

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

**VALTRUS INNOVATIONS LTD. and  
KEY PATENT INNOVATIONS LTD.,**

*Plaintiffs,*

**v.**

**SAP AMERICA, INC. and SAP SE,**

*Defendants.*

**Civil Action No. 2:24-cv-21**

**JURY TRIAL DEMANDED**

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**DEFENDANTS' RESPONSIVE CLAIM CONSTRUCTION BRIEF**

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| B          | Deposition of Martin Farach-Colton, M.D., Ph.D.                  |
| C          | Excerpts from the Prosecution History of U.S. Pat. No. 6,871,264 |
| D          | Deposition of Michael C. Brogioli, Ph.D.                         |

Pursuant to Local Patent Rule 4-5(b), Defendants SAP America, Inc. and SAP SE (collectively, “SAP”) submit their Responsive Claim Construction Brief. As the Court is familiar with general claim construction standards and related legal precedents, SAP will refrain from reciting them. Rather, SAP will focus on the legal precedents specific to the parties’ claim construction positions as they arise.

## I. OVERVIEW OF ASSERTED PATENTS

Plaintiffs allege that SAP infringes the following patents and corresponding claims:

| Asserted Patents          | Asserted Claims             |
|---------------------------|-----------------------------|
| 6,823,409 (“’409 Patent”) | 1, 4–5, 7–9                 |
| 6,889,244 (“’244 Patent”) | 1–6, 8–10                   |
| 7,152,182 (“’182 Patent”) | 1, 6, 7, 9–10, 12–13, 16–18 |
| 7,313,575 (“’575 Patent”) | 1, 4, 31, 32, 36            |
| 6,691,139 (“’139 Patent”) | 1, 3, 5, 7–11               |
| 7,936,738 (“’738 Patent”) | 1–3, 5–6, 10, 33            |
| 6,871,264 (“’264 Patent”) | 1, 4, 5, 9, 11              |

The currently disputed terms are recited in the ’409, ’244, ’575, ’738, and ’264 Patents.

## II. ARGUMENT

### A. Disputed Terms of the ’244 Patent

| “the first and second nodes are each coupled to a fault tolerant storage system (FTSS)” / Claim 1                                                                                                                                                       |                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| SAP’s Proposed Construction                                                                                                                                                                                                                             | Plaintiffs’ Proposed Construction |
| Plain and ordinary meaning, where the coupling to the FTSS provides for transmitting messages by a store-and-forward method (i.e., not through a conventional computer network such as a local area network (Ethernet) or wide area network (Internet)) | Plain and ordinary meaning        |

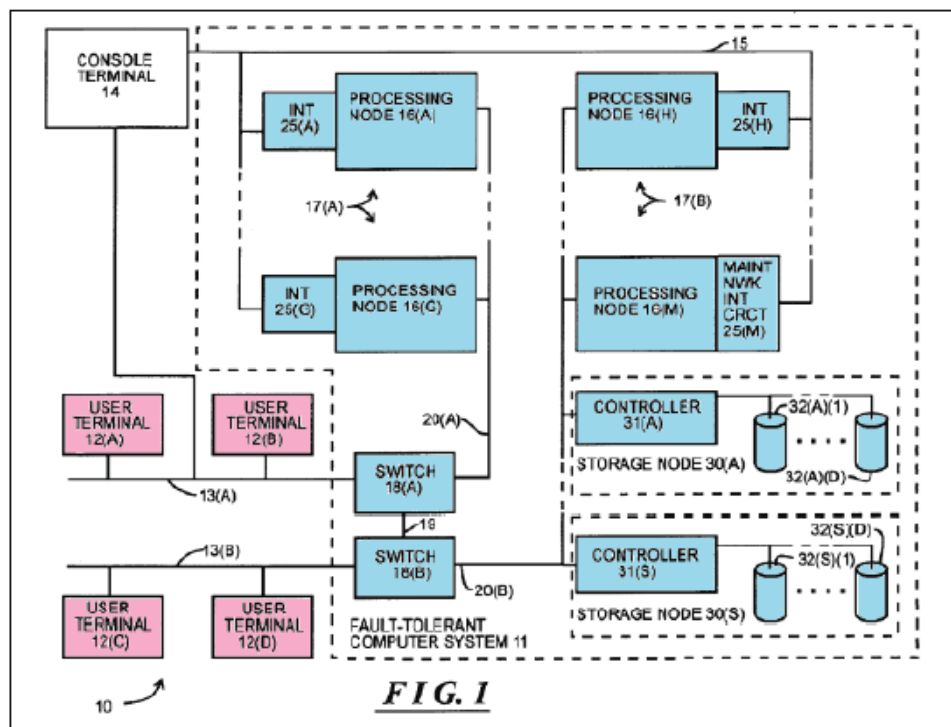
The term “the first and second nodes are each coupled to a fault tolerant storage system (FTSS)” should be given SAP’s construction because the applicant disavowed any other meaning during the prosecution of the ’244 Patent. Prosecution disclaimer “preclud[es] patentees from

recapturing through claim interpretation specific meanings disclaimed during prosecution.” *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003). Prosecution disclaimer is “a fundamental precept in our claim construction jurisprudence,” which “promotes the public notice function of the intrinsic evidence and protects the public’s reliance on definitive statements made during prosecution.” *Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353 (Fed. Cir. 2017) (citing *Omega Eng’g*, 334 F.3d at 1323–24). Here, to overcome a rejection over U.S. Patent No. 5,815,649 (“Utter”), the applicant unequivocally and unambiguously disavowed any meaning other than SAP’s proposed construction.

During the ’244 Patent’s prosecution, the examiner determined that Utter disclosed, among other terms, “a method of transmitting messages between a first node and a second node, wherein the first and second nodes are each coupled to a fault tolerant storage system,” and rejected claim 1 given this disclosure. Ex. A at VAL-SAP00005156. Plaintiffs wrongly argue that “the applicant sought to explain to the examiner that communications from one node to the other in the ‘Utter’ reference . . . would not pass through the FTSS,” and that the “applicant’s only point was that Utter (and its mere use of conventional ethernet links) did not disclose using the FTSS as the intermediary through which the messages were passed.” Dkt. 110 at 10. This does not conform to the facts. The applicant acknowledged during prosecution that, in Utter, messages between the first and second nodes passed through the FTSS but distinguished that they did so via a conventional network. In its August 25, 2004 Appeal, for example, the applicant argued that “[a]s shown in Figure 1, and according to Utter’s disclosure, one of the four user terminals may exchange messages with another of the four user terminals via the two **conventional** Ethernet networks, and the two user terminals are coupled through the two **conventional** Ethernet networks to a fault-

tolerant computer system (Utter, column 3, lines 49-67).” Ex. A at VAL-SAP00005075 (emphases in original).<sup>1</sup>

As shown by Plaintiffs’ annotation of Utter’s Figure 1, which they included in their Opening Brief, the “user terminals 12A-12D (per the examiner, ‘nodes’) are highlighted in red, and the Fault Tolerant Computer System (per the examiner, ‘the FTSS’) is highlighted in blue.” Dkt. 110 at 9. Sending a message from one user terminal to two of the other user terminals necessarily requires the message to pass through the FTSS as there is no path between these terminals which does not go through the FTSS (e.g., terminal 12(A) to 12(C) or 12(D)).



<sup>1</sup> The applicant made similar remarks repeatedly throughout the prosecution of the '244 Patent. For instance, in its Response to the Final Rejection Dated February 25, 2004, the applicant stated: “Furthermore, if the Examiner is referring to the internal components of the FTSS as the second node, then, again, the Examiner has not properly read claim 1. Claim 1 refers to two separate and distinct computers as well as an FTSS. Nothing in the quoted passages involves messages, or even data, transmitted between two computers separate and distinct from Utter’s FTSS.” Ex. A at VAL-SAP00005077; *see also id.* at VAL-SAP00005162–00005165 (“[C]onventional Ethernet would need to be greatly modified to an unconventional Ethernet in order to provide th[e] capability” of the purported invention.).

The applicant summarized its arguments regarding the interconnection thusly:

To summarize the above, three paragraphs, **none of the networks that appear in Utter's disclosed system transmit messages by a store-and-forward method through an FTSS. The user terminals directly communicate with one another through one pair of Ethernets.** The internal processing nodes and storage nodes directly communicate with one another (see, e.g., Utter, column 4, lines 33-41) through another pair of Ethernets. The console terminal can alternatively communicate with processing nodes through a management network. **In none of these communications networks does Utter teach or suggest any kind of store-and-forward messaging system involving a storage-node intermediary.**

Ex. A at VAL-SAP00005159 (emphases added).

It is clear that the applicant considered Utter's use of a conventional Ethernet network the determining factor. The applicant argued that:

**Ethernet networks do not operate in a store-and-forward fashion . . . Ethernet networks are not store-and-forward networks. With all of the nodes in Utter's system interconnected by Ethernet networks,** there is absolutely no reason for Utter to arrange for storage nodes 30(A)-30(S) to somehow be placed into a promiscuous receiving mode, receive all messages, store the messages, determine to whom the messages are addressed, and then forward them to their intended recipients, when, in fact, the processing nodes and storage nodes can all directly intercommunicate with one another. Moreover, modifying Utter's system to transform the storage nodes into storage-node/store-and-forward-communications-node hybrids is not taught or suggested by Utter. **There is no teaching or suggestion in Utter for any kind of store-and-forward communication.** There is no teaching or suggestion in Utter for storage nodes doing anything other than executing I/O requests - either storing or retrieving data from fault-tolerant storage media within the storage nodes.

*Id.* (emphases added). The applicant further distinguished Claim 1 by arguing that “[t]he described embodiment of the present invention provides for messages to be stored and forwarded” and that “[c]laim 1 clearly claims the above[-]described embodiment.” *Id.* at VAL-SAP00005156. The applicant concluded the appeal brief argument by stating, “Ethernets do not employ the FTSS-

based store and forward technique clearly claimed in claim 1, but nowhere taught or suggested in Utter.” *Id.* at VAL-SAP00005163.

Finally, because the applicant not only disclaimed “ethernet” networks, but all “conventional” networks, a POSITA would have understood that internet and other wide area networks were likewise disclaimed. Consequently, the Court should find the patentee to have disclaimed “coupling” the first and second node to the FTSS via conventional networks, such as Ethernet networks, as SAP proposes.

| <b>“highly reliable fault-tolerant storage media” / Claims 1-3, 6, 9-10</b> |                                            |
|-----------------------------------------------------------------------------|--------------------------------------------|
| <b>SAP’s Proposed Construction</b>                                          | <b>Plaintiffs’ Proposed Construction</b>   |
| Indefinite                                                                  | Plain and ordinary meaning. Not indefinite |

The term “highly reliable fault-tolerant storage media” “fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). “Highly reliable” is a term of degree unsupported by intrinsic evidence providing any “objective boundaries” for determining what it means in the context of the claims, and thus, rendering the term indefinite. *See Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014).

Courts routinely find such unsupported terms of degree indefinite when, as here, no standard of comparison is provided. *See, e.g., J.R. Simplot Co. v. McCain Foods USA, Inc.*, 713 F. Supp. 3d 904, 940, 943 (D. Idaho 2024), *appeal pending*, No. 24-1845 (Fed. Cir. May 22, 2024) (finding “high electric field” indefinite because “it has no objective bounds and is virtually impossible to measure” and observing “without something to compare it to, the term ‘high electric field’ in the ’540 Patent, is in essence just an ‘electric field’”); *Bayer Intell. Prop. GmbH v. Warner Chilcott, Co., LLC*, 2015 WL 1849015, at \*1 (D. Del. Apr. 21, 2015), *aff’d*, 645 F. App’x 993 (Fed. Cir. 2016) (finding “words of degree—i.e., ‘high,’ ‘low,’ ‘satisfactory,’ and ‘reliable’—had no

standards against which to draw comparisons, and the patent offered no suggestions for how to measure these criteria”); *Graphics Props. Holdings, Inc. v. Asus Computer Int’l, Inc.*, 2014 WL 4929340, at \*19 (D. Del. Sept. 29, 2014) (finding “high information content” indefinite because “there is no standard in the specification for measuring what differentiates ‘high information content’ from ‘information content’ generally”); *Advanced Display Techs. of Tex., LLC v. AU Optronics Corp.*, 2012 WL 2872121, at \*12 (E.D. Tex. July 12, 2012) (Davis, J.) (finding claim containing “highly modulated surface” to be indefinite because the patent “fails to provide a standard for measuring the difference between a mere modulated surface and a highly modulated surface”); *Panavision Imaging, LLC v. Omnivision Techs., Inc.*, 2012 WL 12952006, at \*3–4 (C.D. Cal. May 25, 2012) (finding “high-impedance” indefinite because “the Court has yet to find a meaningful distinction between” “high-impedance” and “low-impedance”); *Selex Commnc’s, Inc. v. Google Inc.*, 2013 WL 1412334, at \*14 (N.D. Ga. Apr. 8, 2013) (finding “high cost number,” indefinite because “there is no standard by which a person having ordinary skill in the art could determine with a degree of certainty that a dialed number is a ‘high cost number’”).

Foremost, neither the disputed phrase itself, nor the context of the surrounding claim language, provides guidance as to the meaning of “highly reliable.” Plaintiffs’ arguments otherwise support the position that the claim language is not sufficiently clear on its face to provide instruction. For example, Plaintiffs incorrectly contend that “[a] POSITA would understand that ‘highly reliable fault tolerant storage media,’ as it appears in claim 1, refers ‘to the physical storage media of the FTSS.’” Dkt. 110 at 12. Yet, Plaintiffs maintain that “highly reliable” does not describe “storage media”—which immediately follows “highly reliable fault-tolerant”—but rather describes “fault-tolerant storage system.” *See id.* (“highly reliable” referring to “a quality that a **system** could provide”) (emphasis added); *see also* Ex. B at 36:2–4, 51:21–23 (stating the adjective “highly reliable” does not apply to the storage media itself, but rather is an emphazier for “fault

tolerant storage system”). This evidences that no reasonable certainty surrounds “highly reliable,” as a simple read fails to provide clarity as to what “highly reliable” is modifying.

Despite acknowledging the phrase “highly reliable fault-tolerant storage system” appears nowhere in claim 1 (Ex. B at 38:19–21, 39:7–10), Plaintiffs mistakenly contend that “highly reliable fault-tolerant storage media” is the media in a highly reliable fault tolerant storage system. *Id.* at 37:5–13, 37:19–22, 38:2–7, 39:4–6, 50:8–13. And they claim a POSITA would understand that “highly reliable” in this context does not refer to “any specific value or measurement of reliability.” Dkt. 110 at 12. However, this contention conflicts with the intrinsic evidence, as claims 1, 2, 3, 6, 9, and 10 use the term “highly reliable,” yet other provisions of the patent use terms such as “highly reliable,” “reliable,” “as reliable and fault-tolerant as possible,” “less reliable,” and “more reliable.” *See, e.g.,* Dkt. 110-17 Abstract, 3:9, 2:3, 3:67–4:1, 5:41–42, 5:48–49, 9:42–43, 11:32. This underscores that the reliability of fault-tolerant storage media—or as Plaintiffs provide, the reliability of the fault-tolerant storage system—varies in scope. *See In re Taasera Licensing LLC, Pat. Litig.*, 2023 WL 8628323, at \*19–20 (E.D. Tex. Dec. 13, 2023) (holding that using both “real time” and “substantially real time” in the written description suggested some difference in scope). Therefore, the intrinsic evidence must provide a standard for measuring, or guidance as to objective boundaries for, the term “highly reliable.” *See Niazi Licensing Corp. v. St. Jude Med. S.C., Inc.*, 30 F.4th 1339, 1349 (Fed. Cir. 2022); *Nautilus, Inc.*, 783 F.3d at 1378.

Plaintiffs incorrectly suggest that “highly reliable” refers to “a quality that a system could provide,” and the patent “uses the terms ‘highly reliable’ and ‘fault tolerant’ to generally describe systems with additional indications or guarantees of reliability beyond non-redundant, single point of failure systems.” Dkt. 110 at 12. Plaintiffs further posit that the patent gives numerous examples consistent with their interpretation of the term “highly reliable fault-tolerant storage media.” *See id.*; Dkt. 110-16, ¶¶ 69–70. However, none of their examples, nor any remaining provisions of the

patent, provide clarity or an objective boundary for determining where the scope of the term “highly reliable” begins or ends.

For instance, Plaintiffs highlight the SureStore® XP512 Disk Array as a “specific and unequivocal” example of “highly reliable fault-tolerant storage media.” Dkt. 110 at 12 (“The ’244 patent specifically describes that ‘the SureStore(R) XP512 Disk Array uses a fault-tolerant, redundant architecture that ensures there is no single point-of-failure, and has a mean time between failure (MTBF) of 2.5 million hours, or alternatively 285 years.’”). But this example fails to illustrate any demarcation between “highly reliable” and “reliable,” or “fault tolerant,” or provide clarity as to how a fault tolerant storage system is “reliable” outside of the fact that the storage system is fault tolerant. The specification clarifies, after all, that “highly reliable” and “fault tolerant” are separate attributes: “[A] designer of a distributed application will often specify that the application be implemented using highly reliable **and** fault tolerant . . . storage systems.” Dkt. 110-17 at 4:5–8 (emphasis added). Yet, the patent merely identifies the SureStore® XP512 Disk Array not only as a fault tolerant storage system (*see id.* at 4:28–29), but also as “a **typical** FTSS” (*id.* at 6:58–59 (emphasis added)). A POSITA cannot ascertain the boundaries of “highly reliable fault-tolerant storage media” when the patent’s “specific and unequivocal” example fails to do so. There is no guidance informing a POSITA as to the bounds of “highly reliable” when the example solely refers to a fault tolerant storage system and provides no manner to determine which fault tolerant storage systems would be “highly reliable” versus merely “reliable” or merely “fault tolerant.”

Plaintiffs further argue that “[t]he highly reliable and fault tolerant nature of FTSS 44 ensures that FTSS 44 can guarantee delivery of a message transmitted from a sending computer system to a destination computer system” provides clarity as to the scope of “highly reliable fault-tolerant storage media.” *See* Dkt. 110-16 ¶ 69 (citing Dkt. 110-17 at 6:54–57). But the patent’s

immediately preceding language invokes “reliable,” not “highly reliable”—“FTSS 44 includes several message agents to facilitate message transfer in a **reliable** and fault tolerant manner, as described below.” Dkt. 110-17 at 6:52–54 (emphasis added). This directly conflicting use of “reliable and fault tolerant” and “highly reliable and fault tolerant” within the same context underscores that a POSITA could not determine where the scope of one term ends and the other begins.

Lastly, Plaintiffs’ extrinsic evidence not only indicates that there is no objective standard for determining the scope of the term “highly reliable,” but also suggests that Plaintiffs’ interpretation of “highly reliable” renders “fault tolerant” superfluous. For example, a “highly reliable fault tolerant storage system” and a “fault tolerant storage system” do not mean the same thing—yet, “a fault tolerant storage system” is a “highly reliable fault tolerant storage system” according to Plaintiffs’ expert. *See* Ex. B at 39:11–21. Dr. Farach-Colton clarifies that “fault tolerant” is a subset of “highly reliable” (*see id.*) and claims the term “reliable” has different flavors, such as high availability and low latency. *See id.* at 39:22–25, 40:1–12, 41:1–7. But then Dr. Farach-Colton affirms that the terms “highly reliable fault tolerant” and “fault tolerant” are a distinction without a difference. *See id.* at 51:14–25, 52:1–2. Thus, neither the patent, Plaintiffs, nor Plaintiffs’ expert draws any meaningful bounds around “highly reliable fault-tolerant storage media” that does not also encompass “reliable fault-tolerant storage media” or “fault-tolerant storage media.” This lack of meaningful difference between the terms creates unnecessary ambiguity and fails to provide a POSITA with any guidance for understanding the terms with reasonable certainty, rendering the term indefinite.

| <b>“accessing determining which nodes should receive the broadcast message based on the broadcast message” / Claim 10</b> |                                            |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| <b>SAP’s Proposed Construction</b>                                                                                        | <b>Plaintiffs’ Proposed Construction</b>   |
| Indefinite                                                                                                                | Plain and ordinary meaning. Not indefinite |

The claim language contains a clear error that renders the disputed terms indefinite. A POSITA cannot determine the scope of the claim with reasonable certainty, as “accessing determining” is nonsensical. And the Court should not correct this error because Plaintiffs’ correction is “subject to reasonable debate based on consideration of the claim language and specification.” *See Pavo Sols. LLC v. Kingston Tech. Co.*, 35 F.4th 1367, 1373 (Fed. Cir. 2022).

The similarities between claim 10—which requires an unsolicited communication paradigm—and claim 6—which requires an event-based communication paradigm—show Plaintiffs’ correction should not be adopted. Claims 10 and 6 are not only “structurally parallel” (Dkt. 110 at 13), but also encompass two messaging paradigms that use the terms “accessing” and some form of “determine.” *See* Dkt. 110-17 at 13:18 (“determine”); *see also id.* at 14:39 (“determining”). And while not emphasizing the relationships between any other messaging paradigms, the specification explicitly reveals that “unsolicited communication is similar to event-based communication.” *Id.* at 11:16-17. Therefore, merely deleting the term “accessing” risks abandoning an element that a POSITA would have understood to be part of both claims. *See Pavo Sols.*, 35 F.4th at 1373 (describing how a potential correction would impact the scope of a claim must be considered in deciding whether a particular correction is appropriate).

The specification also states that unlike event-based communication, “there is no subscription function” in unsolicited communication. *Id.* at 11:17–18. Event-based communication enables a client to subscribe to or unsubscribe from receiving an event message (*see id.* at 2:43–57, 9:22–33), while unsolicited communication enables a client to receive a message it did not request. *See id.* at 3:37–41, 11:10–26. But Plaintiffs are wrong that this justifies rewriting the instant claim to eliminate “accessing.” The subscription manager “maintains lists of clients that have subscribed to certain events using the `tpsubscribe()` function call.” *Id.* at 9:28–30. Unsolicited

communication paradigms may lack a subscription manager because they do not use the same function call. But it is clear from the specification that those paradigms still require accessing a list of recipients to determine “which nodes should receive the broadcast message based on the broadcast message.” *Id.* at 14:39–41.

For example, Figures 7 and 10 display the resemblance between an event-based communication agent and an unsolicited communication agent. An event-based communication agent “includes an event broker, which includes a subscription manager, and event queues.” *Id.* at 9:27–29. And an unsolicited communication agent includes “an unsolicited message manger and unsolicited message queue.” *Id.* at 11:18–20. Figures 7 and 10 illustrate the message flow between the event broker (which includes the subscription manager) and the event queues, and between the unsolicited message manager and the unsolicited message queues, within the communication agents. *See id.* at Figs. 7, 10. Given the similarities between claims 10 and 6, and the guidance provided by the specification and figures, it is not reasonably certain as to whether the unsolicited message manager is accessed to determine “which nodes should receive the broadcast message based on the broadcast message.” *Id.* Thus, Plaintiffs’ proposed correction is inappropriate, and the Court should find the term indefinite as a POSITA would not understand it with reasonable certainty. As in *Image Processing Technologies, LLC v. Samsung Electronics Co.*—where the court rejected the plaintiff’s request to insert the “to be included” language in the claim to avoid an indefinite finding—this Court should reject Plaintiffs’ request because it substantively changes the meaning of the claim in order to make the claim language grammatically sound. 2017 WL 2672616, at \*15 (E.D. Tex. June 21, 2017).

## B. Disputed Terms of the ’575 Patent

| “polymorphic metadata” / Claims 1, 4 |                                   |
|--------------------------------------|-----------------------------------|
| SAP’s Proposed Construction          | Plaintiffs’ Proposed Construction |

|            |                                            |
|------------|--------------------------------------------|
| Indefinite | Plain and ordinary meaning. Not indefinite |
|------------|--------------------------------------------|

The term “polymorphic metadata” is indefinite because, as both Plaintiffs’ Brief and expert confirm, while “polymorphic” and “metadata” are known terms in the art, the term “polymorphic metadata” is not. In addition, the ’575 Patent does not define the term, and a POSITA would accordingly not understand it with reasonable certainty.

First, it is clear that “polymorphic metadata” means something other than just “polymorphism” or “metadata.” In his deposition, Plaintiffs’ expert, Dr. Farach-Colton, agreed that “metadata is not necessarily polymorphic metadata,” and that there exist “many situations in which metadata is not defined through polymorphic mechanism.” Ex. B at 59:17–21. Likewise, Dr. Farach-Colton agrees that “polymorphic metadata” is not simply polymorphism. *Id.* at 56:19–57:2 (agreeing that he considers only “some of the examples” he provides of polymorphism to be “polymorphic metadata”).

But Plaintiffs fail to link these two terms in any meaningful way. In their Opening Brief, Plaintiffs go to great length to describe the concept of polymorphism and how a POSITA would understand it in this context. Dkt. 110 at 15–16. But the only connection Plaintiffs draw between polymorphism and metadata is one sentence, arguing “[a] POSITA would have understood this term to refer to metadata defined using a polymorphic mechanism such as Java’s hierarchal inheritance.” *Id.* at 15. Yet Plaintiffs identify nothing in the specification or the extrinsic record from which a POSITA would understand with reasonable certainty how metadata is “defined using a polymorphic mechanism.” Plaintiffs’ expert’s reasoning is thus conclusory and circular, as he defines metadata and polymorphism, but only connects the two terms by stating that “polymorphic metadata” is “metadata defined through a polymorphic mechanism.” Dkt. 110-16 ¶ 130.

Dr. Farach-Colton then cites several paragraphs of the specification, purportedly in support of this definition, but the specification of the patent does nothing further to inform a POSITA of

the definition of “polymorphic metadata.” Rather, the specification strives to leave the term undefined and amorphous. For example, the specification states that “polymorphic metadata is metadata that **takes many forms**, using polymorphism **to flexibly represent** different patterns economically and **facilitate evolution** of metadata as new circumstances arise,” but then launches into a lengthy discussion of polymorphism. *Id.* ¶ 131 (citing Dkt. 110-20 at 4:34–50 (emphases added)). The specification states:

Generally, an individual metadata class can be used to represent a different common pattern, defined with attributes that are specific to the pattern. For example, circles and rectangles can be assigned to different classes of Shape with Circle having a defining attribute called diameter, and Rectangle having defining attributes called length and width. The polymorphic representation is economical because specified attributes or parameters of metadata can be limited to those that are applicable to a specific pattern under consideration. New metadata classes can be rapidly generated to solve new problems outside of the patterns previously encountered.

*Id.* But this description of a hierarchy is just polymorphism, not polymorphic metadata. The rest of the specification cited sheds no additional light on the combination. *See id.* (citing Dkt. 110-20 at 4:51–5:6, 13:3–19). Thus, while the specification and a POSITA may have understood polymorphism and metadata separately, the intrinsic and extrinsic records underscore that “polymorphic metadata” was not a known concept in the art and was made purposefully ambiguous in the specification. Consequently, the specification fails to inform a POSITA as to the meaning of “polymorphic metadata” with reasonable certainty, and the term is indefinite.

### C. Disputed Terms of the ’738 Patent

| “potentially inaccurate or incomplete” / Claim 10 |                                            |
|---------------------------------------------------|--------------------------------------------|
| SAP’s Proposed Construction                       | Plaintiffs’ Proposed Construction          |
| Indefinite                                        | Plain and ordinary meaning. Not indefinite |

This term is indefinite because it fails to inform a POSITA of the claim's scope with reasonable certainty. *See Nautilus*, 572 U.S. at 901; *see also Interval Licensing*, 766 F.3d at 1371. The claim language recites that “an indication associated with the obtained context information” is added to the message “where it is determined that the obtained context information is potentially inaccurate or incomplete.” Dkt. 110-15, cl.10. But the claim fails to provide any guidance as to what “potentially inaccurate or incomplete” means, or “where it is determined.”

Similarly, the specification fails to provide sufficient instruction. It uses phrases such as “inaccurate or incomplete” and “potentially inaccurate or incomplete,” and “slightly out-of-date or incomplete,” which evidences a difference in scope. *See In re Taasera Licensing LLC, Pat. Litig.*, 2023 WL 8628323, at \*19–20 (E.D. Tex. Dec. 13, 2023) (using both “real time” and “substantially real time” in the written description suggested some difference in scope); *see also* Dkt. 110-15 at 7:50–52 (“flag the context data as being inaccurate, or at least potentially inaccurate”), 6:63–64. However, no provision within the patent explains the demarcation between these varying degrees of inaccuracy and incompleteness. And the examples Plaintiffs highlight offer no clarity as to the disputed term's objective boundaries. *See* Dkt. 110 at 6–7.

For instance, the specification describes two situations where the context data may be inaccurate or incomplete in a billing application: (1) when having to store context data relating to the start time of a call before the call is answered, and (2) in the event of a switchover occurring and the protocol stack being re-initialized. *See* Dkt. 110-15 at 7:28–44. The first scenario may lead to “inaccurate context data being stored” because billing applications generally require knowing the time a call established and ended to generate a billing record, but “when the called party receives the INVITE message[,] an indeterminable amount of time may exist between the time the phone starts ringing and the time the call is answered.” *See id.* at 7:33–38. As for the second scenario, the specification provides little to no guidance. In the event of a failure or switchover,

the response message may contain “sufficient context data to enable the context at the HA node to be restored.” *See id.* at 6:51–53. And “although the context data received in a response message may be slightly out of date or incomplete, there will generally be enough data to enable the protocol stack to be re-initialized after a switchover.” *Id.* at 6:63–67.

Following both examples, the specification indicates that “preferably any billing record generated as a result of stored context data should be flagged,” and “[a]lternatively, it may be preferable to flag the context data as being inaccurate, or at least potentially inaccurate, when adding the context data to the outgoing message.” *Id.* at 7:45–52. However, these suggestions offer insufficient guidance for ascertaining the scope of the term “potentially inaccurate or incomplete.” There is no apparent, meaningful distinction between, for example, inaccurate or incomplete, and context information that is **potentially** inaccurate or incomplete—and there is not any guidance for how to determine such potentiality. Plaintiffs contend “[a]ll that matters is that the user determined and added an indication that the context information is ‘potentially inaccurate or incomplete.’” Dkt. 110 at 6. Yet, the patent fails to sufficiently identify any objective standard for determining the meaning of term.

A patent that defines a claim phrase through examples may satisfy the definiteness requirement. *See Interval Licensing*, 766 F.3d at 1373; *see also Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1373 (Fed. Cir. 2010). However, this is not the case here. Despite the two examples given in the specification, a user cannot reasonably understand the scope of the claim because “where it is determined” is wholly subjective and context dependent, and what constitutes “potentially inaccurate or incomplete” context information remains uncertain. *See IQASR LLC v. Wendt Corp.*, 825 F. App’x 900, 906 (Fed. Cir. 2020) (describing “[o]pen-ended definition of categories that might or might not possess certain traits cannot provide reasonably certain bounds on the scope of ‘magnetic fuzz’”); *see also Interval Licensing*, 766 F.3d at 1372 (finding the

example provided in the written description was not accompanied by sufficient detail to render the claim scope reasonably certain). Given the absence of any demarcation between any degree of inaccuracy or incompleteness, a POSITA cannot make a confident decision as to what context information is “potentially inaccurate or incomplete.”

#### **D. Disputed Terms of the '264 Patent**

| <b>“high-speed interconnect coupling” / Claim 1</b> |                                            |
|-----------------------------------------------------|--------------------------------------------|
| <b>SAP’s Proposed Construction</b>                  | <b>Plaintiffs’ Proposed Construction</b>   |
| Indefinite                                          | Plain and ordinary meaning. Not indefinite |

This term is indefinite because there is no objective baseline for determining the scope of this term. *Liberty Ammunition, Inc. v. United States*, 835 F.3d 1388, 1395 (Fed. Cir. 2016) (“Terms of degree are problematic if their baseline is unclear to those of ordinary skill in the art.”). Indeed, “[w]hen a word of degree is used, the court must determine whether the patent provides some standard for measuring that degree.” *Nautilus*, 783 F.3d at 1378. However, the '264 Patent provides no such standard.

Starting with the claim language, “high-speed interconnect” merely connects “the plurality of cache memory blocks to the first and second cache controllers,” but there is no indication of what “high-speed” means. Dkt. 110-7, cl.1. Like claim 1, the specification also lacks any scope to determine “high-speed” merely describing a “high-speed interconnect” as a means by which to access cache memory blocks. *See id.* at Abstract, 3:21–24, 4:15–19. The prosecution history fares no better and merely restates the portions of claim 1 and the specification that contain “high-speed” with no clear scope. Ex. C at VAL-SAP00007102, VAL-SAP00007103, VAL-SAP00007106, VAL-SAP00007123, VAL-SAP00007124, VAL-SAP00007127, VAL-SAP00007146, VAL-SAP00007162, VAL-SAP00007164, VAL-SAP00007175, VAL-SAP00007195, VAL-SAP00007202.

Plaintiffs' sole attempt at delineating the objective bounds of "high-speed" is based on a contrived standard appearing nowhere in the patent or prosecution history. Plaintiffs state that "high-speed" is "relative to other parts of a computer system, like main memory, that operate slower than the cache memory block, citing various books and publications." Dkt. 110 at 28. But as explained above, neither the claims nor specification provides any indication that categorizing an interconnect as "high-speed" requires comparing the speeds of unspecified components within a given system. Their only support in the specification is that "[c]ache memory offers substantially faster access than main memory." *Id.* at 27 (quoting Dkt. 110-7 at 2:12–13). But that is merely a general statement regarding the speed of cache memory relative to main memory and provides nothing to determine whether an interconnect is "high-speed." *See* Dkt. 110-7 at Abstract, 3:21–24, 4:15–19, cl.1 (failing to disclose an objective standard of "high-speed" based on comparing speeds of computer system components to other components therein). Rather, Plaintiffs' reliance on this portion of the specification exacerbates the problem by defining one term of degree ("high speed") with another term of degree ("substantially faster"). *Id.*

Dr. Brogioli's "various books and publications" fare no better and merely support that cache memory is faster than main memory, not that the relative speeds of exemplary memories provide objective bounds for a POSITA to discern even some standard of high-speed for a given interconnect. *See* Dkt. 110-3 ¶¶ 165–67 ("Several references cited during prosecution of the '264 Patent recognize that access times for cache memory are faster than that of main memory.").

Even if this standard had been adequately provided in the '264 Patent, the purported baseline put forth by Dr. Brogioli is purely subjective and untenable. *Interval Licensing*, 766 F.3d at 1370–71 (observing that even identifying "some standard" is not enough to measure the scope of a phrase). During his deposition, Dr. Brogioli testified that "high speed" would vary based on the system at issue or the time period under consideration:

Q: Is it possible, then, what was considered high speed back then would not be considered high speed today?

A: I would say high speed either then or today would be in the context of the system you're talking about. For example, the high-speed interconnect being high speed relative to the rates that these caches need to be moving cache lines or cache blocks around in the system, versus something like a peripheral mouse that's, you know, sending a few hundred bytes a second or something like that. Even today there's computers that run – someone would say slowly compared to, you know, a multigigahertz laptop. But there's parts of that relatively slow system that operate at a really high speed, and other parts that operate at a relatively low speed for that system.

Ex. D at 62:27–68:17. And neither Plaintiffs nor Dr. Brogioli states the boundaries or context of the system components to compare. For example, in his declaration, Dr. Brogioli compared cache memory to main memory to exemplify that because cache memory is faster than main memory, the interconnect is “high speed.” Dkt. 110-3 ¶¶ 163–64. In his deposition, Dr. Brogioli compared “the rates that these caches need to be moving cache lines or cache blocks around in the system” to “a peripheral mouse,” as an exemplary baseline for determining “high speed.” Ex. D at 68:6–11. Even more broadly, Dr. Brogioli opined that today, computers (running slower than a multigigahertz laptop) contain “parts of that relatively slow system that operate at a really high speed, and other parts that operate at a relatively low speed for that system.” *Id.* at 68:12–17. By that logic, Plaintiffs’ standard renders any interconnect “high speed” based on an arbitrary component-to-component comparison of any system (untethered from what the interconnect connects). Indeed, Dr. Brogioli was asked whether “high speed” or “slow speed” would be relative to the pieces of hardware they are connected to, and in the context of the ’264 Patent, Dr. Brogioli stated that “high speed is relative to . . . contemporaneous speeds of CPUs, caches, et cetera within this type of system versus other parts of the system that don’t operate at nearly those speeds.” *Id.* at 68:18–69:3. Dr. Brogioli’s standard presents no objective baseline by which to determine which system-component speeds to compare regardless of whether they share the accused interconnect.

In other words, “high speed” is nothing more than a purely subjective term of degree that “depends on the unpredictable vagaries of any one person’s opinion.” *Intell. Ventures I LLC v. T-Mobile USA, Inc.*, 902 F.3d 1372, 1381 (Fed. Cir. 2018).

Moreover, a separate infringement determination must be made for each interconnect based on the system components being compared. The Federal Circuit previously rejected this approach in *Halliburton Energy Services, Inc. v. M-I LLC*, 514 F.3d 1244 (Fed. Cir. 2008). In *Halliburton*, the Federal Circuit denied a proposed construction for “fragile gel” when it found that “an artisan would not know from one well to the next whether a certain drilling fluid was within the scope of the claims because a wide variety of factors could affect adequacy . . . [A] given fluid might be adequate to suspend drill cuttings in some formations and/or well configurations, whereas in others it would not be.” *Id.* at 1254–55. As a result, the court concluded that such a construction would require “an artisan to make a separate infringement determination for every set of circumstances in which the composition may be used.” *Id.* at 1255. Here, by comparing speeds of a cache memory to main memory for a given interconnect, the interconnect would be deemed “high speed,” but simultaneously, that same interconnect could be not “high speed” by comparing cache memory to a faster system component, like a CPU or the registers therein. *See, e.g.*, Ex. D 68:12–17; Dkt. 110-3 ¶ 167. Likewise, in Figure 1 of the ’264 Patent, the embodying high-speed interconnect 120 would be both infringing and non-infringing depending upon the system components being compared. Dkt. 110-7, Fig. 1; *Halliburton*, 514 F.3d at 1255; *Geneva Pharma., Inc. v. GlaxoSmithKline PLC*, 349 F.3d 1373, 1384 (Fed. Cir. 2003) (concluding that “a given embodiment would simultaneously infringe and not infringe the claims, depending on the particular bacteria chosen for analysis . . . . That is the epitome of indefiniteness.”).

As detailed above for “highly reliable fault-tolerant storage media,” courts regularly find terms of degree, including those containing “high,” to be indefinite when no objective standard is

provided in the specification. *See, e.g.*, Dkt. 101-7 at 3:21–24, 4:15–19, 4:54–62 (disclosing both a high-speed interconnect and a regular interconnect without an objective baseline to differentiate each one); *J.R. Simplot Co.*, 713 F. Supp. 3d at 940, 943; *Bayer Intell.*, 2015 WL 1849015, at \*1; *Graphics Props.*, 2014 WL 4929340, at \*19; *Advanced Display*, 2012 WL 2872121, at \*12; *Panavision Imaging*, 2012 WL 12952006, at \*3–4; *Selex Commnc's*, 2013 WL 1412334, at \*14. Accordingly, “high speed” is similarly indefinite because a POSITA cannot distinguish “high-speed interconnect” from “interconnect” where there is no standard provided in the claim language or specification.

#### **E. Disputed Terms of the '409 Patent**

“Coherency control module,” “request module,” and “static RAM interface module” are indefinite under 35 U.S.C. § 112(6) because each term fails to provide sufficient definite structure **and** merely recites functional language divorced from any adequate structure.

As an initial matter, the Court must first determine whether a term is subject to § 112(6). A term is subject to § 112(6) when a claim limitation uses “means,” creating a rebuttable presumption that § 112(6) applies. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015). The absence of “means” in a term creates a rebuttable presumption that § 112(6) does not apply, but this presumption can be overcome if the challenger demonstrates that the claim term (1) “fails to recite sufficiently definite structure” or (2) “recites function without reciting sufficient structure for performing that function.” *Id.* Generic terms, such as “module,” are well-known nonce words that can operate as a substitute for “means” because “they typically do not connect sufficient definite structure and therefore may invoke § 112[(6)].” *Id.* at 1350.

When a term is subject to § 112(6), it must then be construed in a two-step process. *Id.* at 1351. The court must initially identify the claimed function and then “determine what structure, if any, disclosed in the specification corresponds to the claimed function.” *Id.* When the claim

limitation must be implemented in a special purpose computer, the specification must disclose an algorithm for performing the claimed function. *Id.* at 1352 (observing that the algorithm may be expressed as a mathematical formula, in prose, as a flow chart, or any other manner that provides sufficient structure). “If the patentee fails to disclose adequate corresponding structure, the claim is indefinite.” *Id.*

| “coherency control module” / Claims 1, 4 |                                            |
|------------------------------------------|--------------------------------------------|
| SAP’s Proposed Construction              | Plaintiffs’ Proposed Construction          |
| Indefinite.                              | Plain and ordinary meaning. Not indefinite |

“Coherency control module” is indefinite because it invokes 35 U.S.C. § 112(6), and the specification fails to disclose adequate corresponding structure. Claims 1 and 4 use “module” in a generic sense in the same way as *Rain Computing*, *Williamson*, and *Grecia*—“a generic description for software or hardware that performs a specified function.” *Williamson*, 792 F.3d at 1350; *id.* at 1351 (construing “user identification module” as a means-plus function term); *Rain Computing, Inc. v. Samsung Elecs. Am., Inc.*, 989 F.3d 1002, 1006 (Fed. Cir. 2021) (construing “user identification module” as same); *Grecia v. Samsung Elecs. Am., Inc.*, 780 F. App’x 912, 914–16 (Fed. Cir. 2019) (construing “customization module” as same).

Plaintiffs functionally define coherency control module with another nonce term—tag control (TCON) module—which also lacks adequate structure. Dkt. 110 at 22; *id.* (“Dr. Brogioli explains that the TCON module 40 . . . is an embodiment of the coherency control module **and operates to efficiently facilitate snooping of the buses.**”) (emphasis added); *see also id.* (“Figure 2 of the ’409 [P]atent shows the layout of the various components of the TCON module 40.”), *but see* Dkt. 110-1 at 5:25–26 (“There are **four main functional blocks** within the TCON module 40.”) (emphasis added). Plaintiffs argue in a conclusory manner that “Figure 3 shows the physical structures within the TCON module used for implementing cache control.” Dkt. 110 at 22. But at

most, Figure 3 depicts and describes that the supposed “coherency control module” (i.e., “TCON module”) is connected to various parts of the system and how it functions, which also fails to provide sufficient structure to “coherency control module.” *Media Rights Techs., Inc. v. Cap. One Fin. Corp.*, 800 F.3d 1366, 1372–73 (Fed. Cir. 2015) (holding that “copyright compliance mechanism’s” connection to other parts of the system, functional description, and potential functional components were insufficient to provide the requisite structure). The Court should not credit Plaintiffs’ perfunctory argument.

The prefix “coherency control” similarly provides no structure. “Coherency control” may refer to the module’s intended functionality, but even that is unclear from the claim language. *Grecia*, 780 F. App’x at 915 (“Nor does the prefix ‘customization’ impart structure, because it at best describes the module’s intended functionality.”). Indeed, “coherency control module” is not even mentioned in the specification. *Rain Computing*, 989 F.3d at 1005 (“Here, the specification does not impart any structural significance to the term; in fact, it does not even mention a ‘user identification module.’”). At best, “coherency control module” is defined by its own “control” function in claim 10, but that is purely functional language divorced from any structure. *See* Dkt. 110-1, cl.10 (“A coherency control module configured to control access to cache memory in a computer system.”); *but see Grecia*, 780 F. App’x at 915 (concluding that the customization module’s self-reference to its own customization function is “purely functional and fail[s] to describe any structure”). And even Plaintiffs’ expert attempts to functionally define “coherency control module”—“the coherency control module is directed to maintaining cache coherency in a computing system.” Dkt. 110-3 ¶ 90. Accordingly, “coherency control module” invokes § 112(6).

Plaintiffs next attempt to backfill coherency control module’s lack of structure through extrinsic evidence. But Dr. Brogioli relies on structures not disclosed in the ’409 Patent, which Plaintiffs refer to as “cache coherency mechanisms.” But reliance on yet another nonce word does

not define sufficient structure. *Williamson*, 792 F.3d at 1350 (“Generic terms such as ‘**mechanism**,’ ‘element,’ ‘device,’ and other nonce words that reflect nothing more than verbal constructs may be used in a claim in a manner that is tantamount to using the word ‘means’ because they ‘typically do not connote sufficiently definite structure’ and therefore may invoke § 112, para. 6.”) (emphasis added). A POSITA’s testimony “cannot supplant the total absence of structure from the specification,” and Plaintiffs should not be permitted to do so with Dr. Brogioli. *Id.* at 1354.

Their caselaw is also inapplicable. Plaintiffs claim that the absence of “means” indicates that it is not a “mean-plus-function term,”<sup>2</sup> Dkt. 110 at 23, but “merely because an element does not include the word ‘means’ does not automatically prevent that element from being construed as a means-plus-function element,” *Williamson*, 972 F.3d at 1348 (citation omitted). Plaintiffs’ remaining cases are also inapposite because for each module term, the specification provided sufficient corresponding structure in those cases, unlike “coherency control module” that is not even mentioned in the specification. *IPCom GmbH & Co. KG v. AT&T Corp.*, 2021 WL 4191407, at \*24–25 (E.D. Tex. Sept. 15, 2021); *SAS Inst. Inc. v. World Programming Ltd.*, 2020 WL 569856, at \*15–16 (E.D. Tex. Feb. 5, 2020); *Microchip Tech. Inc. v. Nuvoton Tech. Corp. Am.*, 2020 WL 978636, at \*8–12 (N.D. Cal. Feb. 28, 2020).

As a means-plus-function term, the claimed function of “coherency control module” must be identified first. *Williamson*, 792 F.3d at 1351. In a footnote, Plaintiffs assert that the function of “coherency control module” is defined as “maintaining coherency in cache memory,” but the function is untethered from any claim language. Dkt. 110 at 23; *Grecia*, 780 F. App’x at 915 (“A disclosed structure is a ‘corresponding structure’ only if the specification or prosecution history clearly links or associates that structure **to the function recited in the claim.**”) (emphasis added);

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<sup>2</sup> Plaintiffs repeat this argument for the other MPF terms: “request module” and “static RAM interface module.” Dkt. 110 at 24, 25.

*Rain Computing*, 989 F.3d at 1007. Instead, the only function disclosed is the one recited in claim 10—i.e., “to control access to cache memory in a computer system.” Dkt. 110-1, cl.10.

Having identified the claimed functionality, Plaintiffs must disclose adequate corresponding structure, but having failed to identify the proper function, they have not satisfied their burden. *Williamson*, 792 F.3d at 1352 (“If the patentee fails to disclose adequate corresponding structure, the claim is indefinite.”). The specification fails to adequately disclose the “control access” function, corresponding to “coherency control module.” “Control” is used only in the name of “tag control module,” without even describing control in functional terms. Dkt. 110-1 at 5:13–16. “Access” is referred to in different contexts unrelated to “coherency control module.” *Id.* at 2:20–24, 2:36–44, 2:46–50, 2:64–66, 3:12–16, 4:53–55, 5:21–24, 5:32–36, 6:6–7, 6:10–12, 8:32–37, 11:15–17, 12:35–39. Plaintiffs may refer to “access” as it pertains to “request module 42” and “ASQ 44,” but they would be attributing the function of other functional components to “coherency control module,” which does not appear in the specification.<sup>3</sup> *Id.* at 5:32–36 (“The request module 42 insures memory coherency through proper cycle order, arbitrates access to the memory among the processor and I/O buses 14a, 14B, and 27, and optimally utilizes the tag look up bandwidth.”), 6:10–12 (“The ASQ 44 only permits one access per cache line index at a time to maintain proper cycle order and cache state information.”). Accordingly, the structure is not clearly linked to the claimed function. *Williamson*, 792 F.3d at 1352. Because the specification fails to disclose an algorithm for the claimed function, “coherency control module” is indefinite. *See Rain Computing*, 989 F.3d at 1008 (“Nothing in the claim language or the written

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<sup>3</sup> Even if the claimed function were “maintaining coherency in cache memory” (Dkt. 110 at 23 n.6), that is a recited function of the “request module,” not “coherency control module.” Dkt. 110-1 at 5:32–36 (“The request module 42 insures memory coherency through proper cycle order, arbitrates access to the memory among the processor and I/O buses 14a, 14B, and 27, and optimally utilizes the tag look up bandwidth.”).

description provides an algorithm to achieve the ‘control access’ function of the ‘user identification module.’”).

| “request module” / Claims 1, 7 |                                            |
|--------------------------------|--------------------------------------------|
| SAP’s Proposed Construction    | Plaintiffs’ Proposed Construction          |
| Indefinite                     | Plain and ordinary meaning. Not indefinite |

Like “coherency control module,” “request module” invokes 35 U.S.C. § 112(6) and fails to disclose adequate corresponding structure. As used in “request module,” “module” “sets forth for the same black box recitations of structure . . . as if ‘means’ had be[en] used.” *Grecia*, 780 F. App’x at 915. And here, “request” similarly conveys no structure because it appears to describe its purported functionality. *Id.* (“Nor does the prefix ‘customization’ impart structure, because it at best describes the module’s intended functionality.”). Tellingly, both the claims and Plaintiffs define “request module” by self-reference to its “request” function. *Id.*; Dkt. 110-1, cls. 1, 2, 10 (“a request module configured **to receive requests**”) (emphasis added); Dkt. 110 at 24 n.7 (“function of receiving requests to access cache memory”). And Plaintiffs agree with the express language of the specification that “request module” is merely a “functional block.” Dkt. 110-1 at 5:25–26 (“There are four main functional blocks within the TCON module 40. The first block is the request module 42.”); Dkt. 110 at 24. Plaintiffs repeatedly incorporate Dr. Brogioli’s testimony about extrinsic evidence by reference, without explanation, but a POSITA’s testimony “cannot supplant the total absence of structure from the specification.” *Williamson*, 792 F.3d at 1354. Therefore, “request module” is a means-plus-function term. 35 U.S.C. § 112(6).

Plaintiffs also assert that “request module” has a number of components that are known physical structures—arbiters/multiplexors, connections to memory 26, and buffers—(Dkt. 110 at 24), but connections to other parts of the system, describing the “request module’s” function,

and potential functional components (“arbiters/multiplexors” and “buffers”) are insufficient to provide specific structure and avoid the application of § 112(6). *Media Rights*, 800 F.3d at 1372.

As a means-plus-function term, Plaintiffs contend that the claimed function of “request module” is “receiving requests to access cache memory,” but this is divorced from the claim language. *Grecia*, 780 F. App’x at 915; *Rain Computing*, 989 F.3d at 1007. Claims 1 and 10 provide that “request module” has two functions: (1) “to receive requests from the first processor bus and the second processor bus” and (2) “to maintain proper ordering of the requests from each processor bus.” Dkt. 110-1, cls.1, 10. “Where there are multiple claimed functions . . . the patentee must disclose adequate corresponding structure to perform all of the claimed functions.” *Williamson*, 792 F.3d at 1351. But Plaintiffs’ failure to disclose adequate corresponding structure renders “request module” indefinite. *Id.* at 1352. Indeed, Plaintiffs cite to the same portions of the specification to avoid the application of § 112(6), now claiming that those same portions provide the sufficient corresponding structure without *any* analysis. *See* Dkt. 110 at 24 n.7. Because Plaintiffs “fail[] to disclose adequate corresponding, [request module] is indefinite.” *Williamson*, 792 F.3d at 1352.

| <b>“static RAM interface module” / Claims 1, 7, 9</b> |                                            |
|-------------------------------------------------------|--------------------------------------------|
| <b>SAP’s Proposed Construction</b>                    | <b>Plaintiffs’ Proposed Construction</b>   |
| Indefinite                                            | Plain and ordinary meaning. Not indefinite |

“Static RAM interface module” is also governed by § 112(6). “Module,” as used herein, is a well-known nonce term, lacking adequate structure. *Rain Computing*, 989 F.3d. at 1006; *Williamson*, 972 F.3d at 1351; *Grecia*, 780 F. App’x at 914–16. In looking to the entire term, “static RAM interface module” appears nowhere in the specification. *Rain Computing*, 989 F.3d at 1005 (“Here, the specification does not impart any structural significance to the term; in fact, it does not even mention a ‘user identification module.’”). Plaintiffs assert that “tag RAM interface

module 46” is an embodiment of the “static RAM interface module” without support, but this merely defines “static RAM interface module” with another structureless nonce term. Dkt. 110 at 25. Tag RAM interface module 46 similarly lacks adequate structure as it is denoted as “a functional block.” Dkt. 110-1 at 5:25–26, Fig. 2.

Plaintiffs emphasize “interface” in isolation as the requisite structure that facilitates interactions between “two or more components” or “between the microprocessor and an external device.” Dkt. 110 at 25. But in reading “interface” in the proper context, the claims specify that “static RAM interface module” is “configured to access an address look-up table corresponding to the data stored in the static portion of the RAM,” an accessing function that is untethered from Plaintiffs’ proposed definition of “interface.” Dkt. 110-1, cls.1, 10. In fact, Plaintiffs do not explain how “interface” provides sufficient structure for performing the claimed function. *Williamson*, 792 F.3d at 1348. Plaintiffs also rely on “tag RAM interface module’s” connections to other portions of the system (Dkt. 110 at 25), but connections from, and functions of **other** components fail to adequately recite the structure of “static RAM interface module” to avoid application of § 112(6). *Media Rights*, 800 F.3d at 1372–73. Like the other module terms (coherency control module and request module), Dr. Brogioli’s reliance on extrinsic evidence is unavailing since his opinion cannot replace the lack of structure omitted from the specification. *Williamson*, 792 F.3d at 1354. And his inability to identify any particular structure that exists in the art makes it clear that “static RAM interface module” (1) is a means-plus-function term and (2) is indefinite. For instance, Dr. Brogioli opines that “static RAM interface module” is “the **structural component** in a multiprocessor that contains the circuitry and logic that accesses static RAM,” but the supposed structure is some amorphous, undefined “structural component” (like, “module”) within a multiprocessor that performs the claimed function. Dkt. 110-3 ¶ 116 (emphasis added). Accordingly, “static RAM interface module” is a means-plus-function term.

Plaintiffs' supposed function of "static RAM interface module" is "accessing static RAM," (Dkt. 110 at 26 n.8), but the **claimed** function is "access an address look-up table corresponding to data stored in the static portion of the RAM." Dkt. 110-1, cls.1, 10; *Rain Computing*, 989 F.3d at 1007 ("The first step in construing a means-plus-function claim is **to identify the claimed function.**") (emphasis added). Having identified the claimed function, Plaintiffs must disclose an algorithm of adequate corresponding structure, *Williamson*, 792 F.3d at 1351-52, but the extent of their analysis, directed to some other function, is merely a sentence, tucked away in a footnote (Dkt. 110 at 26 n.8). Nevertheless, their cited portions of the specification are functionally based descriptions of tag RAM interface module without any structure. *See, e.g.*, Dkt. 110-1 at 6:8–10 ("In general the ASQ 44 includes buffers to maintain a list of current cycles that are **being processed** through the tag RAM interface module 46."), 6:25–26 ("The tag RAM interface module 46 **provides** the interface with the tag RAM 29."), 6:30–32 ("The tag RAM interface module 46 is **optimized to make efficient use of** the bandwidth in the SRAM (i.e., cache memory)."), 6:35–38 ("The tag RAM interface module 46 also **reduces** the number of READs to the SRAM whenever possible by **interpreting** the cache data based on the cycle characteristics."), 6:46–48 ("When one of these cycles occur, the tag RAM interface module 46 may **switch** from a READ mode to a WRITE mode."), 6:48–51 ("The tag RAM interface module 46 also **minimizes** the amount of WRITES to the SRAM whenever the processor performs a WRITE to an unallocated address."), 6:54–57 ("Finally, the tag RAM interface module 46 has programmable state transition values that **can be tuned to optimize performance** based on testing.") (emphases added), *see also* 10:20–11:8. Moreover, even if there were some structure in the specification, it would be untethered to the claimed function of "static RAM interface module," as the only reference to a "look-up table" is that it is provided by "tag RAM 29" without stating **how** the "tag RAM interface module" accesses it. *Rain Computing*, 989 F.3d at 1008 ("Nothing in the claim language or the

written description provides an algorithm to achieve the ‘control access’ function of the ‘user identification module.’”). And Dr. Brogioli does not identify any particular structure performing the function of the “static RAM interface module” anywhere in his declaration. Dkt. 110-3 ¶¶ 131–53.

Without adequate structure clearly linked to the claimed function of “static RAM interface module,” this term is indefinite.

#### **F. Expert Testimony Is No Substitute for the Intrinsic Record**

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005). In determining the meaning of a given claim, it must be read in the context of the intrinsic record—i.e., the written description and prosecution history. *Id.* at 1313–14. Extrinsic evidence, including expert testimony, can provide helpful context for a claim, but it is “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’” *Id.* at 1317 (citation omitted). But courts have repeatedly held that “conclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court,” and such testimony should be discounted when it is at odds with the intrinsic record. *Id.* at 1318; *Raytheon Co. v. Cray, Inc.*, 2017 WL 3034662, at \*5 (E.D. Tex. July 18, 2017) (same); *NNPT LLC v. Huawei Inv. & Holding Co.*, 2015 WL 4911846, at \*10 (E.D. Tex. Aug. 17, 2015) (same); *Rockwell Automation, Inc. v. 3-S Smart Software Sols.*, 2016 WL 5811485, at \*6 (E.D. Tex. Oct. 5, 2016) (same).

Instead, Plaintiffs improperly elevate their experts’ testimony over the intrinsic record to salvage claims that are indefinite and lack adequate structure. Dkt. 110 at 2–3. The fundamental principle of claim construction prescribes that the intrinsic evidence controls, which SAP relies on to demonstrate the errors in Plaintiffs’ position. *Phillips*, 415 F.3d at 1318. When the intrinsic

record fails to provide the necessary support, no amount of expert testimony can rewrite the patent to supply what is missing. But Plaintiffs overemphasize their experts' testimony contrary to the claim language, specification, and prosecution history. *Id.* (“[E]xtrinsic evidence consisting of expert reports and testimony is generated at the time of and for the purpose of litigation and thus can suffer from bias that is not present in intrinsic evidence.”). The Court should reject Plaintiffs' approach and reiterate that unsupported expert testimony cannot supply what the intrinsic record lacks.

### **III. CONCLUSION**

Based on the foregoing, SAP requests that the Court adopt its proposed constructions.

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Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I hereby certify that a copy of the foregoing document was filed electronically in compliance with Local Rule CV-5(a). Therefore, this document was served on all counsel who are deemed to have consented to electronic service on February 14, 2025. Local Rule CV-5(a)(3)(A). Pursuant to Fed. R. Civ. P. 5(d) and Local Rule CV-5(d) and (e), all other counsel of record not deemed to have consented to electronic service were served with a true and correct copy of the foregoing by email.

/s/ Thomas M. Melsheimer

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