as physical location, organization department, data segregation requirements, owner, service level agreements, maintenance windows, hardware lease agreements, or software licensing agreements”</p>

The ‘687 Patent evaluates “technical, business and workload constraints” on the placement of virtual machines to create or refine a virtualized environment. The constraints inform the placement of specific virtual machines on specific hosts. The specification differentiates among technical, business, and workload constraints. According to the specification, technical constraints “affect ‘what can go together;”” business constraints “are more concerned with ‘what should go together;”” and workload constraints “answer[] the question ‘what fits together.”” (‘687 Patent at 25:39-40, 26:24-25, 26:44-46) In particular,

⁹ This term appears in claims 1, 2, 3, 7, 12, 13, 16, and 17 of the ‘687 Patent.

business constraints, according to the specification, may reflect “[c]riteria such as maintenance windows, system availability targets, application owners, locations, departments, and other non-technical criteria . . . to ensure that there is consistency in the virtual environment and to prevent any production problems post-virtualization.” (‘687 Patent at 26:26-31)

Densify contends that its proposed construction captures the essential attributes of business constraints as described in the specification. Densify further criticizes VMware’s proposal for being (i) too broad, because it leaves open the possibility that any business-related concern may qualify; but also (ii) too narrow, because it attempts to define the term using a non-exhaustive list. (D.I. 270 at 58)

VMware contends that because the specification does not define the term “constraint,” it should be given its plain and ordinary meaning, which is “restriction or limitation.” (D.I. 270 at 59) In addition, VMware argues that its proposed construction more accurately reflects the specification’s list of examples of “business parameters,” which is as follows:

Examples of business parameters of systems relevant to the consolidation analysis include the physical location, organization department, data segregation requirements, owner, service level agreements, maintenance windows, hardware lease agreements, software licensing agreements, etc.

(‘687 Patent at 7:47-51; *see also* D.I. 270 at 59-60)

VMware’s proposed construction is supported by the specification and will be helpful to the jury. It is not too broad, as the context of the claim term makes clear that business constraints inform the placement of virtual machines on virtual hosts. Nor is it too narrow, because “such as” indicates unmistakably to the jury that the list of examples is non-exhaustive.

H. “Said one of said plurality of virtual design scenarios”¹⁰

Plaintiff Plain meaning Alternatively, “one of said plurality of virtual design scenarios”
Defendant Indefinite
Court Indefinite

The parties agree there is an error in this claim term, but they disagree as to whether the Court may correct it.

Densify’s position is that the first “said” was included in error, and in context “said one” can only refer to any “one” of the plurality of design scenarios determined in the rebalancing step, which precedes this term. (D.I. 270 at 64-66) Densify additionally argues that because an antecedent basis “can be present by implication,” *Energizer Holdings, Inc. v. Int’l Trade Comm’n*, 435 F.3d 1366, 1371 (Fed. Cir. 2006)), this claim is not indefinite (D.I. 270 at 67). According to Densify, the antecedent of “said one” is present by implication because a “plurality” necessarily includes at least one design scenario, and any one of said plurality may serve as an antecedent. (D.I. 270 at 67)

VMware responds that the claim term is indefinite for two reasons. First, the term refers to “said one” of the plurality of virtual design scenarios, without any prior reference to “one” of such scenarios. (D.I. 270 at 68) Second, even if the “said one” issue were resolved, the only reference to a “plurality of virtual design scenarios” appears in the preceding step, which is performed only “if necessary.” (D.I. 270 at 68) Thus, the claim is unclear regarding how to

¹⁰ This term appears in claim 2 of the ‘687 Patent.

perform this claim step when the preceding “if necessary” step is not performed. (D.I. 270 at 68-69)

In the Court’s view, the error in this claim term is not clear and correctable, as the proper scope of the claim is “subject to reasonable debate based on consideration of the claim language and the specification.” *Novo Inds., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1354 (Fed. Cir. 2003); *see also CBT Flint Partners, LLC v. Return Path, Inc.*, 654 F.3d 1353, 1358 (Fed. Cir. 2011). The Court agrees with VMware that even if the first “said” is deleted, as Densify proposes, the claim remains unclear regarding how to perform the claim step when the preceding “if necessary” step is not performed. Thus, the Court cannot correct the claim by simply removing the first “said.” The claim is indefinite.

I. “Determine whether the utilization or performance of an entity is in an acceptable range relative to its capacity or performance limits”¹¹

Plaintiff Plain meaning Alternatively, “determine whether an entity’s utilization or performance is within an acceptable range, relative to that entity’s capacity or performance limits”
Defendant Indefinite
Court “Determine whether an entity’s utilization or performance is within an acceptable range, relative to that entity’s capacity or performance limits”

VMware argues that the term “acceptable range” is an indefinite term of degree and makes these claims indefinite. (D.I. 270 at 74-75) As already noted, terms of degree or approximation are not inherently indefinite. *See Interval Licensing*, 766 F.3d at 1370. In the

¹¹ This term appears in claims 1 and 13 of the ‘367 Patent.

Court's view, VMware has failed to prove by clear and convincing evidence that a POSA would not be able to determine with reasonable certainty an objective boundary for "acceptable range."

As Densify observes, the patent itself describes how to perform the claimed "determin[ing]" and provides examples. (D.I. 270 at 73) The patent's examples, including a description and illustration, provide guidance and "operational policies" to "help define the appropriate levels of resources required by a computing environment." (D.I. 270 at 73-75; *see also* '367 Patent at 4:42-49) The specification teaches that what constitutes an "acceptable range" is dependent on various conditions, including an entity's "capacity or performance limits." ('367 Patent at 5:1-13, cl. 1 at 11:16-19) Thus, determining the acceptability of utilization or performance requires consideration of other variables. VMware has failed to persuade the Court that a POSA would not be able, with reasonable certainty, to understand the scope of the claim.

CONCLUSION

The Court will construe the disputed terms as explained above. An appropriate Order follows.

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

CIRBA INC. (d/b/a DENSIFY)	:	
and CIRBA IP, INC.,	:	
	:	
Plaintiffs,	:	
	:	
v.	:	C.A. No. 19-742-LPS
	:	
VMWARE, INC.,	:	
	:	
Defendant.	:	

ORDER

At Wilmington this **26th** day of **November, 2019**:

For the reasons set forth in the Memorandum Opinion issued this date,

IT IS HEREBY ORDERED that the following claim terms of U.S. Patent Nos.

8,209,687 (“the ‘687 Patent”) and 9,654,367 (“the ‘367 Patent”) are construed as follows:

Claim Term	Court’s Construction
<p>“Evaluating each virtual guest against each virtual host and other virtual guests”</p> <p>[claim 7 of the ‘687 Patent]</p>	<p>“Evaluating each virtual machine against each virtual host and other virtual machines”</p>
<p>“Each virtual guest”</p> <p>[claims 2, 3, and 7 of the ‘687 Patent]</p>	<p>Plain meaning</p>
<p>“Each virtual host”</p> <p>[claims 2 and 7 of the ‘687 Patent]</p>	<p>Plain meaning</p>
<p>“Each candidate virtual guest”</p> <p>[claims 1, 13, and 16 of the ‘687 Patent]</p>	<p>“Each computer system being considered for conversion to a virtual machine”</p>
<p>“Each candidate virtual host”</p>	<p>“Each computer system being considered for conversion to a virtual host”</p>

[claims 1, 13, and 16 of the '687 Patent]	
"Candidate virtual guests" / "a set of virtualization guest candidates" [claims 1, 6, 13, 16, and 17 of the '687 Patent]	"Computer server being considered for conversion to a virtual machine" / "a set of computer servers that are being considered for conversion to virtual machines"
"Candidate virtual host" / "a set of virtualization host candidates" / "virtual host candidates" [claims 1, 6, 13, 16, and 17 of the '687 Patent]	"Computer server being considered for conversion to a virtual host" / "a set of computer servers that are being considered for conversion to virtual hosts" / "computer server being considered for conversion to a virtual host"
"An existing physical environment comprising a plurality of systems" / "a plurality of existing physical systems" [claims 1, 2, 13, 16, and 17 of the '687 Patent]	"A computing environment having a plurality of computer servers that are not virtualized" / "a plurality of computer servers that are not virtualized"
"Identifying the existence of virtual machines with suboptimal placements" [claim 7 of the '687 Patent]	"Identifying the existence of virtual machines with less than optimal placements as determined by the evaluation step"
"Business constraint" [claims 1, 2, 3, 7, 12, 13, 16, and 17 of the '687 Patent]	"A restriction or limitation based on a business parameter, such as physical location, organization department, data segregation requirements, owner, service level agreements, maintenance windows, hardware lease agreements, or software licensing agreements"
"Said one of said plurality of virtual design scenarios" [claim 2 of the '687 Patent]	Indefinite
"Determine whether the utilization or performance of an entity is in an acceptable range relative to its capacity or performance limits" [claims 1 and 13 of the '367 Patent]	"Determine whether an entity's utilization or performance is within an acceptable range, relative to that entity's capacity or performance limits"


 UNITED STATES DISTRICT JUDGE