UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION

QOMPLX LLC,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Civil Action No. 1:25-cv-01383-ADA
	)	
MICROSOFT CORPORATION,	)	
	)	
Defendant.	)	
	)	

PLAINTIFF QOMPLX LLC'S
RESPONSIVE CLAIM CONSTRUCTION BRIEF

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I. INTRODUCTION

The legal issues underlying the parties' claim construction disputes are controlled by settled claim construction principles and clear Federal Circuit holdings. Microsoft's positions cannot be reconciled with those authorities.

The two terms of the '633 Patent have express definitions—one of them in the patent specification itself, the other in a standards specification that Microsoft recognizes as the backdrop for the term at issue. The '424 Patent, by contrast, needs no construction, and Microsoft's proposals prove that point; for example, their net import would render one of those terms, "transformation pipeline," into "a progression of functions each of which applies a function"—a useless construction that offers nothing but confusion. And the sole issue in the '934 and '426 Patents, whether certain steps require an order, is entirely resolved by the claim language and Microsoft's own cited legal authorities.

To argue for its proposed outcomes, Microsoft disregards the facts and holdings of its own case law in favor of close-cropped sound bites, cites to irrelevant patent prosecution histories that in some cases post-date the priority dates of the patents at issue here by years, and contradicts its own extrinsic evidence. For the reasons discussed below, Qomplx respectfully asks that the Court adopt Qomplx's proposed constructions for each of the six terms at issue here.

II. LEGAL STANDARDS

Pursuant to the Court's Standing Order Governing Proceedings (OGP)—Patent Cases, Qomplx foregoes a general recitation of fundamental claim construction law. Instead, Qomplx responds to Microsoft's assertions about specific cases where appropriate in connection with specific claim terms.

III. ARGUMENT

A. '633 Patent

The disclosures of U.S. Patent No. 11,539,663 address a need for "collection, aggregation, analysis, transformation, and secure transmission of data" from "a business enterprise network" to "a cloud-based service," among others. The application for patent was filed on May 15, 2019, the priority date of the asserted claims. Qomplx proposes construing two terms of the patent: "midserver" and "virtual appliance software application."

(1) "midserver"

Microsoft	Qomplx
Plain and ordinary meaning.	A server that functions as an interface between an external network and a cloud-based service, and which runs one or more containerized services that perform one or more of: collecting, aggregating, analyzing, filtering, transforming, and securely transmitting data.

There is nothing plain or ordinary about the term "midserver." That is why the specification expressly defines it (in a section titled "Definitions"):

> "Midserver" as used herein means a server that functions as an interface between an external network and a cloud-based service, and which runs one or more containerized services that perform one or more of: collecting, aggregating, analyzing, filtering, transforming, and securely transmitting data.

Ex. A[1] at 12:66-13:4. This definition is expressly framed as lexicographic, but the parties dispute the appropriate construction. The Court should adopt the specification's definition.

(a) "Midserver" Lacks Plain and Ordinary Meaning.

Microsoft does not identify a legally sound reason to disregard the specification's definition. It claims that "midserver" is just like common English words such as midcentury, midair, and midnight, but this list of words proves the opposite of Microsoft's point: the only way to know what they mean, if one does not already know them, is to look them up.

[1] Letter-labeled exhibits were provided with Microsoft's opening brief at ECF No. 56.

Midcentury, for example, can refer generally to the middle of a century—but midair does not mean the middle of the air, not even generally. Midnight refers to a specific time, even in non-technical settings: 12:00 AM. And 12:00 AM is never precisely the middle of the night (itself a common turn of phrase with a meaning distinct from the term "midnight"); on the day this brief was filed, ***solar*** midnight in Austin—the time equally spaced from sunset and sunrise—occurred at about 1:30 AM. The prefix "mid" provides none of these details.

Microsoft contends that, in the case of "midserver," "the prefix refers to a server located between (1) the computers on a local network from which it collects data and (2) the cloud service on an external network to which it sends data." Op.Br. at 5. It would be beyond the pale to expect jurors to divine those reference points based only on the prefix "mid" (especially since Microsoft's examples tend to suggest that "mid" connotes "in" or "during"). Rather than dispatch jurors to debate the linguistics of midstreams, midranges, and midwives, the Court should straightforwardly construe the term with the definition the patentees gave us.

(b) The Claim Amendment Did Not Change the Specification's Definition of "Midserver."

Microsoft's brief dwells for many pages on portions of a claim that were removed by amendment in a response to an examiner rejection (alongside other elements that were added, which Microsoft does not discuss). The removed phrases, upon which Microsoft's entire argument is based, do not render inapplicable the specification's clear definition of "midserver" for at least two reasons: the removed phrases (as opposed to the added phrases) had nothing to do with patentability, and the applicants did not remove the specification's definition with the amendment. Microsoft never directly engages with either of those realities; instead, it cites over a dozen cases that have little to do with the fact pattern at issue here. None of them even comes close to supporting Microsoft's analysis.

(i) The Patentees Removed and Added Claim Limitations, but Kept the Specification's Definition.

First, Microsoft disregards the full claim amendment and its context. To respond to a § 102 rejection over Bonomi, the applicants added limitations such as "automatically install[ing] a virtual appliance software application" and "establish[ing] a secure network connection," among others. Ex. E at 2. They also removed the phrases that underpin Microsoft's argument here. The amended claim as a whole, they then argued, "more clearly t[aught] the functions of the midserver," such that "Bonomi does not teach each and every limitation of claim 1, as amended." *Id.* at 6, 7. The applicants never represented that removal of the phrases at issue had anything to do with overcoming the examiner's rejection, and Microsoft does not explain how ***removed*** language could have factored into that analysis.

In fact, the most logical explanation for the removal is that the applicants, having chosen to complicate the claim with new limitations to overcome prior art, also saw an opportunity to simplify. In removing elements of their definition of "midserver," they trusted well settled law that their explicit lexicography would apply. *See, e.g.*, *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995) ("As we have often stated, a patentee is free to be his own lexicographer."). If the amendments had rendered the specification's definition of "midserver" inapplicable, after all, the applicants could and would have amended the specification to remove it. In fact, one of Microsoft's own cited cases found an intent to broaden claims in the prosecution history where the same was accompanied by a specification amendment. *See Fontem Ventures, B.V. v. NJOY, Inc.*, 2015 WL 12766460 at *16 (C.D. Cal. Jan. 29, 2015) ("Defendants also do not seem to dispute that the amendments, ***both to the claims and specifications***, broadened language about the liquid storage component to cover more than just a bottle." (emphasis added)). And as Microsoft points out elsewhere in its brief, Op.Br. at 21-22, the inventors here took steps to amend ***other*** patent specifications when

they thought it appropriate. *See, e.g.*, Ex. P at 8-9 (explaining amendments to correct the '424 Patent specification); *id.* at 10-18 (showing amendments in markup). But they did not do so here, and their choice should be respected.

(ii) Phrases Removed in a Claim Amendment Do Not Change the Specification.

There is no blanket rule prohibiting a claim interpretation that incorporates elements removed during prosecution, particularly when the specification provides that interpretation as a clear and express definition of a term. To the contrary, the Federal Circuit has cautioned in a case well known to the Court that the specification is "the single best guide to the meaning of a disputed term"—"[u]sually, it is dispositive"—while the prosecution history "often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315, 1317 (Fed. Cir. 2005) (en banc). None of Microsoft's cases ignore lexicography in the way that Microsoft seeks here; to the contrary, courts do ***not*** disregard lexicography in such situations. *See, e.g.*, *Carnegie Mellon Univ. v. Hoffman-La Roche Inc.*, 1997 WL 33152823, at *6, 8 (N.D. Cal. Mar. 31, 1997) (finding, based on the patent specification, that "lethality" was a "defining characteristic" of the term "DNA polymerase I" despite patentee's removal of references to "lethality" from the claims via an amendment during prosecution).

Take, for example, Microsoft's first cited case, *United States v. Telectronics, Inc.*, 857 F.2d 778 (Fed. Cir. 1988). *Telectronics* did not involve patentee lexicography or any perceived conflict between the specification and claim amendments. *Telectronics* was focused on the import—more precisely, the lack thereof—of arguments made about ephemeral claim language that the applicant proposed adding during prosecution but withdrew before issuance. *Id.* at 782-83. The applicant proposed adding language about "a skin electrode" to the claim in order to argue that the prior art did not teach the claim as amended.

Id. at 782. But after the examiner rejected this "attempt[] to distinguish over the prior art," the patentee "amended to remove this recitation." *Id.* at 783. The patent issued without the "skin electrode" recitation.

The Federal Circuit held that neither the "skin electrode" claim language itself, nor the patentee's arguments about that language, could limit the scope of the issued claims:

> The arguments emphasizing the use of a skin electrode, which were made at the time the application claims explicitly contained such a limitation, cannot furnish a basis for restricting issued claim 1, which lacks any such limitation.

Id. In other words, *Telectronics* only addressed the applicant's withdrawal of the limitation because that withdrawal rendered irrelevant the applicant's earlier arguments about how that withdrawn limitation distinguished the prior art. It was in this specific context that *Telectronics* cited the proposition that "courts are not permitted to read 'back into the claims limitations which were originally there and were removed during prosecution of the application through the Patent Office.'" *Id.* (quoting *Kistler Instrumente AG v. United States*, 224 Ct. Cl. 370 (1980)). Here, the removed phrases were part of the original claims, Ex. 1[2] at 1; and unlike the "skin electrode" limitation in *Telectronics*, were preserved in lexicography. Furthermore, their removal has no evident explanation in the prosecution history.

Like *Telectronics*, the *Laryngeal Mask Co. Ltd. v. Ambu A/S* case did not involve lexicography. 618 F.3d 1367, 1373 (Fed. Cir. 2010) (turning to the prosecution history only after "conclud[ing] that the patentee did not act as his own lexicographer"). Nor did *Blackbird Tech LLC v. ELB Elecs., Inc.*, which found no evidence that the element at issue was even "an important feature of the claimed invention." 895 F.3d 1374, 1378 (Fed. Cir. 2018).

[2] Number-labeled exhibits are provided concurrently with this responsive brief.

(c) Phrases Removed From The Claim Do Not Speak to the Patentees' Lexicographic "Intent" in the Specification.

Microsoft's argument that the specification's definition does not show lexicographical "intent" repackages the same argument discussed above about phrases removed in a claim amendment. *See* Op.Br. at 9 ("[T]he prosecution amendments described above preclude a finding of clear intent to redefine 'midserver' . . . ."). In this repackaging, Microsoft cites no cases that stand for the proposition that a claim amendment during prosecution can or should be taken as a tacit disavowal of a patentee's lexicographic intent in the specification.

In Microsoft's cited *Thorner v. Sony Comput. Entm't Am. LLC* case, the proposed construction was based on the specification's repeated references to a specific manner of attaching actuators to a flexible pad, which the Court found "d[id] not rise to the level of either lexicography or disavowal." 669 F.3d 1362, 1367 (Fed. Cir. 2012). *Thorner* has no applicability here.

Neither does *Medtronic, Inc. v. Edwards Lifescis. Corp.*, which involved a claim that was expressly broadened in a reissued patent. 2013 WL 2147909, at *16-17 (D. Minn. May 16, 2013). There, the examiner had rejected the relevant claim as an allegedly improper recapture of previously surrendered claim scope, but the applicant successfully appealed the examiner's rejection during prosecution. *Id.* The district court declined to construe the claim narrowly, as that would have required the district court to undo the successful prosecution appeal. *Id.* Here, unlike *Medtronic*, the claim amendment in question did not remove the term "midserver" or change it for another term.

Microsoft's other cases are similarly afield. *See Laryngeal Mask*, 618 F.3d at 1372 ("The specification does not clearly contain . . . a special definition."); *Medicines Co. v. Mylan, Inc.*, 853 F.3d 1296, 1306 (Fed. Cir. 2017) ("[T]he statement Medicines relies on lacks the clear expression of intent necessary for a patentee to act as its own lexicographer."); *CCS*

Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1367 (Fed. Cir. 2002) ("The specification never requires a certain number of components or certain shape . . . ."); *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 905 (Fed. Cir. 2004) ("The specification does not define 'opening' restrictively . . . ."); *Ferring B.V. v. Serenity Pharms., LLC*, 356 F.Supp.3d 353, 364 (S.D.N.Y. 2019) ("The 203 Patent does not define a particular dose range—neither expressly nor by implication . . . ."); *Fontem*, 2015 WL 12766460, at *17 ("Absent a clear indication that the patentee intended to forego claim scope—the opposite of which is present here—the Court cannot narrow broad claim language by importing limitations from the specification or disclosed embodiments.").

(d) The Specification Does Not "Undo[] Qomplx's Claim Amendments."

Microsoft's argument that "the specification does not warrant undoing Qomplx's claim amendments" repackages the claim-amendment argument yet again. Op.Br. at 10. Its assertion that caselaw "makes no exception for lexicography" stands the law on its head: the specification is "the single best guide to the meaning of a disputed term," *Phillips*, 415 F.3d at 1315, and it is Microsoft that is proposing an exception here by arguing that the prosecution history trumps the specification's lexicography. *See Carnegie Mellon*, 1997 WL 33152823, at *8 (finding that removal of language by claim amendment did not undo lexicography in the specification). None of Microsoft's additional cited cases support a proposition that a claim amendment—especially one ***removing*** limitations—can render lexicography irrelevant.

For example, the "evolution of the applicant's intended meaning" in *DDR Holdings, LLC v. Priceline.com LLC* concerned the evolution of ***specifications***: from the specification of a provisional application to the specification of the application that resulted in the patent at issue. 122 F.4th 911, 916 (Fed. Cir. 2024). The case did not address amending ***claims***:

> Although DDR's ***provisional application*** discussed merchants as both

> purveyors of 'goods' and purveyors of 'products or services,' DDR elected in its ***patent specification*** to delete the reference to 'products or services' and instead discuss merchants as purveyors of 'goods' alone

Id. (emphases added). *DDR Holdings* is inapplicable here, where there is no argument that the applicants amended any specification to "evolve" the definition of "midserver"—even though they could have done so here to remove or revise their definition of the term.

The *XY* case is also inapposite. *XY* considered a specification that defined the term "elliptical-like" to include surfaces that are "ellipse-shaped," "oval-shaped," and "a rectangle-shape." *XY LLC v. Trans Ova Genetics, LLC*, 2014 WL 5032693, at *6 (D. Co. Oct. 7, 2014). The examiner rejected the claims for indefiniteness, and the applicant overcame the rejection by removing the defined term "elliptical-like" from the claims. In its place, the applicant recited portions of the term's definition: "an ellipse-shape or an oval-shape," while omitting "rectangle-shape." In view of this amendment history, the *XY* court refused to construe "ellipse-shape," a term which was not defined in the specification, to include "rectangular-shape." *Id.* at 7. These facts have no semblance to those at issue here; here, the specification defines "midserver" and the amended claim uses that exact term.

Microsoft's other cases are no more instructive. *Rheox* involved a garden-variety disavowal of claim scope: the claims were narrowed to exclude a particular compound that the examiner specifically found would have rendered the claim obvious. *Rheox, Inc. v. Entact, Inc.*, 276 F.3d 1319, 1324-25 (Fed. Cir. 2002). Unlike *Rheox*, the amendments in question here did not narrow the claims to overcome a garden-variety examiner rejection on obviousness grounds. *Rheox* did not deal with a lexicographical definition. And in *Medtronic*, already discussed above, the patentee expressly sought amended claims in order to broaden its re-issued claims—entirely unlike here.

(e) Microsoft Itself Relies on the Removed Claim Language to Interpret the Claims.

Before the Patent Trial and Appeal Board, Microsoft relies on some of the very language found in the definition of "midserver" to which it objects here. In an *inter partes* review (IPR) petition Microsoft has filed against the '663 Patent, Microsoft argues:

> The '663 patent describes a midserver as "***an interface between an external network and a cloud-based service***," and "[u]sing the midserver as a gateway to the cloud-based service." The server hosting the cloud agent of Maturana ***meets this description***, as it "acts as a generic gateway that collects data items from the various industrial assets on the plant network and packages the collected data according to a generic, uniform data packaging schema used to move the on-premise data to a cloud platform 302."

Ex. 2 at 39-40 (*Microsoft Corp. v. QOMPLX LLC*, IPR2026-00183, Paper 2 (citations omitted) (emphases added); Ex. 3 ¶ 77 (expert declaration) (same). Microsoft's IPR arguments contradict the interpretation of the prosecution history that it offers the Court, and confirm that the specifications' definition of "midserver" is relevant to claim interpretation.

(f) Claim 2's "containerized services" Require Qomplx's Proposed Construction.

Microsoft's arguments further overlook the patent's claim 2, which recites:

> The system of claim 1, wherein the containerized services include one or more of the following types of containerized services: traffic processors, sensors, management services, and utilities.

Because claim 1 does not recite "containerized services," the specification's definition of "midserver," together with the definition's requirement of "containerized services," further supports treating the definition as patentee lexicography for claim construction purposes. *See, e.g., Astra Aktiebolag v. Andrx Pharms., Inc.*, 222 F.Supp. 2d 423, 458 (S.D.N.Y. 2002) (construing a term in an independent claim to require a "micro-environment" in part because, absent the construction, dependent claims referencing "the micro-environment" would be rendered invalid for lack of antecedent basis).

(2) "virtual appliance software application"

Microsoft	Qomplx
Plain and ordinary meaning.	A service delivered as a software stack that utilizes one or more virtual systems.[3]

Microsoft observes that the patent specification "uses the term 'virtual appliance' in only one place and assumes that the reader is familiar with the term." Op.Br. at 12. The specification so assumes for one and only one reason: that single use is the capitalized and acronymic "Open Virtual Appliance (OVA)," Ex. E at 16:17-18, which Microsoft's own IPR expert interprets as a reference to the Open Virtualization Format (OVF) Specification. The OVF Specification explicitly defines the term "virtual appliance," and Qomplx's construction repeats that definition verbatim. Rather than resort to the cherry-picked extrinsic evidence that Microsoft draws upon to assemble a 28-word hodgepodge "plain and ordinary meaning"—extrinsic evidence that largely consists of the prior art Microsoft asserted in its co-pending IPR—the Court should adopt Qomplx's claim construction.

(a) The Open Virtualization Format Specification Provides the Most Suitable Definition of "virtual appliance."

The specification's sole use of the term "virtual appliance" is the following sentence:

> After a midserver 611 is physically installed, an automated package called a midserver Open Virtual Appliance (OVA) is installed and run on the midserver 611.

Ex. A at 16:16-19. A POSA would understand "OVA" to refer to a virtual appliance in OVF format, as Microsoft's IPR expert Professor Mark Crovella explained:

> Virtual appliances were such a standard tool for provisioning cloud resources that the Distributed Management Task Force (DMTF), an industry working

[3] Qomplx's initial claim-construction proposal for this term was "[a] ***cloud-based*** service delivered as a software stack that utilizes one or more virtual systems" (emphasis added). To simplify the issues before the Court, Qomplx has removed the phrase "cloud-based," limiting its proposed construction verbatim to the definition of "virtual appliance" found in the OSF Specification, which is discussed further below.

> group of over 160 companies and organizations, developed the Open Virtualization Format ("OVF") "for the packaging and distribution of virtual appliances composed of one or more virtual computer systems." . . . ***The resulting OVF package was referred to as an Open Virtual Appliance or "OVA."***

Ex. 3 ¶¶ 35-36 (citations omitted) (emphasis added). Professor Crovella confirms that a POSA would have read the '663 Patent's references to "virtual appliance" in this context: "The '663 patent itself describes implementing the midserver with an 'Open Virtual Appliance (OVA),' the file format for OVF," *id.* ¶ 36, which format he recognizes as "a widely adopted international standard" as of the priority date. *Id.* ¶ 70. A POSA would thus have understood the patent's discussion of virtual appliances in the specific context of the OVF Specification.

In a glossary section titled "Terms and definitions," the OVF Specification defines "virtual appliance" to be "a service delivered as a software stack that utilizes one or more virtual systems." Ex. K at 12. This definition, based on the widely adopted international OVF standard, is Qomplx's proposed construction.

Microsoft argues that the OVF Specification should be disregarded because the document states that some of the terms it uses "have a specific meaning beyond the normal English meaning." Op.Br. at 17. But the "normal English meaning" is not the reference point of claim construction. A claim term gets the "meaning that the term would have to a person of ordinary skill in the art" at the time of the priority date. *Phillips*, 415 F.3d at 1313. The OVF Specification's recognition that the technical meaning of "virtual appliance" departs from "normal English" merely confirms the need to construe the term. And because the OVF Specification is all but expressly referenced in the patent specification through its sole reference to the virtual appliance as an "Open Virtual Application (OVA)." the OVF Specification's definition is the only appropriate basis for the construction.

(b) The Term Lacks an Independent Plain and Ordinary Meaning.

Microsoft's theory of plain and ordinary meaning is based on unreliable attorney analysis of technological sources extrinsic to the patent, and it is not consistent with the OVF Specification's definition. Indeed, Microsoft cobbles together its supposed plain and ordinary meaning based on cherry-picked portions of extrinsic prior art in Microsoft's IPR petition:

> a virtual machine image containing a pre-installed operating system and one or more pre-installed software applications, such that the software applications run when loaded in a virtual machine.

Op.Br. at 13. This 28-word hodgepodge is not based on any expert analysis.

The starting point for Microsoft's attorney argument is Kashyap, one of two references that Microsoft is asserting as a combination ground of invalidity in its IPR. Ex. 2 at 21. Kashyap is not referenced in the '663 Patent or its prosecution history. It states that a "virtual appliance is a virtual machine image file that includes a pre-configured operating system and a single application." Ex. F ¶ 3 (emphasis added). It then states that "an OVF package may include ***multiple virtual appliances***, with [sic] an appliance have [sic] one or more applications." *Id.* Then, at the end of the same paragraph, it states: "Accordingly, the virtual appliance is a software image containing an application designed to run inside a virtual machine." *Id.* To the extent these passages attempt a definition, their self-contradictions and errors thwart that outcome: does Kashyap's virtual appliance include "a single application," or "one or more applications"? Kashyap is also inconsistent about whether a virtual appliance must have an "operating system" and whether it must be "pre-configured." Moreover, it never mentions Microsoft's "pre-***installed***" operating system.

Moving beyond Kashyap, Microsoft cites no support in the '663 Patent, the intrinsic evidence, or the OVF Specification for its assertions that a "virtual appliance" requires the following elements:

1. "One or more . . . applications." Microsoft has identified no portion of the patent specification that discusses "applications" in the context of the virtual appliance, apart from the claim's requirement of a "virtual appliance software application," and Qomplx is aware of none. The '663 Patent does not speak of the midserver running "applications"; it speaks of the midserver running "containerized services" (an element captured in Qomplx's proposed construction for "midserver"). Moreover, it is unclear how a juror is expected to parse the term "virtual appliance software application" if the sub-term "virtual appliance" itself requires "one or more applications." (Microsoft does not offer the plain and ordinary meaning of a "virtual appliance software application"; its alleged meaning speaks only to "virtual appliance.")

2. A "pre-installed operating system." The '633 Patent does not discuss an operating system in connection with the virtual appliance software application. Where it references an operating system, it does so with permissive, rather than mandatory, language; for example: "Processors 21 ***may*** carry out computing instructions under control of an operating system 22." Ex. A at 22:2-8 (emphasis added). Moreover, Microsoft's requirement that a virtual appliance have a "pre-installed" operating system (and "pre-installed" software applications) overlooks the claim language requiring that the midserver "***automatically install*** a virtual appliance software application" (emphasis added). In fact, the patent specification states that "[t]he OVA in this example is a virtual image pre-installed with only the minimal software on configurations required to initiate the deployment process," expressly declining to identify what that "minimal software" is. *Id.* at 16:19-21. The specification then describes, in conflict with Kashyap's "pre-configured operating system," a lengthy configuration process that takes place once this image with "minimal software" is installed. *Id.* at 16:21-60.

3. The "software applications run when loaded in a virtual machine." The patent

specification does not use the word "load" as a verb, and it certainly does not speak of loading "applications." The independent ***claim*** recites "automatically load[ing] a plurality of stored configurations." It thus stands to reason that, if the inventors intended for the claim to require "loading" something, or to perform something after "loading" something, they would have included that requirement in the claim. Microsoft also bookends its "plain and ordinary meaning" by referencing two separate instances of "a virtual machine," and it not clear whether Microsoft meant for the second reference to use the definite article "the," rather than "a." Microsoft's theory thus fails on two fronts: it does not capture the "plain and ordinary meaning" of "virtual appliance" as claimed, and is itself ambiguous rather than plain.

In short, Microsoft's articulated theory of "plain and ordinary meaning" is an arbitrary amalgamation of partial disclosures from a not-so-arbitrary set of references (Microsoft's alleged prior art) without supporting expert testimony. Microsoft has failed to establish that this term has a "plain and ordinary meaning" that renders the OVF Specification unnecessary.

(c) Qomplx's Proposed Construction Does Not Exclude Embodiments.

Microsoft's argument that Qomplx's proposed construction excludes the embodiment of Figure 6 is incorrect. *Cf.* Op.Br. at 14-17. That argument is based on the erroneous premise that "Qomplx's construction requires a 'virtual appliance software application' to be a 'cloud-based service.'" Op.Br. 16. First, Qomplx has agreed to withdraw the phrase "cloud-based" from the OVF Specification's definition. Second, the construction refers to a service that is "***delivered as a software stack***." It is the software stack that runs directly on the midserver.

B. '424 Patent

U.S. Patent No. 12,143,424 discusses "analysis of very large data sets using distributed computational graph tools which allow for transformation of data through both linear and non-linear transformation pipelines." Ex. B at 3:32-35. The specification claims the priority date

of application number 14/925,974, October 28, 2015.

Microsoft has proposed constructions for three terms of the '424 Patent: "distributed computational graph," "transformation pipeline," and "transformation." These constructions are incorrect and unnecessary. In fact, "transformation" does not appear in the claims outside of the term "transformation pipeline," which the Court has been asked to construe separately. Moreover, Microsoft's proposals for "distributed computational graph" and "transformation pipeline" ***both*** use the term "transformation" without explanation—and in ways that are deeply incompatible with its construction of "transformation."

(1) "distributed computational graph"

Microsoft	Qomplx
A directed graph with each transformation comprising a node and the output messages between transformations comprising edges.	Plain and ordinary meaning.

Microsoft has failed to establish that this term warrants construction. For example, it does not show that the term has been defined in a specialized way, that the patentee has somewhere disavowed claim scope that is likely to be at issue in this case, or that the term is somehow confusing. None of those circumstances exist here.

Instead, the term is easily understood in the context of the claims and the specification. The specification sets forth a precise definition of the noun "graph": a representation of information and relationships, where each primary unit of information makes up a 'node' or 'vertex' of the graph and the relationship between two nodes makes up an edge of the graph. Ex. B at 9:5-9. The independent claim states that the distributed computational graph "describes a flow of output data of a first transformation pipeline to an input of a second transformation pipeline." *Id.* at 23:48-51. It is clear that the graph in question represents distributed computation, and that the claim has intentionally omitted requirements about what precisely the graph's nodes and edges represent. That claim scope should be respected.

Because there is not a need for "resolution of disputed meanings and technical scopes," or even to clarify or explain "what the patentee covered by the claims," the Court should adopt plain and ordinary meaning as the construction of this term. *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997).

(a) The Patentee Has Not Provided Lexicography.

Microsoft has not identified a specialized definition in the intrinsic record, and no such definition exists. Microsoft's proposed construction is based on a mere description of how a "distributed computational graph ***system***" may represent certain information. That the description appears in the "Definitions" section is immaterial because the description is merely an example used to explain the meaning of the term actually being defined, "graph."

First, the description departs sharply from the linguistic format that the "Definitions" section uses for actual definitions. The patent specification defines the terms "graph," "transformation," and "database," using statements in the linguistic format "[a]s used herein, '[term]' is [meaning]" or "'[term]', as used herein, is [meaning]." Ex. B at 9:5-9, 9:51-54, 10:8-12. Microsoft, however, relies on a description that does not come close to following this linguistic format: "In the distributed computational graph system, transformations within transformation pipeline are represented as directed graph with each transformation comprising a node and the output messages between transformations comprising edges." Ex. B at 9:31-35. As the *Medicines* case relied upon by Microsoft found:

> [I]n defining terms, "the patentees use[d] a similar format: the defined term in quotation marks, followed by the terms 'refers to' or 'as defined herein.'" Because it departs from this format, the statement Medicines relies on lacks the clear expression of intent necessary for a patentee to act as its own lexicographer.

Medicines, 853 F.3d at 1296 (citations omitted) (alteration in original). Here, too, the statement Microsoft relies upon departs from the patentee's definitional format and thus

strongly suggests that the patentee did not intend the statement as lexicography.

Moreover, Microsoft's cited exemplary—and lengthy—discussion is not confined to the portion that Microsoft arbitrarily excerpts in its proposed construction. The description goes on to discuss "potential use of non-linear transformation pipelines," overcoming "exponential growth of resource consumption," and "transformation graphs which are highly variable in size and node, edge composition." Ex. B at 9:35-46. It concludes by cautioning that "[t]hese examples should not be taken to define the possible graphs expected as part of operation of the invention." *Id*. Clearly, the discussion was not meant to be definitional.

Microsoft next points to an office action rejecting as indefinite certain claims of a ***different patent application*** (with a ***different specification*** from the '424 Patent), application number 15/141,752 (now U.S. Patent No. 10,860,962, which is not asserted here). That rejection was based on a ***different term***, which is not used in the '424 Patent: "directed [(rather than 'distributed')] computational graph." Statements made by the applicant about a different term during the prosecution of a different patent—with a different specification and a later priority date—have no relevance here. Even if they did, the mere fact that the applicant traversed a Section 112(b) rejection by pointing the examiner at a lengthy non-lexicographical disclosure would not require the Court to construe the term. Even in the context of a divisional application, which typically shares a specification with its parent, "arguments made in a related application do not automatically apply to different claims in a separate application." *Biogen, Inc. v. Berlex Labs., Inc.*, 318 F.3d 1132, 1139 (Fed. Cir. 2003). Moreover, the examiner who allowed the ***at-issue-here '424 Patent*** did not express any indefiniteness concerns with the term "distributed computational graph."

Microsoft next argues that Figures 7-9 and 13-15 of the '424 Patent are "consistent" with its proposed construction. The mere fact that a proposed construction is "consistent"

with exemplary embodiments, however, does not establish a need to construe the term. *See, e.g.*, *Thorner*, 669 F.3d at 1365 ("It is not enough for a patentee to . . . use a word in the same manner in all embodiments, the patentee must 'clearly express an intent' to redefine the term."). Moreover, the specification describes each of Figures 7-9 and 13-15 as depicting embodiments of a "transformation pipeline 700," ***not*** a "distributed computational graph." *See, e.g.*, Ex. B at 17:52-53 ("FIG.7 is a block diagram of another preferred architecture for a transformation pipeline 700."); *id.* at 18:33-34, 19:14-15; *id.* at 21:42-46, 22:1-6, 22:28-30.

(b) Microsoft Relies On Irrelevant Continuation-In-Part Applications for Non-Asserted Patents.

Microsoft's brief concludes its argument about this term by returning to the 15/141,752 application, citing a case about "common disclosure" in "sibling" patents. *See Microsoft Corp. v. Multi-Tech Sys.*, 357 F.3d 1340, 1349 (Fed. Cir. 2004). But the patent applications referenced by Microsoft's argument here are not "siblings" of the '424 Patent. In *Multi-Tech*, the three "sibling" patents "derive[d] from the same parent application" and "share[d] a common specification." *Id.* at 1342. They were related by divisional and continuation applications, and shared a priority date. Here, by contrast, the '752 application that Microsoft dissects does ***not*** share a "common specification" with the '424 Patent. The '752 application is a ***continuation-in-part***; it contains disclosures that are not present in the '424 Patent, and it lacks certain disclosures that ***are*** present in the '424 Patent.

Moreover, the entirety of the language about "directed computational graph" in the '752 application that Microsoft discusses in its brief is not present in the '424 Patent specification. In fact, the '424 Patent nowhere uses the term "directed computational graph." The issue here is about a ***distributed*** computational graph.

Microsoft's attempt to rely on application 16/575,929 (now U.S. Patent No. 11,074,652, which is likewise not asserted) is even further afield: not only does the '424 Patent

not cite that application as an ancestor, the application also post-dates the '424 Patent's priority date ***by over three years***. Even if that application could somehow be relevant, it does not indicate that two terms are "interchangeable." On the contrary, the applicants explained that they were correcting "a conflict in terminology in the application." Ex. P at 8. If the terms were "interchangeable" as Microsoft asserts, the correction would not have been warranted.

(c) Microsoft's Proposed Construction Is Confusing.

Microsoft's proposed construction does not stand alone as a suitable construction, grammatically or otherwise. For instance, the construction refers to "each transformation," but neither the construction nor the relevant claim references a "transformation" as a distinct element, let alone multiple such elements. The construction would fail antecedent basis rules if it were part of the claim. It would also confuse a jury, which is likely to wonder: ***what*** transformations? Microsoft does not say. *See, e.g.*, *Lemaire Illum. Techs., LLC v. HTC Corp.*, 2019 WL 1996676, at *10 (E.D. Tex. May 6, 2019) (rejecting proposed construction in part because it "introduce[d] an antecedent basis problem with 'the' perceived light output level").

A similar problem arises from the construction's reference to "the output messages between transformations," a limitation that also lacks antecedent basis. No notion of "output messages" exists at the point in claim 1 where the distributed computational graph is introduced. Many elements later, the claim introduces "pipeline output messages," but these pipeline output messages are recited as transmitted from one transformation pipeline to another, not "between transformations." Again, the construction offers no clarity to the jury and instead invites the question: ***what*** "output messages"? And again, Microsoft does not say.

(2) "transformation pipeline"

Microsoft	Qomplx
A progression of functions which each perform a transformation on a data stream.	Plain and ordinary meaning.

Microsoft fails to establish that this term warrants construction. The specification is replete with examples of transformation pipelines. *See, e.g.*, Ex. B at 17:11-19:67, 21:25-22:51, Figs. 6-9 & 12-15. Microsoft does not claim that these discussions are uninformative or confusing. There is no reason to construe this term.

(a) The Patentee Has Not Provided Lexicography.

Microsoft's proposed construction does not come from a definition, or even from any discussion of "transformation pipeline." It comes instead from a dependent clause of a sentence in the specification about what "[d]ata pipelines" "offer."

As with the "distributed computational graph" term, the fact that the '424 Patent specification explicitly defines other terms using a consistent linguistic format strongly counsels against treating the specification's passing commentary about "data pipelines" as a definition of the term "transformation pipeline." *Medicines*, 853 F.3d at 1296.

(b) Microsoft Relies On Irrelevant Continuation-in-Part Applications for Non-Asserted Patents.

Microsoft's assertion that the term "has a special meaning" is based solely on attorney argument about statements made during prosecution of patent application 16/709,598, now U.S. Patent No. 11,507,858—which is not an asserted patent and does not share a specification with the '424 Patent. Microsoft's argument fails for multiple reasons.

1. The '598 application is a continuation-in-part; and, for the same reasons discussed above, *supra* pp. 19-20, its prosecution history is likewise irrelevant here.

2. Even if it were relevant, the '598 application does not support Microsoft's position. In the '598 application, which was filed over four years after the priority date of the '424 Patent, the applicant distinguished certain teachings of a reference called Gowda as "fundamentally different from the claimed limitations of creating *pipelines*." Ex. Q at 8. But the applicants did not state or otherwise intimate that their use of the term "pipeline" was

specialized; in fact, Gowda does not use the term "pipeline." Ex. 4.

3. The Gowda reference, which appears to be a November 2017 master's thesis that cites sources dated as late as October 23, 2016, *id.* at 81, appears to post-date the '424 Patent's October 2015 priority date by at least a year. Gowda is irrelevant here.

4. The claims of the '598 application did not even use the term "transformation pipeline"—only the term "pipeline." Although Microsoft asserts that "the more specific term 'transformation pipeline' also warrants explanation," it provides no basis for that assertion.

(3) "transformation"

Microsoft	Qomplx
A function performed on zero or more streams of input data which results in a single stream of output.	Plain and ordinary meaning.

The Court should not construe this term because it is ***never*** used in the claims outside of the phrase "transformation pipeline," which the parties are already briefing as a separate term. *See, e.g.*, *Vivid Techs., Inc. v. Am. Sci. & Eng., Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) ("[O]nly those terms need to be construed that are in controversy, and only to the extent necessary to resolve the controversy."). Construing "transformation" would only be an "exercise in redundancy," which the Federal Circuit discourages in claim construction. *U.S. Surgical Corp.*, 103 F.3d at 1568.

(a) Microsoft Cannot Establish that the Specification's Definition Differs from Plain and Ordinary Meaning.

Microsoft argues that Qomplx "acted as its own lexicographer for this claim term by clearly setting forth a definition in the specification that redefines the term from its plain and ordinary meaning." Op.Br. at 25. It is true that the term is among three that is defined in the specification. But the situation here is materially different from the lexicography discussed *supra* in connection with the '663 Patent, where Microsoft asserts that the specification's definition is wrong. With respect to the term at issue ***here***, Microsoft offers mere attorney

argument without even purporting to offer the attorneys' understanding of what the plain and ordinary meaning of transformation ***is*** or what the basis for that understanding might be.

Instead, the definition operates in the context of the specification as a mathematical definition to orient a POSA to the specification's later discussion of mathematical functions. Adopting the specification's mathematical definition as a lexicographic construction would likely cause jury confusion that obscures the plain and ordinary meaning of the term—a fact confirmed by the incompatibility between this definition and Microsoft's two other proposed constructions for this patent. *See, e.g., Control Res., Inc. v. Delta Elecs., Inc.*, 133 F.Supp. 2d 121, 127 (D. Mass. 2001) ("In the end, claim construction must result in a phraseology that can be taught to a jury of lay people. It is not enough simply to construe the claims so that one skilled in the art will have a definitive meaning.").

(b) Microsoft's Other Proposed Constructions Use the Term "Transformation" Without Further Explanation.

Microsoft uses "transformation" in its constructions for the two other terms it proposed for this patent: "distributed computational graph" (which Microsoft says is a directed graph with "each transformation" comprising a node) and "transformation pipeline" (which Microsoft says is a progression of functions which each perform "a transformation"). If those constructions are to be understood as capable of standing alone, then Microsoft necessarily concedes that construction of this term is not necessary. If, instead, Microsoft assumes that the Court's construction of the term "transformation" would implicitly serve to construe the constructions of those two other terms, this stacked application of constructions—even if it were legally permissible—would instantly result in intractable confusion. For example:

1. Microsoft's constructions together would render a "transformation pipeline" as "***a progression of functions which each perform a function***." It is difficult to devise a less useful construction. *See, e.g., Hyperphrase Techs., LLC v. Microsoft Corp.*, 2003 WL

23142251, at *5 (W.D. Wis. June 18, 2003) ("Substituting plaintiffs' proposed definition in claim 49 would produce the reading: 'said keyword phrase being associated with said keyword phrase and an address.' As this substitution illustrates, plaintiffs' proposed construction is nonsensical. It would result in the tautological construction that the keyword phrase would be associated with itself.").

2. Microsoft's construction of "transformation pipeline" contemplates "a data stream," but its construction of "transformation" contemplates "zero or more streams of input data." How is a jury to determine which part of a "transformation pipeline" requires "a data stream" and which part requires "zero or more streams," and whether these concepts can or should refer to the same aspect of a product? Microsoft does not say.

3. Microsoft's construction of "distributed computational graph" references "output messages between transformations," but Microsoft's proposed construction for "transformation" says nothing about "output messages"; it instead references "a single stream of output." How is a jury to determine how "output messages" relate to "a single stream of output" (or if they relate at all)? Microsoft does not say.

(c) The Specification's Mathematical Definition Is Not a Helpful Construction.

In this instance, the specification's definition for the term "transformation" (and thus Microsoft's proposed construction) is a mathematical definition phrased using the mathematical term "function." It is formulated for a POSA, in part to set up the disclosure's later mathematical discussion of transformation pipelines (for example, at 21:1-24).

But "function" is not always used in common parlance with the same precision that a POSA would use and understand it. For example, jurors will likely need to become familiar, if they are not already, with the word "function" in three related—but distinct—contexts: (1) the features supported by a computer program or electronic device, *see, e.g.*, Ex. 5 at 306

(defining "function" as "[t]hat which a component, circuit, device, piece of equipment, or system is intended to do" and "which is does do."); (2) a computer subroutine, *see, e.g., id.* ("Within a computer program, a small group of instructions which perform a given task."); and, (3) a mathematical operation, *see, e.g., id.* ("A mathematical expression in which a quantity depends on one or more varying quantities."). The parties would inevitably have to expend significant resources to help the jury navigate Microsoft's construction in the manner that a POSA would have been able to navigate it.

On the other hand, the specification provides examples of transformations which the parties can use to explain the concept of a "transformation" to the jury in a direct, intuitive way. *See, e.g.*, Ex. B at 20:33-37 ("[T]he great majority of transformations in transformation pipelines receive a single stream of input, modify the data within the stream in some way and then pass the modified data as output to the next transformation in the pipeline . . . ."). Qomplx submits that, given the unique circumstances here, the Court should find that the term "transformation" has its plain and ordinary meaning.

C. '934 and '426 Patents

The '934 and '426 Patents share a common specification and priority date, and are both generally directed to certain approaches to multi-factor authentication. The sole dispute presented here pertains to the order of certain steps recited in the independent claims. Microsoft disputes Qomplx's proposed step order.

(1) "retrieving, from the multidimensional time-series database, historical information about previous access requests associated with the [first] user account, and determining, based at least on the historical information"

Microsoft	Qomplx
Plain and ordinary meaning.	The "determining" step takes place after the "retrieving" step. Both steps take place after receipt of "a request to authenticate a client."

The ordering of steps in Qomplx's construction follows from the plain language of the term and the claims. It is supported by black-letter law about how to construe step elements, and by common sense. Microsoft offers no credible authority to support its melodramatic criticism of the proposed step order as "unjustified by logic, grammar, or intrinsic evidence." Op.Br. at 1. To the contrary, the order is independently justified by each of the three. Though Microsoft cites *Mformation* for an undisputed general statement of the law, it fails to recognize that the case ***found a step-order requirement*** in the very claim language it considered. *See Mformation Techs., Inc. v. Research in Motion Ltd.*, 764 F.3d 1392, 1400 (Fed. Cir. 2014) ("[C]laim 1 requires that a connection be established before transmission.").

(a) Logic and Grammar Require Qomplx's Proposed Step Order.

The context requiring the proposed ordering of steps here is straightforward. First, the claim language provides for "retrieving . . . historical information" and "determining, based at least on ***the*** historical information" (emphasis added). It is black-letter law that "[s]ubsequent use of the definite articles 'the' or 'said' in a claim refers back to the same term recited earlier in the claim." *Wi-Lan, Inc. v. Apple, Inc.*, 811 F.3d 455, 462 (Fed. Cir. 2016). In order to commence a "determining" step that depends on "***the*** historical information" retrieved in another step, the retrieval of the historical information needs to have taken place. Indeed, antecedent basis is a strong indicator of step order. *See, e.g., id.* (applying antecedent basis to conclude that the "text of the claim thus requires producing randomized symbols and ***then*** combining those randomized symbols") (emphasis added); *Medtronic, Inc. v. Teleflex Life Scis. Ltd.*, 2024 WL 1208642 at *3 (Fed. Cir. 2024) ("Here, the antecedent basis . . . demonstrates that the inserting and advancing the ICD step ***follows*** the advancing the flexible tip portion step.") (emphasis added); *Hytera Commc'ns Co. Ltd. v. Motorola Sols., Inc.*, 841 F.App'x 210, 218 (Fed. Cir. 2021) (determining based on antecedent basis that an

ordering of steps was required).

Second, the claim language explicitly states that the determining step happens "***based on*** at least the historical information." This requirement further supports that the determining step happens after the retrieving step, because it is illogical to "base" a determination on non-existent information. *See, e.g.*, *Rothschild Connected Devs. Innovs., LLC v. Coca-Cola Co.*, 2025 WL 2964300 at *2 (Fed. Cir. 2025) ("This use of 'based on' strongly indicates that the first step precedes the second. . . . We agree with the district court's 'common-sense reading' . . . that the communication module must be configured to perform its steps in the order in which they are written."); *WSOU Invs., LLC v. Google LLC*, 2023 WL 8461642, at *2 (W.D. Tex. Dec. 6, 2023) (where a claim requires a step receiving "signal data" and a step "determining . . . based on the signal data," the steps "cannot be read in a logical manner unless they are performed in order").

Microsoft also disputes that both the "retrieving" and "determining" steps must happen after the step of receiving "a request to authenticate a client." This position, too, lacks merit. Both the "retrieving" and "determining" steps reference "***the*** account." *E.g.*, Ex. C at 18:25-33. The "account," in turn, is determined based on "an identifier" that the "request to authenticate a client" comprises. The same antecedent-basis principles discussed above govern here: "***the*** account" must be known ***before*** either the "retrieving" or "determining" steps take place.

(b) Microsoft's Arguments Defy the Case Law and Logic.

Microsoft's arguments about what the claims do ***not*** say fail basic logical scrutiny and disregard the case law Microsoft cites. For example, Microsoft argues that because the claim does not recite "determining, based at least on the *retrieved* information," the claim must "require[] only that it use the same information as the 'retrieving …' limitation, even if that

information was obtained before" the "retrieving" step. Op.Br. at 28. But if Microsoft's position that the "determining" step as recited in the claim need not take place after the "retrieving" step were correct, the hypothetical addition of the word "retrieved" would not change the analysis: even Microsoft concedes that the historical information must be "retrieved" ***at some point***; its dispute is with the timing. Adding the word "retrieved" as Microsoft hypothesizes would serve no clarifying purpose with respect to timing.

Microsoft also argues that it is significant that the claim does not qualify the "retrieving" step with temporal language such as "*after* receiving the request to authenticate a client." But a step order need not be recited so explicitly. Indeed, *Mformation* required ordering of steps in a claim that did not use any temporal indicators of that kind, based solely on the logical import of the claim language. *See, e.g.*, 764 F.3d at 1399 ("As a matter of logic, a mailbox must be established before the contents of said mailbox can be transmitted.").

The general discussion of ordering in the specification to which Microsoft points does not change the analysis. It is undisputed that "[u]nless the steps of a method [claim] actually recite an order, the steps are not ordinarily construed to require one," as *Mformation* and predecessor cases state. 764 F.3d at 1392. The general discussion Microsoft points to in the specification merely stands for that same background principle. But as *Mformation* and many other cases recognize—and as Microsoft recognizes in its brief—a specific order ***is*** required where, "as a matter of logic or grammar," the claim "requires that the steps be performed in the order written." *Id.* (internal quotation marks omitted). Indeed, the specification itself only states that the "steps of described processes may be performed in any order ***practical***," Ex. C at 5:7-9—and the ordering admitted by Microsoft's position is far from practical.

Microsoft's arguments, if accepted, would imply that these patents about multi-factor authentication could be practiced by a system that prompts a client to complete authentication

before the client has even attempted to log in; the claims do not, after all, say "***after determining whether an additional verification is required to grant access***, cause the client to be prompted to complete the additional verification method." Microsoft's logic contradicts its own caselaw and would lead to absurd results. It should be rejected.

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CERTIFICATE OF SERVICE

I hereby certify that on April 13, 2026, all counsel of record who are deemed to have consented to electronic service are being served with a copy of the foregoing document via the Court's CM/ECF system in accordance with Local Rule CV-5.

/s/ *Aron Berger*
Aron Berger