IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
MIDLAND/ODESSA DIVISION

VIRTAMOVE CORP., Plaintiff, v. GOOGLE LLC, Defendant.	Civil Action No.: 7:24-cv-00033-DC-DTG

GOOGLE'S OPENING CLAIM CONSTRUCTION BRIEF

Google Exhibit 1102
Google v. VirtaMove
Oracle Ex. 1102
Oracle v. VirtaMove, IPR2025-00965

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NOTE ON CITATIONS

- The patents-in-suit, U.S. Patent Nos. 7,519,814 ("the '814 patent") and 7,784,058 ("the '058 patent") are attached as Exhibits A and B, respectively. References to the patents-in-suit are listed by column and line number, or by claim number.
- References to claims in the patents-in-suit are cited by the shortened patent number followed by "cl." and the claim number. For example, "'814 cl. 1" refers to claim 1 of the '814 patent.
- "Compl." refers to VirtaMove's Complaint filed in this action (Dkt. 1).
- "Microsoft Computer Dictionary" refers to *The Microsoft Computer Dictionary*, 4th Ed. (1999), excerpts of which are attached as Exhibit C.
- "Newton's Telecom Dictionary" refers to *Newton's Telecom Dictionary*, 16th Ed. (2000), excerpts of which are attached as Exhibit D.
- "Webster's Computer Dictionary" refers to *Webster's New World Computer Dictionary,* 10th Ed. (2003), excerpts of which are attached as Exhibit E.
- "New Webster's Dictionary" refers to *The New Webster's Dictionary of the English Language* (2004), excerpts of which are attached as Exhibit F.
- Emphasis in brief added unless otherwise noted.

Google's constructions follow the patentee's lexicography and the meaning to one of skill in the art in the light of the intrinsic evidence, and require objective boundaries for claims. In contrast, VirtaMove ("VM") rewrites definitions in the specification, urges constructions with vague and subjective terms that are themselves indefinite, and otherwise proposes "plain and ordinary meanings" for many terms seemingly to allow it to later assert incorrect interpretations of these same terms. The Court should resolve these issues and adopt Google's constructions.

Legal Standard

"The words of a claim 'are generally given their ordinary and customary meaning,'" which is their meaning to a "person of ordinary skill in the art [('POSITA')] in question at the time of the invention" "after reading the entire patent." *Phillips v. AWH Corp.,* 415 F.3d 1303, 1312-17, 1321 (Fed. Cir. 2005) (en banc). While "the claims of a patent define the invention," the specification of a patent "is always highly relevant to the claim construction analysis" and "is the single best guide to the meaning of a disputed term." *Id.*, 1312, 1315. "[T]he 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."[1] *Phillips*, 415 F.3d at 1316. A court "should also consider the patent's prosecution history." *Id.*, 1317.

The Court also may consult "extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art," including "expert and inventor testimony, dictionaries, and learned treatises." *Id.*, 1314, 1317. "[W]hile extrinsic evidence can shed useful light on the relevant art, [] it is less significant than the intrinsic record in determining the legally operative meaning of claim language." *Id*. (cleaned up). Indeed, "[i]f the meaning of a claim term

[1] The '814 patent and '058 patent include definitions by indicating "[t]he following definitions are used herein" and "[b]y way of introduction, a number of terms will now be defined," respectively, '814 2:16-54, '058 6:4-5. *Abbott Laboratories v. Andrx Pharmaceuticals, Inc.*, 473 F.3d 1196, 1210 (Fed. Cir. 2007) ("as used herein, means . . ." is definitional).

is clear from the intrinsic evidence, there is no reason to resort to extrinsic evidence." *Seabed Geosolutions (US) Inc. v. Magseis FF LLC*, 8 F.4th 1285, 1287 (Fed. Cir. 2021).

Under 35 U.S.C. § 112, ¶ 2, the claims must "particularly point[] out and distinctly claim[] the subject matter which the inventor or a joint inventor regards as the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). Claims must define the scope of the invention with "reasonable certainty" and provide "clear notice" of what is claimed, "appris[ing] the public of what is still open to them." *Id*. at 901, 909-10. Indefiniteness is a matter of law as part of claim construction. *In re Packard*, 751 F.3d 1307, 1311 (Fed. Cir. 2014).

"A determination that a claim term 'needs no construction' or has the 'plain and ordinary meaning' may be inadequate when a term has more than one 'ordinary' meaning or when reliance on a term's 'ordinary' meaning does not resolve the parties' dispute." *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008). Where the parties "present a fundamental dispute regarding the scope of a claim term, it is the court's duty to resolve it," not the jury. *Id*. at 1362. This precludes a situation where plain-and-ordinary meaning "le[aves] the jury free to consider [attorney] arguments" when "the district court is in the best position to determine the proper construction of this claim term in the first instance." *Id.*; *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 391 (1996) (Determining the proper interpretation of disputed claim terms "is an issue for the judge, not the jury.").

Argument

I. U.S. Patent No. 7,519,814

A. Servers (*'814 cl. 1*)

Google: physical servers	**VM**: No construction necessary; plain and ordinary meaning.

The parties dispute whether the "server(s)" in claim 1 of the '814 patent are physical servers (Google), or whether they can be virtual machines or software alone (VM). Like the

processors the parties agree are physical devices (Appx. A, 1), the intrinsic evidence makes clear that the recited "servers" are physical devices. Claim 1, for example, requires that "each server includes a *processor* and an operating system . . . ." Thus, the claimed "server" cannot be software, because it includes a hardware "processor." The specification similarly uses "server" to include hardware. '814 6:60-63 ("[e]ach server includes a *processor* and an independent operating system); Figure 1 (left). While "server" can refer to software in the context of a client-server model (*see Microsoft Computer Dictionary* def. 2),[2] here the named inventors used "server" as hardware (*see Microsoft Computer Dictionary* def. 1). Indeed, the '814 patent distinguishes its claimed inventions from existing virtual machine technology, which it claims provide virtual hardware components at "significant performance overhead." *Id.* 1:51-2:3; *see also* Dkt. 42 (VM's 101 Response) at 7 (citing same).

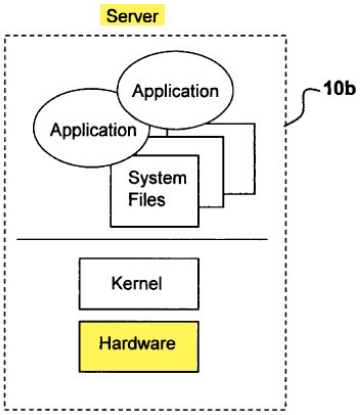

Figure 1

VM says no construction is necessary as the term has a "plain and ordinary meaning." In the parties' meet and confer, VM did not dispute that the claim language requires a server to be a physical device, but stated it was "extraneous" to construe it as such. VM's infringement contentions, however, shed light into how VM is *actually* reading this term for infringement. For infringement, VM appears to be mapping the claimed "server" to "virtual machines," as opposed to just "physical servers." *E.g.* '814 Patent Claim Chart (Ex. G), Element 1pre, pgs. 5 (citing

[2] *Microsoft Computer Dictionary* "***server*** *n*. **1**. On a local area network (LAN), a computer running administrative software that controls access to the network and its resources, such as printers and disk drives, and provides resources to computers functioning as workstations on the network. **2**. On the Internet or other network, a computer or program that responds to commands from a client. For example, a file server may contain an archive of data or program files; when a client submits a request for a file, the server transfers a copy of the file to the client. *See also* client/server architecture. *Compare* client (definition 3)."

material referring to containers running on "***virtual machines*** ***<u>or</u>*** physical servers."). When confronted with this theory at the meet and confer, VM did not dispute this was its infringement theory. But the claimed "server" cannot be a "virtual machine," because virtual machines are software and thus cannot contain the requisite hardware components recited in the specification. VM should not be permitted to have wiggle room to argue a plain and ordinary meaning that directly contradicts the intrinsic evidence. *Techtronic Indus. Co. v. Int'l Trade Comm'n*, 944 F.3d 901, 907 (Fed. Cir. 2019) (*quoting Phillips*, 415 F.3d at 1323–24) ("[T]he purpose of claim construction is to 'capture the scope of the *actual* invention.'"). Google's construction should be adopted to resolve the parties' dispute. *O2 Micro*, 521 F.3d at 1361.

B. <u>Operating system (*'814 cls. 1, 10; '058 cl. 1*)/ Kernel/operating system kernel (*'814 cl. 1; '058 cl. 1*)</u>

Operating System	**Google**: "The software that controls the allocation and usage of hardware resources such as memory, central processing unit (CPU) time, disk space, and peripheral devices."	**VM**: No construction necessary; plain and ordinary meaning.
Kernel/operating system kernel	**Google**: "The core of an operating system—the portion of the system that manages memory, files, and peripheral devices; maintains the time and date; launches applications; and allocates system resources."	**VM**: No construction necessary; plain and ordinary meaning.

For these terms, the parties dispute whether these terms of art should be afforded what should be their non-controversial conventional meanings consistent with the intrinsic evidence (Google), or whether an unstated "plain and ordinary meaning" of these technical terms should be left to the jury to decide (VM).

The specifications explain that the asserted patents use "operating system" and "kernel"/ "operating system kernel" according to their conventional meanings. '058 6:62-64 ("FIG. 1 shows a conventional architecture where critical system elements execute in kernel mode. Critical system elements are contained in the operating system kernel."), 2:32-36; '814 1:21-24, 6:59-63. Google

accordingly proposes constructions for these terms of art (which the specification does not itself provide) directly from the *Microsoft Computer Dictionary*.[3]

In the parties' meet and confer, VM posited a juror would simply know what these terms mean, so no construction is needed. But were there no dispute as to what that meaning would be, VM could simply agree to Google's construction. That VM does not agree suggests it intends to propose/apply some yet unstated "plain and ordinary meaning" down the road. Indeed, both the '814 and '058 patents recite specific attributes regarding "operating systems" and "kernels" as distinguished from other elements, making the line drawing needed for analyzing infringement particularly important for these terms. *See, e.g.,* '814 cl. 1 (requiring that "the containers of application software exclud[e] a kernel"), '058 cl. 1 (requiring "an operating system having an operating system kernel"). So constructions for these terms of art will be useful to a lay jury, who will likely be unfamiliar with the metes and bounds of these technical terms. Google's construction should be adopted to resolve the parties' dispute and to avoid improperly forcing the jury to determine or guess as to the meaning of these technical terms. *O2 Micro*, 521 F.3d at 1361-63 ("In this case, the 'ordinary' meaning of a term does not resolve the parties' dispute, and claim construction requires the court to determine what claim scope is appropriate in the context of the patents-in-suit. This court has construed other 'ordinary' words for these and other related reasons.")

C. Disparate computing environments (*'814 cl. 1*)

Google: indefinite	**VM**: Environments run by standalone or unrelated computers

[3] For operating system, Google did not include the following language from the definition in the *Microsoft Computer Dictionary* for brevity but would not object to its inclusion: "The operating system is the foundation software on which applications depend. Popular operating systems include Windows 98, Windows NT, Mac OS, and UNIX."

The specification defines "Disparate computing environments" as "Environments where computers are stand-alone or where there are plural computers and where they are unrelated." '814 2:17-19. VM seems to agree that there is a lexicography, albeit truncating the definition in the specification to "Environments run by standalone or unrelated computers." However, as noted above, 35 U.S.C. § 112 ¶ 2 requires that claims "inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus*, 572 U.S. at 901. "[A] patent does not satisfy the definiteness requirement of § 112 merely because 'a court can ascribe some meaning to a patent's claims.'" *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014) (quoting *Nautilus*, 572 U.S. at 911). Rather, claims "must provide ***objective*** boundaries for those of skill in the art." *Id.*; *see also Datanet LLC v. Dropbox, Inc.,* No. 622-CV-001142-OLG-DTG, 2023 WL 7545234, at *10 (W.D. Tex. Nov. 10, 2023) (finding a term indefinite because it "depends on the 'unpredictable vagaries of any one person's opinion'") (*quoting Intell. Ventures I LLC v. T-Mobile USA, Inc.,* 902 F.3d 1372, 1381 (Fed. Cir. 2018)). This is true even if there is a definition provided in the specification. *Halliburton Energy Services, Inc. v. MI LLC*, 514 F. 3d 1244, 125-56 (Fed. Cir. 2008) (holding term "fragile gel" indefinite despite definition in specification). Here, the definition in the specification does not provide these objective boundaries.

This term appears in the following phrase: "In a system having a plurality of servers with operating systems that differ, operating in **disparate computing environments**." Thus, the claim requires "a system" with "servers with operating systems that differ," and that these "plurality of servers" operate in a "disparate computing environment." But the definition in the specification (as does VM's construction) allows a "disparate computing environment" that can be "plural computers where they are unrelated." But as a matter of common sense, servers in the same system would seem to be "related." And the specification provides no objective boundaries of

"relatedness" to resolve this contradiction. As a person of skill would be unable to determine whether a given system contains "related" or "unrelated" plural computers, the term is thus indefinite. *TVnGO Ltd. (BVI) v. LG Electronics Inc.*, 861 F. App'x 453, 457-60 (Fed. Cir. 2021) (intrapatent inconsistencies render claim indefinite); *Horizon Pharma, Inc. v. Dr. Reddy's Lab'ys Inc*., 839 F. App'x 500, 505 (Fed. Cir. 2021) ("One circumstance in which claims are indefinite is where the claims, as properly construed, are nonsensical.") (*citing Trs. of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1366–67 (Fed. Cir. 2016)); *see also Virtual Solutions, LLC v. Microsoft Corp.*, 925 F.Supp.2d 550, 569-70 (S.D.N.Y. 2013), *aff'd*, 540 F. App'x 997 (Fed. Cir. 2013) (claim indefinite because it held two contradictory statements to both be true).

D. Service (*'814 cls. 1, 14*)

Google: "specialized, software-based functionality provided by network servers and comprised of one or more applications"	**VM**: No construction necessary; plain and ordinary meaning.

Here too, the parties dispute whether this term of art should be construed with its technical meaning consistent with the intrinsic evidence (Google), or an unstated "plain and ordinary meaning" (VM). Google's construction comes directly from the definition of "service" in the *Microsoft Computer Dictionary* ("3. In networking, specialized, software-based functionality provided by network servers—for example, directory services that provide the network equivalent of 'phone books' needed for locating users and resources. *See also* utility."). The construction is further supported by the intrinsic evidence. Google's definition is consistent with the specification's description of how containers are used to group "applications" to provide "services." *E.g.* '814 4:26-31 ("In some embodiments of the invention, groups of applications are containerized into a single container for creating a single service. By way of example applications such as Apache, MySql and PHP may all be grouped in a single container for supporting a single service, such as a web based human resource or customer management type of service."); 7:16-21

("Containers are created through the aggregation of application specific files. A container contains application and data files for applications that provide a specific service. Examples of specific services include but are not limited to CRM (Customer Relation Management) tools, Accounting, and Inventory.") This is also consistent with how the claims use the term "service"—"the applications each include an object executable by at least some of the different operating systems for performing a task related to the service".

At the parties' meet and confer, VM contended this term does not need construction because "service" is a term familiar to a jury. But VM cannot credibly dispute that this term is used in a technical sense, not the term's everyday meaning, *e.g.* room service. Where there is "a difference between the common and technical meanings of terms," the Federal Circuit has noted that "a technical dictionary is . . . a better source to inform the meaning of the term to a skilled artisan" than a general dictionary. *Transclean Corp. v. Bridgewood Servs., Inc.,* 290 F.3d 1364,1375 (Fed. Cir. 2002); *see also Optical Disc Corp. v. Del Mar Avionics*, 208 F.3d 1324, 1335 (Fed. Cir. 2000) (relying on dictionary definition to construe "ramped" in the context of compact disk signal generation). Notably, VM's infringement contentions do not identify the accused "service" at all. *See*, e.g., '814 Patent Claim Chart (Ex. G), Element 1pre, p. 1; 7/22/24 Letter (Ex. H) at 4; 9/27/24 Letter (Ex. I) at 3. The Court should not allow VM to have wiggle room to argue what service means if and when it eventually deigns to address this claim limitation. Google's construction should be adopted to resolve the parties' dispute, rather than leaving this term for the jury to parse. *O2 Micro*, 521 F.3d at 1361.

E. Container (*'814 cls. 1, 2, 4, 6, 9, 10, 13, 14*)

Google: An aggregate of files required to successfully execute a set of software applications on a computing platform is referred to as a container. A container is not a physical container but a grouping of associated files, which may be stored in a plurality of different locations that is to be	**VM**:An aggregate of files required to successfully execute a set of software applications on a computing platform.

accessible to, and for execution on, one or more servers. Each container for use on a server is mutually exclusive of the other containers, such that read/write files within a container cannot be shared with other containers; or above and 2:32-42	

The parties dispute whether the construction should be the admitted lexicography of "container" (Google), or a severely truncated version of that lexicography that guts its meaning almost entirely (VM). Google initially proposed that the parties adopt the '814 patent's definition of "container" (2:23-42) as the construction *in toto*. Indeed, VM does not dispute that the patentee was its own lexicographer as shown by the first sentence from this definition as VM's construction. But VM would not agree the *entire* definition was lexicography. To narrow disputes, Google agreed to shorten its construction. For example, Google has agreed to not include: "The term 'within a container,' used within this specification, is to mean 'associated with a container'" ('814 2:32-34) in the construction because VM already agreed the term "within a container" should be construed as "associated with a container." Appx. A, 1. But to be clear, a construction including the entire definition in the specification would be appropriate, and Google proposes it as an alternative construction. "[T]here is no need to search further for the meaning of the term" "[w]hen the specification explains and defines a term used in the claims, without ambiguity or incompleteness." *Sinorgchem Co., Shandong v. Int'l Trade Comm'n*, 511 F.3d 1132, 1138 (Fed. Cir. 2007) (quoting *Multiform Desiccants, Inc. v. Medzam, Ltd.,* 133 F.3d 1473, 1478 (Fed. Cir. 1998)); *Phillips*, 415 F.3d at 1316. And VM has no legal basis for stripping away almost the entire definition in the specification.

As to the part of the definition in the specification that "[e]ach container for use on a server is mutually exclusive of the other containers, such that read/write files within a container cannot be shared with other containers," VM's only argument as to why this is purportedly not definitional is that this language is also in unasserted claim 31. That the language appears in an unasserted

claim is no basis to exclude it. Again, black-letter law is unequivocal: a patentee's lexicography governs. *Phillips,* 415 F.3d at 1316. As to the portion of the definition that says a "container is not a physical container but a grouping of associated files, which may be stored in a plurality of different locations that is to be accessible to, and for execution on, one or more servers," VM said at the parties' meet and confer it is unnecessary because it is clear from the context that a container in the patent is not a physical container. But that provides no basis to ignore the patentee's lexicography. Indeed, while required regardless given the lexicography, this clarity could actually be helpful to lay jurors far more familiar with physical containers than the containers of the patent.

Further, VM's gutting of the admitted lexicography leaving only the following language, "[a]n aggregate of files required to successfully execute a set of software applications on a computing platform," does not seem to define anything. It would seem to cover operating systems, kernels, or, by its terms, any files that are collectively needed to run any set of applications on a computer. Simply because it is long, or even if it is contrary to the expected meaning of a term, is no basis to reject a patentee's clear lexicography. *E.g. Honeywell Int'l, Inc. v. Universal Avionics Sys. Corp*., 493 F.3d 1358, 1363–64 (Fed. Cir. 2007) (construing "heading" to mean "bearing," due to patentees' definition of the term "heading" different from its ordinary meaning); *Word to Info Inc v. Google Inc*., No. 15-CV-03486-WHO, 2016 WL 3692198, at *6 (N.D. Cal. July 12, 2016) (concern that using definition in specification "invites confusion" is not persuasive. "Under [Federal Circuit] precedent, the patentee's lexicography must govern the claim construction analysis.") (citation omitted).

F. At least some of the different operating systems/At least some of the plurality of different operating systems (*'814 cl. 1*); Memory accessible to at least some of the servers (*'814 cl. 1*)

Google: at least two or more of the different operating systems / at least two or more of the plurality of different operating systems	**VM**: No construction necessary; plain and ordinary meaning.
Google: memory that at least two or more of the servers can read from or write to	**VM**: memory that at least some of the servers can read from or write to

The parties' dispute as to these terms is whether "some of" means "two or more" (Google) or a plain and ordinary meaning of "some of" that apparently means "one of" (VM).

Like many English words, "some" can mean different things depending on context. Here, "some of" is used as an indefinite article of thing**s**, plural. *New Webster's Dictionary* ("**some**: 2. *pron*. an indefinite quantity or indefinite number of people or things, *the flowers are out, but some have died already*.") This is clear from the intrinsic evidence. For example, the "some of" terms referring to "different operating systems" appear in the following phrases "wherein the applications each include an object executable by **at least some of the different operating systems**" and "wherein the set of associated system files are compatible with a local kernel of **at least some of the plurality of different operating systems.**" In these phrases, applications either have an object executable by, or system files compatible with, two or more of the "different operating systems." This understanding is also confirmed by the specification. As VM states in its opposition to Google's Motion to Dismiss, the '814 Patent specification specifically "allow[s] applications to more effectively share a common compute platform, and also allow[s] applications to be easily moved between platforms, without the requirement for a separate and distinct operating system for each application." Dkt. 42 at 2, 7 (*quoting* 1:65-2:3). If applications could have an object executable by or system files compatible with just *one* of the "different operating systems," applications could not be "moved between platforms" and would require "separate and distinct

operating systems" for each application. This is contrary to what VM itself indicates the invention supposedly solved.

The other phrase, "memory accessible to at least some of the servers," appears in the limitation "storing in **memory accessible to at least some of the servers** a plurality of secure containers of application software." Here too, that the memory could be available to only *one* of the servers is contrary to the whole point of movability of applications among the "plurality of servers" in the claim. VM's suggestion that "some of" could be "one of" in these phrases thus contradicts VM's characterization of the invention as well as basic English.

Further, Claim 1 also requires that the container be "for use with a local kernel residing permanently on one of the servers." That the drafters intentionally chose to recite "some of" rather than "one of" in these limitations suggests they intended that language to have a different meaning. *Bd. of Regents of the Univ. of Texas Sys. v. BENQ Am. Corp*., 533 F.3d 1362, 1371 (Fed. Cir. 2008) ("Different claim terms are presumed to have different meanings."); *see also Apple Inc. v. Omni MedSci, Inc*., No. 2023-1034, 2024 WL 3084509, at *3 (Fed. Cir. June 21, 2024) (*quoting same*).

On the parties' meet and confer, VM had no support for its presumed reading that "some of" could be "one of" in these phrases. It just concluded that is how it reads the language. Here too, there clearly is a dispute and it should be resolved by adopting Google's construction. *O2 Micro*, 521 F.3d at 1361.

G. Local kernel residing permanently on one of the servers (*'814 cl. 1*)

Google: local kernel in one of the server's memory that is not lost when power is removed from it	**VM**: No construction necessary; plain and ordinary meaning.

The parties' dispute whether storing something "permanently" should be construed consistent with the intrinsic evidence in a manner consistent with how a POSITA would understand it in that context (Google) or whether the jury should be allowed to apply whatever

"plain and ordinary" meaning for this term, technical or not, it views appropriate. Data to be stored "permanently" in memory is in contrast to data that only needs to be stored temporarily in temporary or transient memory (*e.g.*, RAM). When a computer is powered down, data stored in persistent or nonvolatile memory will remain and will not be removed, *i.e.* resides permanently, but data stored in temporary or transient memory will be lost and thus *not* reside "permanently." *Microsoft Computer Dictionary* ("**nonvolatile memory**: A storage system that does not lose data when power is removed from it"), *Newton's Telecom Dictionary* ("**volatile storage**: Computer storage that is erased when power is turned off. RAM is volatile storage."); *Webster's Computer Dictionary* ("**volatility**: The susceptibility of a computer's random access memory (RAM) to the complete loss of stored information if power is interrupted."). This definition is also consistent with the intrinsic evidence. At the parties' meet and confer, VM argued that Google's construction was too restrictive and the term was clear enough on its own. But VM could not present what that "clear" plain and ordinary meaning was. For example, when asked whether permanent meant that the files will always be present on the servers, VM would not agree to that either. Thus, there clearly is a dispute here and it should be resolved by adopting Google's construction. *O2 Micro*, 521 F.3d at 1361.

H. Secure containers of application software (*'814 cl. 1*)

Google: environments where each application set appears to have individual control of some critical system resources and/or where data within each application set is insulated from effects of other application sets	**VM**: Containers where each application set appears to have individual control of some critical system resources and/or where data within each application set is insulated from effects of other application sets

The nearly identical term "secure application containers" is defined at 2:43-48. Google again uses that lexicography. VM modifies the patentee's lexicography by replacing the word "environments" with "containers." At the parties' meet and confer, VM said it modified the

specification's lexicography because the term recites "containers" instead of "environments." But "environment" is not a synonym for "container," and the patentee's lexicography governs. *Phillips*, 415 F.3d at 1316; *Sinorgchem*, 511 F.3d at 1138.

I. An operating system's root file system (*814 cl. 1*)

Google: Indefinite	**VM**: No construction necessary; plain and ordinary meaning.

Claim 1 requires that "each of the containers has a unique root file system that is different from an operating system's root file system." This plain language requires comparing the root file system of "each of the containers" to the root file system of "an operating system" to determine whether they are "different." As VM noted at the parties' meet and confer, Claim 1 does recite "a system having a plurality of services with operating system***s.***" But the claim language does not indicate to *which* "operating system" this comparison should be made. It just says "an operating system." Accordingly, this term is indefinite. *E.g. Sensor Elec. Tech., Inc. v. Bolb, Inc.*, No. 18-CV-05194-LHK, 2019 WL 4645338, at *31 (N.D. Cal. Sept. 24, 2019) ("if two different levers are recited earlier in [a] claim, the recitation of 'said lever' in the same or subsequent claim would be unclear where it is uncertain which of the two levers was intended") (*quoting Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1343 (Fed. Cir. 2008)).

II. '058 Terms

A. Critical system elements (CSE) (*'058 cl. 1*)

Google: Indefinite	**VM**: Any service or part of a service, "normally" supplied by an operating system, that is critical to the operation of a software application.

CSE is defined in the specification as: "[a]ny service or part of a service, 'normally' supplied by an operating system, that is critical to the operation of a software application. A CSE is a dynamic object providing some function that is executing instructions used by applications."

'058 6:6-10. But as with the term "disparate computing environments," the definition in the specification for a CSE is indefinite for using non-objective terms "normally" and "critical" that fail to properly inform a POSITA of the metes and bounds of the claim. "Even if a claim term's definition can be reduced to words, the claim is still indefinite if a person of ordinary skill in the art cannot translate the definition into meaningfully precise claim scope." *Halliburton Energy Services,* 514 F. 3d at 1251.

Initially, the specification's definition (and VM's construction) requires that CSEs be a service or part of a service "'normally' supplied by an operating system"—with "normally" in quotes. But the specification does not define what is "normal," nor does the specification provide any objective boundaries regarding which "services or parts of services" are "normally" supplied by operating systems and which are not, nor any objective basis to make that determination. Indeed, it is unclear what universe of operating systems is even to be considered in analyzing what is "normal" or not. The '814 patent specification, incorporated by reference to the '058 patent ('058 8:7-11), refers to "Linux, Windows and Unix systems" but says "the invention is not limited to these operating systems." '814 7:34-38. And as shown in the definition of "Operating System" in the *Computer Dictionary* (Ex. L), there were any number of different operating systems available at the time of the invention that could be used with various different types of hardware, which would result in different services being compatible with that hardware, only further begging the question of what is a "normal" service.

While VM asserted at the meet and confer that a POSITA would know what is "normal," it could provide no objective metes and bounds to determine that, much less how the *jury* could possibly assess what a person of skill would consider "normally" supplied by the operating system. And in any event, "[t]he scope of claim language cannot depend solely on the unrestrained,

subjective opinion of a particular individual." *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed. Cir. 2005), *abrogated on other grounds* by *Nautilus*, 572 U.S. at 901; *Arctic Cat Inc. v. Bombardier Recreational Prod. Inc.,* No. CV 12-2692 (JRT/LIB), 2016 WL 6832623, at *13-17 (D. Minn. Nov. 18, 2016) (finding "normal operating conditions" indefinite because "neither the intrinsic evidence nor the extrinsic evidence provide any objective boundaries for determining what constitutes "normal [] temperature"); *Datanet*, 2023 WL 7545234, at *10 (finding that "imperceptible" is indefinite because "what impacts are perceptible may vary for different people, each of whom have different [] personalized expectations of computer speeds").

The definition in the specification (and VM's construction) further recites that a CSE is "***critical*** to the operation of a software application." This only adds to the ambiguity, as the intrinsic evidence provides no basis to judge what is "critical" or not in this context either.

For its part, VM again departs from the patentee's lexicography truncating the definition from the specification by removing that a "CSE is a dynamic object providing some function that is executing instructions used by applications." '058 6:6-10. But it keeps the same "normally" and "critical" language that makes the term indefinite as discussed above.

B. Shared library (*'058 cl. 1*)

Google: An application library code space shared among all user mode applications. The code space is different than that occupied by the kernel and its associated files. The shared library files are placed in an address space that is accessible to multiple applications.	**VM**: An application library occupying a code space shared among all user mode applications, which is different than the code space occupied by the kernel and its associated files and is accessible to multiple applications

Google's construction adopts the explicit lexicography for "shared library." '058 6:49-53. Once again, VM revises the patentee's lexicography, this time by combining the specification's three sentences into one. At the meet and confer, VM stated its modifications were necessary because the "application library code space" recited in the patent's lexicography supposedly does

not make sense. But in doing so, VM eliminates the requirement that the shared library files be placed in a shared address space, oddly removing the benefit of sharing the library. '058 5:49-53 ("Shared library as opposed to being copies from the OS to another space are a distinct implementation of the service . . . ."). But once again, 'the inventor's lexicography governs," and VM cannot now edit out portions of that definition. *Phillips*, 415 F.3d at 1316.

C. Some of the SLCSEs stored in the shared library….are accessible to some of the plurality of software applications / Accessed by one or more of the plurality of software applications it (*'058 cl. 1*)

Google: wherein two or more of the plurality of the software applications can read SLCSEs stored in the shared library/read by one or more of the plurality of software applications	**VM**: wherein some of the plurality of the software applications can use SLCSEs stored in the shared library/used by one or more of the plurality of software applications

The parties dispute the meanings of "some of" and "access" in these phrases. The discussion of "some of" is discussed in § I(F), *infra*, and applies equally here. In short, "some of" in the "wherein …." phrase is used in the claim language as an indefinite article of thing**s**, plural. Indeed, the "SLCSEs stored in the shared library" need to be available to at least two applications in order to be "shared" as the phrase itself requires.

As to the second dispute, "[a]ccess" is a term of art in computer science. *Microsoft Computer Dictionary* (**access**: "1. The act of reading data from or writing data to memory. 2. Connection to the Internet or other network or system. 3. To gain entry to memory in order to read or write data."). Indeed, for the '814 patent, VM concedes that access should be read consistent with this computer science meaning, agreeing to construe "access" in memory "accessible to at least some of the servers," as the ability to "read or write to." *Infra*, § I(F). The '058 patent similarly uses "access" consistent to the first and third definition above, *i.e.*, the act of reading or writing data (when used as a noun) or gaining entry to memory in order to read or write data (when used as a verb). Some of the plurality of software applications have access to some to the SLCSEs,

meaning they have the ability to read data from them. And one of the SLCSEs is accessed by one or more of the plurality of software applications, meaning one or more of the plurality of software applications reads from one of the SLCSEs. This is precisely what Google's construction provides.[4]

In contrast, VM construes "access" to mean "use," rewriting the claim with an unclear meaning divorced from the intrinsic evidence, and contrary to its actual meaning in context as shown by the extrinsic evidence, again contrary to black letter law. *Phillips*, 415 F.3d at 1316.

D. Functional replicas of OSCSEs (*'058 cl. 1*)

Google: Indefinite	**VM**: Substantial functional equivalents or replacements of kernel functions

Here too, while the specification does define "replicas," the term is indefinite because the specification's disclosures fail to properly inform a POSITA of the metes and bounds of "functional replicas of OSCSEs." *Halliburton Energy Services,* 514 F. 3d at 1251. The '058 specification explains that "The CSE library includes replicas or substantial functional equivalents or replacements of kernel functions. ***The term replica, shall encompass any of these meanings***, and although not a preferred embodiment, may even be a copy of a CSE that is part of the OS." *Id*. 8:27-32. Thus according to the specification, a "replica" can be (1) a "replica," (2) a "substantial functional equivalent," (3) a "replacement," **or** but preferably not (4) "a copy of a CSE that is part of the OS." (1)-(3) of these definitions on their own are indefinite, and thus do not provide any objective metes and bounds for the claimed "functional replicas."

Initially, as to "substantial functional equivalent" (which appears in VM's construction), "substantial" is a term of degree. A term of degree is indefinite unless it "provide[s] objective

[4] Google's construction includes reading but not "writing" because SLCSEs are in shared libraries and writing to them is not allowed to avoid conflicts that could crash applications.

boundaries for those of skill in the art" when read in light of the intrinsic evidence. *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014); *see also In re Mobile Telecomms. Techs., LLC*, 265 F. Supp. 3d 454, 473-74 (D. Del. 2017) (finding that "substantially," as a term of degree, was indefinite where "the specification provides no . . . guidance with respect to delineating" its bounds). Here, the '058 patent does not provide objective boundaries for how "substantial" the "functional equivalence" would need to be to meet this definition. The term is indefinite for this reason alone. *Datanet LLC v. Dropbox, Inc.*, No. 622CV001142OLGDTG, 2023 WL 7545234, at *10 (W.D. Tex. Nov. 10, 2023) (finding a claim indefinite because "neither passage [in the specification] provides a POSITA guidance to determine what is a perceptible impact and what is an imperceptible impact, let alone a 'substantially imperceptible impact'").

As to "replica," the specification says it "denote[s] a CSE having ***similar*** attributes to, but not necessarily and preferably not an exact copy of a CSE in the operating system (OS)." '058 1:66-2:3. The term "similar" is indefinite if the patent cannot "articulate any point" at which the object in question "would cease to be 'similar.'" *ACQIS LLC v. Alcatel-Lucent USA Inc.*, No. 6:13-CV-638, 2015 WL 1737853, at *10 (E.D. Tex. Apr. 13, 2015) (finding indefinite the term, "wherein each of the computer modules is similar in design to each other"). But here too, what is or is not sufficiently "similar" to be a "replica" is entirely subjective, and the patent again provides no objective boundaries to delineate its metes and bounds. Instead, the specification is replete with vague and subjective explanations of "replication." The specification notes that a "replicated CSE may differ slightly from its counterpart in the OS" ('058 5:28-29), introducing yet another term of degree in "slightly." It further states, and using "similar" and "substantially," "Replication is achieved placing [*sic*] CSEs similar to those in the OS in shared libraries which provides a means of attaching or linking a CSE service to an application having access to the shared library.

Therefore, a service in the kernel is substantially replicated in user mode through the use of shared libraries." *Id*. 5:29-34.

The "replacement" definition (also in VM's construction) is indefinite too. The specification does not provide any definition of "replacement." And the prosecution history recursively defines "replacements" as "functional replicas":

> Independent Claim 1 has been amended to recite that some of the SLCSEs stored in the shared library are functional replicas of OSCSEs. ….Nowhere does Cabrero et al. disclose the SLCSEs stored in the shared library being **functional replicas of OSCSEs, or in other words, replacements.**

'058 FH (Ex. K), 07/01/09 Amendment at 8. But recursively defining replacements as functional replicas just leads to the same problem set forth above as to "replicas." A POSITA could not ferret through all these various explanations and come to a singular, objective understanding of the metes and bounds of this term. Thus, while the specification provides definitions, the definitions themselves are indefinite. *Halliburton Energy Services,* 514 F. 3d at 1251.

For its part, VM defines the term as "substantial functional equivalents or replacements of kernel functions." Initially, the term is "functional replicas of OSCSEs" not "kernel functions." Regardless, "substantial functional equivalents or replacements" just repeats the same problematic language from the specification cited above. Unsurprisingly, VirtaMove could not provide objective boundaries for any of the definitions provided by the specification at the parties' meet and confer.

DATED: October 22, 2024

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to the Federal Rules of Civil Procedure and Local Rule CV-5, I hereby certify that, on October 22, 2024, I electronically filed the foregoing document using the CM/ECF system, which will send notification of such filing to counsel for all parties of record.

/s/ Katharine L. Carmona
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