

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MICROSOFT CORPORATION,

Petitioner,

v.

STERLING COMPUTERS CORPORATION

Patent Owner.

Case IPR2025-00270

U.S. Patent No. 8,073,911

PATENT OWNER'S RESPONSE

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EXHIBIT LIST

Patent Owner's Exhibit No.	Exhibit Description
2001	Declaration of Britta Loftus, Feb. 7, 2025
2002	Declaration of Latifur Khan, June 24, 2025
2003	Curriculum vitae of Latifur Khan
2004	Ramez Elmasri & Shamkant B. Navathe, FUNDAMENTALS OF DATABASE SYSTEMS, 195-201 (Chapter 7) & 941-949 (Appendix D) (3d ed. 2000)
2005	Declaration of Latifur Khan, December 16, 2025
2006	Oehlberg, T. (July 1998), <i>Informal PC-based Databases</i> , PM NETWORK, 12(8), 35-38.
2007	U.S. Patent No. 5,452,450 ("Delory")
2008	U.S. Patent Application No. 09/881,353 ("Mohit")
2009	U.S. Patent No. 7,542,979 ("Gupta")
2010	U.S. Patent Application No. 10/789,461 ("461 Application")
2011	Ramez Elmasri & Shamkant B. Navathe, FUNDAMENTALS OF DATABASE SYSTEMS, 195-241 (Chapter 7) (3d ed. 2000)

I. INTRODUCTION

Sterling Computers Corporation (“Patent Owner”) submits this Response to the Petition of Microsoft Corporation (“Petitioner”) seeking *inter partes* review (“IPR”) of U.S. Patent No. 8,073,911 (“the ‘911 Patent”). For the reasons set forth herein, Petitioner has not met its burden of proving that any of the claims challenged in the Petition are invalid.

The ‘911 Patent sets out to solve problems created by e-mail “strings” (also known as “threads” or “chains”) – i.e., a set of related messages. One problem with e-mail strings is the replication of messages. In particular, when a user writes a message, as a result of subsequent replies and forwards, the original message may go on to be included in many other e-mails during its lifetime. The ‘911 Patent refers to each of these message components – i.e., the original message and subsequent replies and forwards – as “*submessages*.”¹ The ‘911 Patent explains that this replication of *submessages* is problematic, both because the replication results in storage issues (unnecessarily storing multiple copies of the same *submessage*), but also in terms of enforcing policies necessitated by regulations (because the content cannot be tracked or logged given all of the separate instances of each *submessage* in the mail system).

¹ Italics indicate claim language.

The '911 Patent solves these problems created by the replication of *submessages* by solutions that include (1) using a message container (2) containing relational references to the *submessages* and (3) storing the *submessages* as discrete message components within a database; and (4) storing each *submessage* only once. By breaking e-mail strings down into *submessages* and using *relational references*, the inventions in the '911 Patent also solve the related problem – i.e., enforcing policies when each *submessage* has so many separate instances in the mail system. In the '911 Patent, rules from the compliance policy can be applied at the submessage level and different rules can apply to different submessages.

Petitioner argues that the solutions in the '911 Patent would have been obvious to a skilled artisan based upon the combination of Rohall and Schiavone (Ground 1) or the combination of Rohall, Schiavone, and Gomes (Ground 2). **None** of Petitioner's combinations, however, disclose every limitation of the '911 Patent claims and, therefore, Petitioner has failed to establish a *prima facie* case of obviousness.

For all but two of the claims (9 and 27), Petitioner relies upon the combination of Rohall and Schiavone. Neither Rohall nor Schiavone address the problem solved by the '911 Patent: the replication of submessages through repeated replies and forwards. Rohall addresses the **opposite** problem: in the systems discussed in Rohall, submessages were **not** replicated and, as a result, parts of the e-mail string

would be “missing,” resulting in confusion on the part of users receiving one part (but not all) of the e-mail string. Schiavone does not address submessages at all.

Because neither Rohall nor Schiavone seek to address this problem of replicating submessages, it is not surprising that neither Rohall nor Schiavone disclose the solutions of the ‘911 Patent. Numerous limitations are missing from Petitioner’s proposed combinations.

First, neither reference discloses using “*relational references*” to link together *submessages* in an e-mail string. Every claim in the ‘911 patent requires “*a message container containing relational references pointing to a plurality of sent submessages.*” As discussed herein, a skilled artisan would have understood that “*relational references*” in the ‘911 Patent refer to linking *submessages* **using a relational model**. Schiavone does not discuss linking e-mail messages (or portions of e-mail messages) at all. And, Rohall uses a different model for linking messages: a hierarchical model. Because neither Rohall nor Schiavone teaches, discloses, or suggests using “*relational references*” to link *submessages*, the Rohall-Schiavone combination does not render obvious any claim.

Second, neither Rohall nor Schiavone disclose a system in which rules from a compliance policy are applied **at the submessage level**. This is a requirement of every claim. See EX1001, Claims 1, 10 & 27 (“*different rules of the compliance policy are applicable to different ones of the plurality of sent submessage*”); *id.*

Claim 13 (“*selectively applying rules of the compliance policy to the sent submessages*”). Rohall does not describe applying any rules to e-mails, let alone applying rules at the *submessage* level. And, Schiavone does not discuss applying rules at the *submessage* level. Therefore, any Rohall-Schiavone combination would not render obvious this limitation, which is required of every claim. Moreover, it would not be obvious to add this feature to any Rohall-Schiavone combination, because Rohall discourages, or teaches away from, acting upon submessages “individually” because it is “time consuming” and results in message items being “disconnected, resulting in increase[d] confusion.” EX1005, [0008].

Third, neither Rohall nor Schiavone disclose a system in which different rules from a compliance policy apply to different submessages. This is an explicit requirement of three out of the four independent claims. *See* EX1001, Claims 1, 10 & 27 (“*different rules of the compliance policy are applicable to different ones of the plurality of sent submessage*”). Rohall does not describe applying any rules to e-mails, let alone applying different rules to different submessages, and Schiavone does not discuss applying rules at the *submessage* level. Moreover, for the same reason discussed above, a skilled artisan, looking at the Rohall and Schiavone references, would not be motivated to add this feature to the asserted combination.

Fourth, there are numerous reasons a skilled artisan would **not** combine the Rohall and Schiavone references to make the inventions set forth in the claims of the

'911 Patent. For example, a skilled artisan would not look to Rohall at all to solve the problems because Rohall deals with the opposite problem. Moreover, a skilled artisan would not expect to succeed in both combining the references and adding the missing features. Neither Rohall nor Schiavone suggests doing what the inventors in the '911 Patent did – i.e., creating a system that **both** breaks down e-mail threads into submessages that are linked using “*relational references*” and stored only once **and also** allows for application of rules at the submessage level. This suggestion, or knowledge, could be gleaned only from the '911 Patent claims themselves; it was not knowledge that was within the level of ordinary skill at the time the claimed invention was made. It is apparent that Petitioner has improperly used the claims as a roadmap in putting together its obviousness combinations.

Finally, with respect to Petitioner's second Ground – i.e., the combination of Rohall, Schiavone, and Gomes – Petitioner's combination does not render obvious Claim 9 or 27. In addition to the limitations that, as discussed above, are missing from all claims (including Claims 9 & 27), Gomes also does not disclose the additional limitations required by these claims.

For all of these reasons, Petitioner has failed to establish a *prima facie* case of obviousness.

II. BACKGROUND

A. Background on the '911 Patent

The '911 Patent is entitled "Enforcing compliance policies in a messaging system." EX1001; *see also* EX2005, ¶¶36-46 (discussing '911 Patent). The provisional patent applications that led to the issuance of the '911 Patent were filed on May 12, 2004. *Id.*

One of the problems addressed in the '911 Patent is that, in email messaging systems at the time of the invention, e-mail messages were just "simple text strings." *Id.*, 1:39-40. As a result, "[w]hen a user writes a message, it is formed into the first e-mail, but may then go on to be included in many other e-mails during its lifetime." *Id.*, 1:40-42. "This results in many copies of the same, user-authored message in different, unrelated mail 'snapshots.'" *Id.*, 1:42-44. As a result, the system often stores several redundant copies of the same message, leading to inefficient use of storage resources. *Id.*, 1:44-45.

This problem of storing several redundant copies of the same message also means that it is not possible to track or log all of the separate instances of a message in the mail system. As a result, it is nearly impossible to "enforc[e] a retention policy, access rights, security, or any other property onto messages." EX1001, 1:45-49. As a result, "the enterprise will have difficulty attempting to

achieve compliance with internal or government-mandated regulations relating to business records.” *Id.*, 1:52-55.

Solutions that came before failed to solve these problems. *Id.*, 1:36-38.

To solve these problems, the ‘911 Patent treats an email thread between two or more participants as a **message container**. *Id.*, 1:65-2:2. This container contains relational references one or more **submessages**, each stored as a discrete component in a message database. *Id.*, 1:65-2:4.

In addition, in the ‘911 Patent, the messaging server includes a governance policy module having a governance policy database that stores one or more compliance policies. EX1001, 2:5-7. A compliance policy describes the set of rules that apply to message components during their lifecycles in the messaging system. *Id.*, 2:7-9. Each message component in the messaging system is associated with the compliance policy that was active at the time it was created. *Id.*, 2:11-12. Accordingly, when an action occurs that involves a message component, the messaging system identifies the relevant compliance policy in the governance policy database and applies any rules that are applicable. *Id.*, 2:14-19.

In the ‘911 Patent, the message container itself does not contain the original message content; instead, it points to sub-messages stored elsewhere in the database. EX1001, 3:6-8 & 4:62-64. In addition, the container can point to other

information about the message, such as audit, security, and governance policy information. *Id.*, 4:64-66.

B. Background on Linking Mechanisms: Hierarchical Models and Relational Models.

The association between a message container and its sub-messages can be implemented using various approaches, including **hierarchical models** (e.g., tree or graph structures) or **relational models**. EX2005, ¶¶24-28 (citing EX2004²).

Hierarchical data models were widely used in the early development of database management systems. EX2005, ¶25. In this model, data is structured in a tree-like format, with a single root node representing the top-level entity. *Id.* Each node (or entity) can have multiple child nodes, forming a hierarchical structure. *Id.* Every entity, except the root, has one parent and may have multiple children. *Id.* This inherently supports one-to-many relationships—i.e., each parent can have several children, but each child has only one parent. *Id.* An example of a hierarchical model is described & depicted below:

² The highlighting contained in EX2004 was not added by Patent Owner or its expert; it was in the book when they acquired it. The highlighting, therefore, has no significance and should be ignored.

A *tree-structure diagram* is the schema for a hierarchical database. Such a diagram consists of two basic components:

1. *Boxes*, which correspond to record types
2. *Lines*, which correspond to links

A tree-structure diagram serves the same purpose as an entity–relationship (E-R) diagram; namely, it specifies the overall logical structure of the database. A tree-structure diagram is similar to a data-structure diagram in the network model. The main difference is that, in the latter, record types are organized in the form of an arbitrary graph, whereas in the former, record types are organized in the form of a *rooted tree*.

We have to be more precise about what a *rooted tree* is. First, there can be no cycles in the underlying graph. Second, there is a record type that is designated as the root of the tree. The relationships formed in the tree-structure diagram must be such that only one-to-many or one-to-one relationships exist between a parent and a child. The general form of a tree-structure diagram appears in Figure E.2. Note that the arrows are pointing from children to parents. A parent *may* have an arrow pointing to a child, but a child *must* have an arrow pointing to its parent.

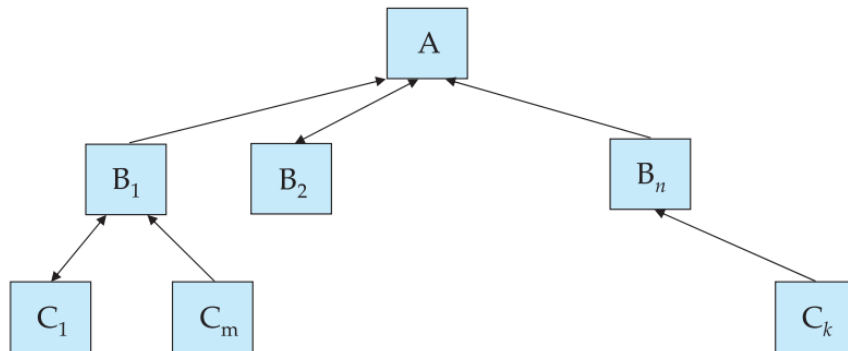


Figure E.2 General structure of a tree-structure diagram.

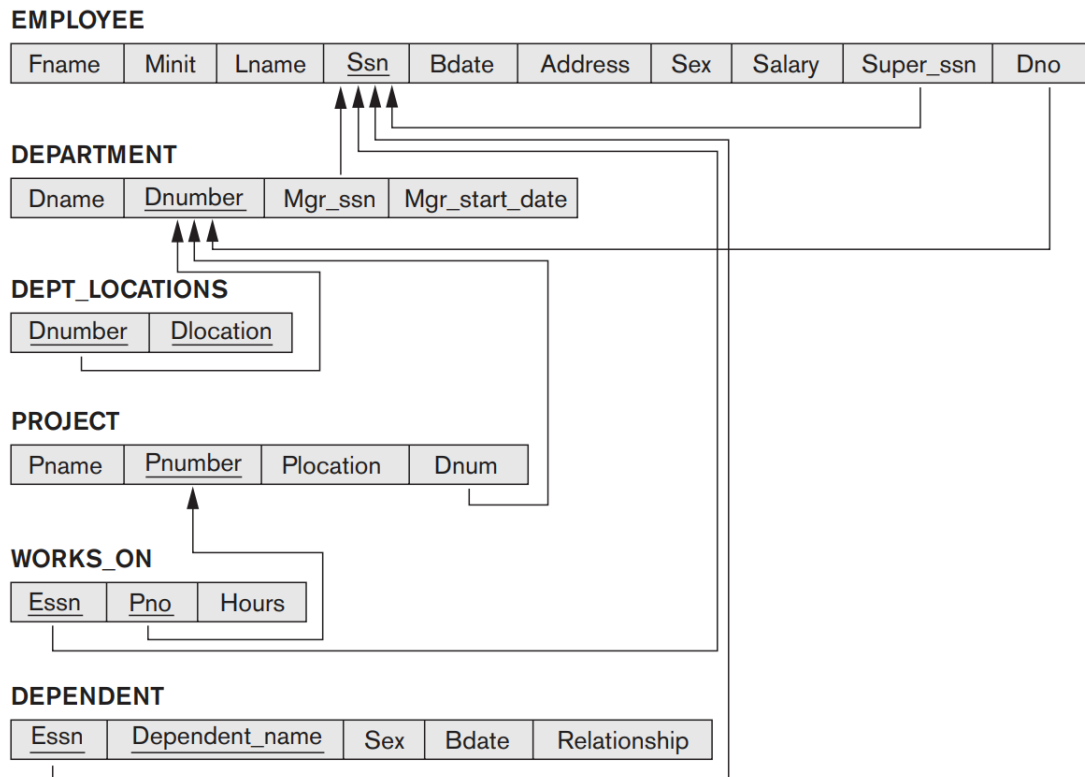
Id. ¶ 25 (citing <https://www.db-book.com/db6/appendices-dir/e.pdf>, at Fig. E.2).

The relational data model, introduced by Edgar Codd in 1970, transformed the design and implementation of databases and continues to serve as the foundation for modern relational database management systems (RDBMS). *Id.* ¶

26. The relational model structures data in tables (also called relations) composed of rows and columns. *Id.* An example is set forth below:

Figure 5.7

Referential integrity constraints displayed on the COMPANY relational database schema.



Id. (citing <https://www.auhd.edu.ye/upfiles/elibrary/Azal2020-01-22-12-28-11-76901.pdf>, at Figure 5.7). In the relational model, relationships between tables and records are maintained through relational references, which help preserve data integrity and reduce the risk of human error during updates by ensuring a single source of truth. EX2005, ¶26. These references—commonly known as foreign keys—link records by pointing to the primary key of a related record in another table. *Id.* (citing EX2004).

The **relational model** deals solely with **logical** data relationships rather than **physical** structures. EX2005, ¶27. Because the relational model provides an abstract representation of data through tables and logical relationships, it effectively hides the complexities of physical data storage and access from users and applications. *Id.* This abstraction promotes greater flexibility, easier maintenance, and a high degree of data independence within database management systems. *Id.* (citing **EX2004**).

In contrast, **hierarchical data models**, such as trees, represent one-to-many relationships well but struggle with many-to-many scenarios. EX2005, ¶28. Since the hierarchical model enforces a strict parent-child structure, it is less suited for representing complex relationships such as many-to-many or cyclical associations. *Id.* To model many-to-many relationships, the hierarchical model often requires redundant data or the introduction of artificial nodes to simulate these connections, which can result in inefficiencies and potential data inconsistencies. *Id.* These models typically rely on physical pointers to link records, making them less flexible in complex referencing situations. *Id.* Due to their rigid structure, hierarchical models often involve data duplication. *Id.* In contrast, relational databases reduce redundancy through normalization techniques. *Id.* Furthermore, hierarchical databases rely on predefined, fixed relationships, whereas relational databases offer greater flexibility by allowing dynamic changes to relationships,

making them more scalable and adaptable to evolving requirements. *Id.* (citing **EX2004**).

C. The '461 Application (Incorporated by Reference into the '911 Patent).

The '911 Patent incorporates by reference the '461 Application. EX1001, 2:57-60. The '911 Patent states that its messaging system “uses a relational model,” “[a]s described in that application” – i.e., the '461 Application. *Id.* 2:60-62; *see also* EX2005, ¶¶48-53 (discussing '461 Application).

The '461 Application uses the relational model. EX2010, at Abstract (“A messaging system **uses a relational model** to represent messages exchanged among end-users of the system.” (emphasis added)); *id.* [0010] (“Summary of the Invention”) (same); *id.* [0003] (“Field of the Invention. This invention pertains in general to electronic messaging systems and in particular to a system **using a relational model** to store messages.” (emphasis added)). The term “relational” appears 34 times throughout the Application. EX2010.

The '461 Application discusses using relational databases and organizing data as sets of tables. EX2010, [0021] (“the database module 114 **includes a relational database** and the data are organized as **sets of tables** from which data can be accessed or reassembled in many different ways without having to reorganize the tables” (emphasis added)). The '461 Application discusses using keys (i.e., the

primary and foreign keys used in the relational model). EX2010, [0053] (referring to “key length”); *id.* [0023] (same).

D. Linking Mechanism in ‘911 Patent: A Relational Model.

As discussed above, the association between a message container and its sub-messages can be implemented using various approaches, including hierarchical (e.g., tree or graph structures) or **relational models**. *Supra* at 8-12 & EX2005, ¶¶24-28. The ‘911 Patent adopts the **relational approach**, where message containers and sub-messages are linked via shared keys or identifiers (e.g., foreign keys and primary keys). EX1001, 1:65-2:2 (“relational references”); 2:60-62 (“uses a relational model”); EX2005, ¶¶36-47 & 103-124.

As discussed above, the relational model deals solely with logical data relationships rather than physical structures. *Supra* at 9-11 & EX2005, ¶¶24-28. In the context of the ‘911 Patent, each submessage is stored as a **single, unique copy**, and redundancy is avoided by linking containers to sub-messages using identifiers. EX1001, 5:54-63; EX2005, ¶47. The relational model effectively supports both **one-to-many** and **many-to-many** relationships through foreign keys and join operations. EX2005, ¶47 (citing **EX2004**). For instance, a message container can be linked to multiple submessages, and conversely, a submessage can be referenced by multiple message containers. **EX1001**, 1:67-2:2, 1:42-45; EX2005, ¶47.

Because the '911 Patent incorporates the '461 Application by reference, a skilled artisan would understand that the '911 Patent's discussions of database modules refer to using relational databases in a relational model. *E.g.*, EX1001, 5:48-50 ("These modules respectively contain a message database **416**, an audit information database **418**, a security database **420**, and a governance policy database **424**."); *see also id.* 2:4; *id.* 2:6; *id.* 8:9; *id.* 2:16; *id.* at 4:21; *id.* 3:60-4:4; *id.* 5:51-8:51; *id.* 14:66-67; *id.* 15:9-10.

E. '911 Patent Claims.

The Petition challenges each of the '911 Patent's independent claims. Claim 1 is exemplary, and it claims "[a] computerized messaging server in an electronic messaging server" with the following required limitations (among others): "*a message database storing messages,*" "*a message container containing relational references pointing to a plurality of sent submessages stored externally to the message container in the message database,*" "*a governance policy database storing a compliance policy describing rules applicable to the sent submessages,*" and "*different rules of the compliance policy are applicable to different ones of the plurality of sent submessages.*" EX1001, Claim 1.

Independent Claim 10 shares many limitations with Independent Claim 1 but claims a "*computer program product.*" *See* EX1001, Claim 10. Independent Claim 13 also shares many limitations with independent Claim 1 but claims a "*computer-*

implemented method.” See EX1001, Claim 13. Independent Claim 27 also shares many limitations with independent Claim 1 but claims a “*computerized messaging server*” and has additional required limitations, including:

- “each of the sent submessages is stored exactly once within the email database” and
- “upon receipt of a reply to a first email having a first email container containing a first sent submessage, the reply is added to the message container as an additional sent submessage but the first sent submessage is not duplicated within the email database.”

EX1001, Claim 27.

F. Petitioner's Grounds

Petitioner challenges Claims 1-13, 15, 18, 20-21, and 27 of the ‘911 Patent (the “Challenged Claims”) pursuant to two grounds:

Ground	Challenged Claims	Asserted Prior Art	Statutory Grounds
1.	1-8, 10-13, 15, 18, and 20-21	Rohall & Schiavone	§ 103
2.	9 and 27	Rohall, Schiavone & Gomes	§ 103

III. PERSON OF ORDINARY SKILL

The Board adopted Petitioner's description of a person having ordinary skill in the art: that a person of ordinary skill in the art “in May 2004 would have had a

working knowledge of the telecommunications and networking art that is pertinent to the ['911 patent]. A POSITA would have had a bachelor's degree in electrical engineering, computer science, computer engineering, or an equivalent, and two years of relevant experience involving computer science fundamentals, including pointers, data structures, object-oriented programming, database principles, internet-based communication technologies and electronic mail systems that is pertinent to the ['911 patent]. Lack of professional experience can be remedied by additional education, and vice versa." Paper 12, at 9-10. Although Patent Owner's expert had proposed a different definition (EX2002, ¶14), the Board's definition does not affect their analysis (EX2005, ¶14), and Patent Owner and its expert adopt the Board's definition for purposes of this Response.

IV. CLAIM CONSTRUCTION

In this proceeding, the claim terms must be construed according to the standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–15 (Fed. Cir. 2005). Patent Owner contends that the claim terms carry their plain and ordinary meaning and has applied the plain and ordinary meaning of such terms to one of skill in the art in light of the patents' disclosure. EX2005, ¶ 20.

A. “Relational References” Should Be Construed to Mean References in a Relational Model.

A skilled artisan would understand that the plain and ordinary meaning of the claim term “*relational references*” is references in a relational model. EX2005, ¶¶103-124.³ This is true for numerous reasons.

First, the specification states that “the messaging system **uses a relational model** to represent and store messages exchanged among the end-users.” EX1001, 2:60-62 (emphasis added).⁴ In view of that disclosure, and for the other reasons set forth herein, a skilled artisan would understand that “**relational** *references*” in the claims refer to the use of references in a relational model. *Id.* ¶¶103-108. To do otherwise would be to ignore (1) the word “*relational*” in “*relational references*” and (2) the language in the specification stating that the “relational model” should be used. *Id.*

Second, the specification incorporates by reference the ‘461 Application, which also uses a relational model. EX2005, ¶¶48-53 & 106. The ‘911 Patent states

³ The claim construction process in the underlying litigation had only just begun at the time the case was stayed. The proper construction of the claim terms in the underlying litigation has not been briefed (let alone construed by the Court). PO will take the same positions on claim construction in the litigation as it does in these proceedings.

⁴ Although Petitioner has faulted this disclosure as failing to “define” “relational model” (Paper 10, at 2), to a skilled artisan, the term has a clear meaning. EX2005, ¶104. Entire chapters of textbooks on database systems from the early 2000s are devoted to the “relational model.” EX2004, at 7 & 17.

that the messaging system in FIG. 1 “shares characteristics with the system described in U.S. patent application Ser. No. 10/789,461, which is incorporated by reference herein,” including because both systems “use[] a relational model to represent and store messages exchanged among the end-users.” EX1001, 2:57-60. The ‘461 Application claims a messaging system that “uses a relational model to represent messages exchanged among end-users of a system.” EX3002/EX2010, Abstract; *id.* [0010] (same); *id.* [0003] (“This invention pertains in general to electronic messaging systems and in particular to a system using a relational model to store messages.”). Because the ‘911 Patent states that it “shares” that characteristic with the ‘461 Application, all of these disclosures also confirm that the ‘911 Patent also uses a relational model. EX1001, 2:57-62; EX2005, ¶106.

The ‘461 Application demonstrates how skilled artisans used the term “*relational*” in references that discuss using a relational model. In the ‘461 Application, “relational” is used to modify other nouns, including a “relational data store” (*id.* [0018]), a “relational messaging system” (*id.* [0017]), “relational database” (*id.* [0021]), and “relational records.” *Id.* [0044]; EX2005, ¶111. In each of these instances, “relational” refers to use of a relational model. *Id.* The fact that “relational” is used repeatedly to modify nouns when using a relational model supports a finding that, when the word “relational” is used before a noun in the ‘911

Patent (or '461 Application), a skilled artisan would understand “relational” to refer to use of a relational model. EX2005, ¶111.

Third, other disclosures in the '911 Patent and '461 Application demonstrate that the invention uses a relational model. In the '911 Patent, each tuple or sub-message is assigned a **unique ID**, which serves as the primary key for that relation. EX2005, ¶¶30 & 120 (citing EX1001, 5:55-60). And, the '461 Application discusses tables in a relational database. EX2010, [0021]; EX2005, ¶¶111-112.

Fourth, contemporaneous publications confirm that, when skilled artisans use the term “*relational references*,” they are referring to references in a relational model. For example, a 1998 article contrasts the hierarchical and relational models and describes “references” used in the relational model using the precise claim term “**relational references**”:

The relational database model uses a series of references between tables. These references are created as a relationship between groups of records. A good example of a relational database is the activity codes used in Primavera scheduling software. Primavera has a pull-down menu that allows the user to develop a dictionary for a custom code value. The user defines the desired length of the code value (one character, two characters, and so on), the labels to be used for each code value, and the equivalent meaning of the value. Exhibit 3 shows an example of an activity code dictionary.

Once the dictionary table is set up, the scheduler can use the reference value of either A, B, or C to identify the project name associated with each activity, as opposed to typing the entire project name. Relational databases often consist of several tables like the one in Exhibit 3, each with a defined relationship to another. Exhibit 4 depicts a relationship map for a Microsoft Access database.

The tables can be combined into new tables, which are called *queries*. Queries represent the real power behind relational databases, because they allow the data in separate tables to be combined, organized, and used to generate new data. Thus, new types of information can be developed from the information already contained in your database.

For example, let's suppose that a manager wanted to find out the number of times that each customer has contacted a specific employee. A new query would be created that listed each employee name, and due to the relational references, would count the number of times a customer was associated with the employee. These reports can be prepared rapidly, by anybody in the organization who learns to use the software.



EX2006, at 3.

Similarly, a patent from 1993 uses a “**relational reference** database” to refer to a database in a relational model. EX2007, at 1 (emphasis added). A 2001 patent application uses “relational database techniques” and states that “there is a need for address ‘identifiers’ that allow **relational reference** to static URLs, multiple URLs, downloadable codes, and other objects” EX2008, [0015], [0017] (emphasis added). Another patent whose application was filed in 2004 discusses storing data “in relational database tables” and “establish[ing] the **relational reference** between

the current entity and other entities being processed.” EX2009, 1:20-33 & 8:48-51 (emphasis added); *see also id.* 10:31-37 (same). These publications demonstrate that a skilled artisan would understand that there is a “specific correspondence between a relational model and relational references”— i.e., the relationship between the relational model and “*relational references*” that the Board preliminarily found was missing. *See* Decision, at 12.

Another publication that supports Patent Owner's proposed construction is the textbook FUNDAMENTALS OF DATABASE SYSTEMS, which contains chapters discussing the relational model. EX2004/EX2011. The textbook uses terminology that is nearly identical to “*relational references*” when discussing the relational model. EX2005, ¶¶113-116. For example, it discusses “referencing relations” and “referenced relations” when using a relational model:

A set of attributes FK in **relation** schema R_1 is a foreign key of R_1 that **references relation** R_2 if it satisfies the following two rules:

1. The attributes in FK have the same domain(s) as the primary key attributes PK of R_2 ; the attributes FK are said to **reference** or **refer** to the **relation** R_2 .
2. A value of FK in a tuple t_1 of the current state $r_1(R_1)$ either occurs as a value of PK for some tuple t_2 in the current state $r_2(R_2)$ or is null. In the former case, we have $t_1[FK] t_2[PK]$, and we say that the tuple t_1 **references** or **refers** to the tuple t_2 . R_1 is called the **referencing relation** and R_2 is the **referenced relation**.

Id. at 206-207 (emphasis added & emphasis in original removed). *See also id.* at

206 (“The **referential** integrity constraint is specified between two **relations** and is

used to maintain the consistency among tuples of the two relations” (emphasis added)); *id.* (“a tuple in one relation that refers to another relation ...” (emphasis added)); *id.* at 207 (“a foreign key can *refer to its own relation*” (bolded emphasis added)); *id.* (discussing drawing “a directed arc from each foreign key to the relation it references” (emphasis added)); *id.* (“the arrowhead may point to the primary key of the referenced relation” (emphasis added)); *id.* Figure 7.7 (depicting “[r]eferential integrity constraints displayed on the COMPANY relational database schema diagram” (emphasis added)); *id.* at 219 (“the referential integrity constraint plays a role in having matching tuples in the referenced relation” (emphasis added)); EX2005, ¶¶113-116; *see also* EX2005, ¶¶29-31 (discussing intra-relational constraints and inter-relational constraints).

In addition, like the ‘461 Application, the textbook repeatedly uses “relational” to modify nouns in chapters on the relational model. EX2005, ¶116. For example, in addition to the “relational model” and “relational data model” terminology, the relational model chapter refers to “relational algebra” (*id.* at 195), “relational databases” (*id.*), “relational representation” (*id.*), “relational constraints” (*id.* at 196 & 202), “relational operations” (*id.* at 196 & 226), “relational concepts” (*id.*), “relational systems” (*id.* at vii), “relational mapping” (*id.* at xix), and “relational languages” (*id.* at 195). The use of “relational” to modify nouns when discussing the relational model confirms that, to a skilled artisan, in a patent

discussing use of a “relational model,” “*relational references*” would mean references used in a relational model. EX2005, ¶116.

Instead of construing “*relational references*” to require a relational model, the Board preliminarily defined “*relational references*” as “pointers” that “point to related messages exchanged among users.” *Id.* In the context of the ‘911 Patent, however, a skilled artisan would **not** understand that “*relational references*” to be “pointers.” EX2005, ¶¶119-124. This is because traditional programming-language “pointers” are not an appropriate mechanism for linking a container with its submessages stored in a database. *Id.* ¶¶32-35 (discussing “pointers” and “references”). Instead, the patent uses a relational model, where containers are connected to their submessages through relational references (e.g., unique IDs). *Id.* ¶¶30 & 120 (citing EX1001, 5:55-60).

In support of its proposed construction, Petitioner points to the disclosure in the ‘461 Application that equates “reference” with “pointer.” EX2010, [0041] (“a pointer (i.e., a reference)”).⁵ That sentence, however, does not support a finding that “*relational references*” are “pointers.” This is because the disclosure speaks only to the term “reference”; it does not discuss “*relational* references.” As discussed

⁵ Because the ‘461 Application uses a relational model, this refers to “pointers” in a logical sense (i.e., pointers containing a key), not to physical pointers containing an address (as Petitioner contends). EX2005, ¶52.

above, the term “relational” must be given a meaning, and – for the reasons above – a skilled artisan would understand “*relational*” to refer to a relational model.

Petitioner has argued that, if “*relational references*” is limited to the relational model, the claim term “*pointing*” would be “meaningless.” Paper 10, at 2. Here, Petitioner conflates the verb “to point” with the noun “pointers.” EX2005, ¶119. Although it is true that physical “pointers” (as used in traditional programming languages) are not used in the relational model, the verb “to point” is used in the relational model. *Id.*; EX2011, at 207 (chapter on relational model stating that “the arrowhead may **point** to the primary key of the referenced relation”). The verb “*pointing*” in the claims does not negate the use of the relational model.

Another reason “*relational references*” should not be construed to mean “pointer” is because a “pointer” can have multiple meanings to a skilled artisan – i.e., “a physical [pointer] containing an address, or a logical [pointer] containing a key.” EX2004, at 948. In traditional programming languages, a “pointer” is used to refer to physical pointers containing an address – i.e., variables that store the memory addresses of other variables. EX2005, ¶32. It is this type of “pointer” that Petitioner urges be adopted as the construction. *See* Paper 10, at 3 (“pointers ... are variables that contain memory locations (addresses)”); *see also id.* at 1. The problem with this argument is that these types of physical pointers are **not** used in relational models. EX2005, ¶¶32-35 & 119. Therefore, construing “*relational references*” to mean

“pointers” could suggest that a relational model may **not** be used. Such a construction would be contrary to the teachings of the ‘911 Patent (and the ‘461 Application) to use a relational model. The Board should reject Petitioner’s invitation to adopt a construction that would require physical pointers, eliminating the possibility of using a relational model and directly contradicting the express teachings of the ‘911 Patent.

In sum, to a skilled artisan, traditional programming-language “pointers” are not what the ‘911 Patent is referencing when it uses the claim terms “*relational references*.” Instead, to a skilled artisan, “*relational references*” refer to the referencing (shared attributes/common attributes/referential integrity constraint) in a relational model. For all of these reasons, the Board should construe “*relational references*” to mean references in a relational model.

V. ABBREVIATIONS

In this Preliminary Response, the following abbreviations may be used:

<u>Document/Proceeding</u>	<u>Abbreviation</u>
IPR2025-00270	IPR-270
U.S. Patent No. 8,073,911	the ‘911 Patent
U.S. Patent Pub. No. 2003/0163537	Rohall
U.S. Patent Pub No. 2002/0120600	Schiavone
U.S. Patent No. 8,375,008	Gomes

VI. PETITIONER HAS NOT MET ITS BURDEN TO ESTABLISH OBVIOUSNESS IN GROUNDS 1-2

A. Legal Standards

1. Petitioner's Burden

“In an inter partes review, the burden of persuasion is on the petitioner to prove ‘unpatentability by a preponderance of the evidence,’ and that burden never shifts to the patentee.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1375 (Fed. Cir. 2016) (internal citations omitted).

2. Obviousness

To prevail on its obviousness challenges, Petitioner must prove by a preponderance of the evidence that “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 316(e) & 35 U.S.C. § 103.

“[E]ven when all claim limitations are found in prior art references, the factfinder must not only determine what the prior art teaches, but whether prior art teaches away from the claimed invention and whether there is a motivation to combine teachings from separate references.” *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 655 F.3d 1364, 1374–75 (Fed. Cir. 2011) (citations omitted). Accordingly, a party seeking to establish the obviousness of a patent must do more

than simply say that the elements of the patent were in the prior art. *See KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007). There must be some reason to combine the prior art in the way embodied by the patent; some motivation or incentive is needed. *Id.* “A reason for combining disparate prior art references is a critical component of an obviousness analysis; ‘this analysis should be made explicit.’” *InTouch Technologies, Inc. v. VGO Communications, Inc.*, 751 F.3d 1327, 1351 (Fed. Cir. 2014) (quoting *KSR*, 550 U.S. at 418).

“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

Important to the obviousness analysis is the need to guard against the improper use of hindsight reasoning. “A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning.” *KSR*, 550 U.S. at 421 (citing *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 36 (1966)). As the Federal Circuit guides, “[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification.” *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992) (citing *In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984)).

The obviousness analysis prohibits “us[ing] the claimed invention as an instruction manual or ‘template’ to piece together the teachings of the prior art so that the claimed invention is rendered obvious.” *Fritch*, 972 F.2d at 1266. Moreover, “[t]he pertinence of the reference as a source of solution to the inventor’s problem must be recognizable with the foresight of a person of ordinary skill, not with the hindsight of the inventor’s successful achievement.” *Sci. Plastic Prods., Inc. v. Biotage AB*, 766 F.3d 1355, 1359 (Fed. Cir. 2014).

B. Alleged Prior Art: Rohall and Schiavone.

1. Rohall

Rohall describes the problem that, in electronic mail applications at the time of the invention, the electronic mail applications did not have the ability to generate an entire conversation thread. EX1005, [0008]; *see generally* EX2005, ¶¶54-62 (discussing Rohall). As a result, email users were carbon copied (CC) or blind carbon copied (BCC) on messages without having seen the earlier parts of the conversation. EX1005, [0008]. Consequently, they may lack the necessary context to properly interpret the message. EX1005, [0008]. In addition, if messages were deleted (by the recipient) or not saved (by the sender), then there would be holes in the conversation threads. EX1005, [0008].

Rohall addresses this issue by ensuring that the **entire conversation thread** is sent to a recipient who has not previously received any messages from that thread.

EX1005, [0009]. Rohall does this by “build[ing] ‘conversation threads’” that did not already exist. EX1003, ¶ 155 (citing EX1001, 1:65-2:2).

Rohall utilizes a **hierarchical (tree) structure** combined with **shadow documents** to manage the email content and its delivery. *See* EX1005, [0009] (“complete thread trees need to be constructed”); *id.*, [0056] (“parent/child tree hierarchy,” “a root document,” and “children documents ... as the leaves of the tree”); *id.*, [0056] (“hierarchical tree”); *id.*, [0056] (“a parent/child tree hierarchy”); *id.*, [0057] (“parent document” and “children documents” “in the tree hierarchy”); *id.*, [0063] (“leaf nodes within the conversation tree”); *id.*, [0063] (“linked in a hierarchical manner”); *id.*, [0076] (“tree-like hierarchical organization of a message thread”); *id.*, Figs. 6A-D, 7, 8A. A skilled artisan would understand from these disclosures that Rohall is using a hierarchical model. EX2005, ¶¶58-59. A skilled artisan would understand from these disclosures that Rohall is **not** using a relational model. *Id.*

For numerous reasons, Rohall is very different from the inventions in the ‘911 Patent. EX2005, ¶¶79-84.

2. Schiavone

Schiavone introduces a rule-based system for processing electronic mail messages. EX1006, Abstract; *see generally* EX2005, ¶¶63-71 (discussing Schiavone). Schiavone addresses the limitations of existing client-side filtering

mechanisms. EX1006, [0002], [0003], [0004], [0005]. Traditional filters often lack the ability to customize messages for specific recipients and fail to account for evolving user preferences. EX1006, [0004], [0005]. Additionally, such systems may compromise the privacy and confidentiality of email content. EX1006, [0004], [0005].

Schiavone focuses on user profiles, email messages, and a set of customizable rules. EX1006, Abstract & [0015]. Notably, multiple users can share a common set of rules. EX1006, [0007]. Messages are linked to rules based on sender-defined specifications, such as including a message-type specifier. EX1006, [0024]. Compliance is evaluated by referencing recipient preferences stored in a data repository—this may reside on the recipient's device, the sender's device, or an intermediary such as a trusted authority. EX1006, [0007].

The patent outlines a five-step process. EX1006, [0024]-[0034] & FIGS. 1 & 2. To ensure confidentiality, the recipient's profile data is categorized into public preference data and private preference data. EX1006, [0022].

By processing email locally and leveraging private rule-based customization, the patent aims to deliver both personalized communication and enhanced privacy protection. EX1006.

Aside from its discussion of the action of sending an automated “reply” (e.g., EX1006, [0007] & Claim 24), Schiavone does not discuss the individual components within an e-mail thread/string (e.g., original message, replies, forwards, etc.).

For numerous reasons, Rohall is very different from the inventions in the ‘911 Patent. EX2005, ¶¶85-92.

C. The Rohall-Schiavone Combination Does Not Render Obvious Any Claim of the ‘911 Patent.

For the reasons set forth below, Petitioner has failed to establish that the Rohall-Schiavone combination renders obvious any claim of the ‘911 Patent. *See* EX2005, ¶¶102-155.

The **first** reason Petitioner’s proposed Rohall-Schiavone combination does not render obvious any claim because the combination does not teach, suggest, or render obvious applying rules from a compliance policy **at the submessage level**. Petitioner acknowledges that Rohall does not disclose these limitations and relies exclusively upon **Schiavone** to supply this limitation, but Schiavone does not disclose this limitation. EX2005, ¶¶139-148. Indeed, Schiavone does not discuss submessages at all, let alone the need to apply rules of a compliance policy **at the submessage level**. *Id.* Moreover, even if a skilled artisan were to add Schiavone’s rules to Rohall, a skilled artisan would not be motivated to apply Schiavone’s rules **at the submessage level** because Rohall teaches away from acting upon submessages individually.

A **second** reason Petitioner's proposed Rohall-Schiavone combination does not render obvious the challenged claims is because the combination does not teach, disclose, or suggest the requirement that different rules apply to different submessages, as required by three of the four independent claims (1, 10, and 27). Petitioner again relies exclusively upon **Schiavone** to supply this limitation. Schiavone, however, does not disclose this limitation. EX2005, ¶¶149-155. Again, Schiavone does not discuss submessages at all, let alone the need to apply different rules of a compliance policy to different submessages within the same string/thread. *Id.* Moreover, even if a skilled artisan were to add Schiavone's rules to Rohall, a skilled artisan would not be motivated to apply different ones of Schiavone's rules to different submessages because Rohall teaches away from acting upon submessages individually.

A **third** reason Petitioner's proposed Rohall-Schiavone combination does not render obvious any claim because the combination does not teach, suggest, or render obvious "*relational references pointing to a plurality of sent submessages*," which is a requirement of every claim in the '911 Patent. As discussed above, a skilled artisan would understand from the '911 Patent claims and specification that the plain and ordinary meaning of "*relational references*" refers to a relational model, **not** a hierarchical model. EX2005, ¶¶103-124. Petitioner relies exclusively upon **Rohall** to supply the "*relational references*" limitation. Rohall, however, does **not** use

“*relational references*.” *Id.* ¶¶54-62 & 102-138. Instead, Rohall uses a hierarchical model, using physical tree structures. *Id.* Because “*relational references*” are missing from Rohall, the Rohall-Schiavone reference does not render obvious **any** claim.

In addition to the fact that multiple limitations are missing from the Rohall-Schiavone combination, there are additional reasons why a skilled artisan would not (1) look to Rohall at all to solve the problems addressed in the ‘911 Patent (*infra* at 45-47 & EX2005, ¶¶93-95) or (2) look to combine Rohall and Schiavone to solve the problems in the ‘911 Patent (*infra* at 47-53 & EX2005, ¶¶96-101); or (3) be motivated to combine the references to come up with the inventions in the ‘911 Patent. The only rationale for Petitioner’s proposed combination appears to be hindsight reasoning, using the claims as a roadmap, which the law prohibits.

1. The Combination of Rohall and Schiavone Does Not Teach, Disclose, or Render Obvious Applying Rules at the Submessage Level, As Required by Every Claim of the ‘911 Patent.

Every claim of the ‘911 Patent requires applying rules of a compliance policy **at the submessage level**. For example, every claim requires “*rule elements describing whether the rule is applicable **to a sent submessage***.” In addition, Claims 1-12 and 27-29 require “**rules** of the compliance policy are **applicable to** different ones of the plurality of **sent submessages**.” And, Claims 13-26 require “**applying rules** of the compliance policy **to the sent submessages**.”

Neither Rohall nor Schiavone disclose applying rules from a compliance policy at the submessage level. *See generally* EX1005 & EX1006, *see also* EX2005, ¶¶139-148. Therefore, the combination of Rohall and Schiavone does not render obvious any claim. *Id.* Moreover, because Rohall teaches away from acting upon submessages, a skilled artisan would not be motivated to add that feature – i.e., applying rules from a compliance policy **at the submessage level** – to the combination.

Petitioner and its expert admit that each of these limitations – which require applying rules of a compliance policy **at the submessage level** – are missing from Rohall. EX1003, ¶ 195 (“Rohall does not expressly disclose these elements [1.6, 10.6 & 13.5]”). That is correct: Rohall does not address applying rules from a compliance policy at all. *See generally* EX1005; EX2005, ¶141.

The other reference in Petitioner's combination, Schiavone, also does not disclose applying rules at the submessage level. *See generally* EX1006; *see also* EX2005, ¶142. This is because Schiavone does not discuss the different components of email threads (i.e., original message, replies, and forwards) – i.e., “submessages” – at all. Instead, when Schiavone discusses replies or forwards, Schiavone is discussing the action of replying or forwarding an e-mail. E.g., EX1006, [0007] (“a reply is forward[ed] to the vendor”). Schiavone does not, however, discuss taking action on only a single component of a conversation thread. EX2005, ¶142. Because

Schiavone does not discuss the different components of e-mail threads (i.e., “submessages”) at all, Schiavone also does not discuss applying rules **at the submessage level**. *Id.*

In support of its position that Schiavone discloses applying rules to submessages, Petitioner and its expert point to the example in Schiavone in which messages to US recipients are delivered according to US laws, whereas messages to French recipients are delivered according to French laws. EX1003, ¶195. Nothing in this disclosure in Schiavone, however, discusses applying rules of the compliance policy **at the submessage level**. EX2005, ¶143. Instead, the example discusses treatment of the message **as a whole** (i.e., a complete conversation thread). The passage does not describe application of rules at the submessage level. *Id.*

Next, Petitioner and its expert argue that Schiavone discloses applying rules at the submessage level because Schiavone teaches different rules that apply to different **messages**. EX1003, ¶197. Again, however, Schiavone's discussion of messages refers to entire conversation threads; Schiavone never addresses treatment of messages at the submessage level. EX2005, ¶144. Schiavone does not disclose applying rules to only one **part** of a message (i.e., a **submessage**). *Id.*

Finally, Petitioner and its expert argue that Schiavone discloses applying rules at the submessage level because Schiavone states that users can modify messages before sending them to customize them for the recipient. EX1003, ¶197. This

disclosure, however, relates to customizing the **content** of a message; it teaches and discloses nothing about customizing the **rules** that are applicable **to submessages**. EX2005, ¶145. There is no disclosure in Schiavone of applying rules to only part of a conversation thread – i.e., to a **submessage**. *Id.*

In addition to the fact that neither Rohall nor Schiavone discuss, disclose, or render obvious applying rules at the submessage level, the teachings in Rohall would discourage – or teach away from – a skilled artisan from adding this feature. EX2005, ¶¶146-147. That is, the teachings in Rohall would discourage a skilled artisan from applying a rule to only **part** of a conversation thread (i.e., to a submessage), as opposed to applying a rule to the entire conversation thread. *Id.* This is because Rohall criticizes systems in which “users must locate and act on each message individually.” EX1005, [0008].

Rohall asserts that acting on each message in a conversation thread (i.e., each submessage) individually is “time consuming” and results in message items being “disconnected.” EX1005, [0008]. Instead, Rohall teaches that “**an electronic mail conversation thread may be handled or processed as a single entity** with functions similar to those typically applied to an individual electronic mail message, such as including any of a select, drag and drop, copy, paste, delete, forward, print, move, file, archive, or operation on the data structure **representing all ancestor documents in the conversation thread**.” *Id.* [0013] (emphasis added); *id.* [0125]

(same). Therefore, even if a skilled artisan were to add Schiavone's rules to the system in Rohall, given the teachings in Rohall, a skilled artisan would **not** be motivated to apply rules **at the submessage level**. EX2005, ¶¶146-147. Instead, given Rohall's teachings, a skilled artisan would be motivated to apply a rule from a compliance policy to the entire conversation thread, because doing so would be less time consuming and would result in the message items being connected, thereby avoiding confusion caused by disconnected message items. *Id.* Given Rohall's teachings, a skilled artisan would be motivated to "handle[] or process[]" (e.g., apply a rule to) the entire conversation thread "as a single entity." *Id.*

In sum, neither Rohall nor Schiavone teach, disclose, or render obvious applying rules at the submessage level, as required by every claim of the '911 Patent. Moreover, even if a skilled artisan were to combine Rohall and Schiavone, the teachings in Rohall would discourage a skilled artisan from applying rules at the submessage level.

2. Petitioner's Rohall-Schiavone Combination Does Not Teach, Disclose, or Suggest the Limitations of "different rules of the compliance policy are applicable to different ones of the plurality of sent submessages" (Claims 1-12 & 27-29).

Independent claims 1, 10, and 27 (and the claims that depend upon them) of the '911 Patent require that "*different rules of the compliance policy are applicable to different ones of the plurality of sent submessages.*" EX1001, Claims 1-12 & 27-29.

Petitioner and its expert admit that these limitations are missing from Rohall. EX1003, ¶195. They argue, however, that Schiavone discloses these limitations. *E.g.*, Pet. 44. They are incorrect. EX2005, ¶¶149-155. The reason they are incorrect is because these limitations require different treatment of different **submessages**, but Schiavone does not discuss submessages **at all**. EX1006; EX2005, ¶150. Because Schiavone does not discuss the different components of e-mail threads at all, Schiavone also does not discuss applying different rules to different parts of a message. *Id.*

In support of its position that Schiavone discloses this limitation, Petitioner points to the example in Schiavone “in which email messages sent to US recipients are delivered to recipients in accordance with laws for US residents, whereas email messages sent to recipients in France are delivered to recipients in accordance with laws for French residents.” Pet. 44-45 (citing EX1006, [0033]); EX1003, ¶195. These disclosures in Schiavone, however, discuss treatment of the message **as a whole**. EX2005, ¶151. At most, these disclosures in Schiavone relate to applying different rules to **the same message**. *Id.* That is, the same message sent to two recipients – one residing in France and one residing in the United States – would have different rules applied **to the same message**, not different rules applied to “**different** ones of the plurality of sent **submessages**.” *Id.*

Petitioner's expert also argues that Schiavone teaches different rules that apply to different messages (EX1003, ¶197), but Schiavone does not disclose different rules applying to different parts of a message (i.e., to different submessages in the same e-mail string/thread). EX2005, ¶152. Schiavone discusses treatment of a message as a whole. *Id.*

Finally, Petitioner's expert cites the statement in Schiavone that users can modify messages before sending them to customize them for the recipient. EX1003, ¶197. This disclosure, however, relates to customizing the content of a message; it teaches and discloses nothing about customizing the rules that are applicable to submessages. EX2005, ¶153. There is no disclosure in Schiavone of applying different rules to different submessages in the same e-mail string/thread. *Id.*

In addition to the fact that neither Rohall nor Schiavone discuss, disclose, or suggest applying different rules to different submessages, a skilled artisan would not be motivated to add this feature to the Rohall-Schiavone combination. This is because Rohall discourages, or teaches away from, a skilled artisan from applying different rules to different submessages. EX2005, ¶154-155. Specifically, Rohall criticizes systems in which users "act on each message individually." *Id.* (quoting EX1005, [0008]). Rohall asserts that acting on each message individually is "time consuming" and results in message items being "disconnected." *Id.* (quoting EX1005, [0008]). Therefore, even if a skilled artisan were to add Schiavone's rules

to the system in Rohall, given the teachings in Rohall, a skilled artisan would **not** be motivated to apply different rules to different submessages. *Id.* Instead, based upon Rohall's teachings, a skilled artisan would be motivated to treat all submessages in an e-mail thread consistently in order to save time and ensure that items are not "disconnected."

In sum, Schiavone does not teach, disclose, or suggest "different rules of the compliance policy are applicable to different ones of the plurality of sent submessages" or "selectively applying rules of the compliance policy to the sent submessages." EX2005, ¶¶149-155. Moreover, it would not be obvious to add this feature to Petitioner's combination because Rohall's teachings would discourage doing so. *Id.* Therefore, the combination of Rohall and Schiavone also does not render obvious these limitations. *Id.*

3. Petitioner's Rohall-Schiavone Combination Does Not Teach, Disclose, or Suggest the Limitation of "relational references pointing to a plurality of submessages" [1.2, 10.2, 13.3, 27.2].

Each of the independent claims of the '911 Patent requires "*relational references pointing to a plurality of submessages.*" Ex. 1001, at Claims. As discussed above, properly construed, "*relational references*" refer to references in a relational model. Petitioner's proposed combination of Rohall and Schiavone does not teach, disclose, or suggest using "*relational references.*" This is because Rohall

– the only reference that Petitioner relies upon to supply this limitation – uses a hierarchical model, not a relational model. EX2005, ¶¶54-62 & 102-127.

Every claim requires “*relational references*.” EX1001, Claims. The specification states that the messaging system in the ‘911 Patent “uses **a relational model** to represent and store messages exchanged among the users.” EX1001, 2:60-62 (emphasis added). From these disclosures, and for the reasons set forth above (*supra* at 17-25), a skilled artisan would understand that “*relational references*” in the ‘911 Patent refer to references in a relational model (not a hierarchical model). EX2005, ¶¶24-28 & 103-124.

The combination of Rohall and Schiavone does not teach, disclose, or suggest using “*relational references*.” EX2005, ¶¶102-138. This is because neither Rohall nor Schiavone discuss or disclose using a relational model. *Id.* Petitioner admits that Schiavone does not disclose using “*relational references*,” and Rohall uses only a **hierarchical** model, not a relational model with relational references. *Supra* at 29; EX2005, ¶¶54-62.

Petitioner's expert opines that the tree structures that Rohall uses are “*relational references*.” EX1003, ¶148. But he ignores the fact that Rohall uses only a **hierarchical (tree) structure** combined with **shadow documents** to manage the email content and its delivery, whereas the ‘911 Patent requires “*relational references*” using a relational model. EX2005, ¶¶103-124. The tree structure in

Rohall is **not** the same as the “*relational references*” in the ‘911 Patent. *Id.*; compare EX2004/EX2011, at Ch. 7 (describing the relational model) with EX2004, at Appx. D (describing the hierarchical model). Rohall does not teach or disclose the required “*relational references*.” EX2005, ¶¶102-138.

The analysis of the “*relational references*” limitation by Petitioner’s expert does not address this difference between, on the one hand, the required “*relational references*” and relational model in the ‘911 Patent and, on the other hand, the hierarchical model in Rohall. *See generally* EX1003, ¶¶148-156. Although Petitioner’s expert acknowledges Rohall’s use of “tree hierarchy” (EX1003, ¶150) and the ‘911 Patent’s use of “*relational references*” (*id.* ¶¶148-156), he does not acknowledge the difference between hierarchical models (Rohall) and relational models (the ‘911 Patent). EX2005, ¶¶126-127. For the reasons set forth above, Rohall’s hierarchical model does not disclose the required “*relational references*.” EX2005, ¶¶102-127.

Because Petitioner erroneously concludes that Rohall discloses “*relational references*,” Petitioner does not argue that it would be obvious to add the “*relational references*” limitation to Rohall. Nevertheless, as set forth below, there are reasons why it would **not** be obvious to add “*relational references*” to Rohall. EX2005, ¶¶128-137.

In Rohall, shadow documents are stored as documents within a Lotus Notes database and are accessible through the Notes Storage Facility (NSF) Application Programming Interfaces (APIs). EX2005, ¶128. Every object in a Notes database is uniquely identified by an identifier. *Id.* Lotus Notes databases store information in the form of documents and are best described as collections of semi-structured or unstructured data, in contrast to relational databases. *Id.*, ¶129. Shadow documents in this context represent parent-child relationships and typically include fields such as document ID, root ID, and parent ID. *Id.* Using these identifiers, all original documents can be retrieved from the Notes database. *Id.*

However, exporting data from Notes is a complex process. EX2005, ¶130. It involves managing various document components, including rich text fields, specific layouts, embedded links, file attachments, and hierarchical structures. *Id.* Special effort is required to preserve the structure and integrity of the data during migration to a different system, such as a relational database. *Id.* In short, exporting Notes data to relational formats would be neither trivial nor straightforward. *Id.*

In contrast, the '911 Patent utilizes a relational model, where the database module includes a relational database system. EX2005, ¶131. Data is organized into sets of tables, allowing access and recombination in various ways without requiring table reorganization. *Id.* Each row (or record) in a relational table is unique—duplicate tuples are not permitted. *Id.* The '911 Patent adopts a relational design in

which message containers, sub-messages, and attachments are distributed across multiple tables. *Id.*, ¶132. Each row within these tables is distinct; for example, each sub-message and its content are stored as a unique record. *Id.* Tables for message containers and sub-messages are linked using shared keys (e.g., primary and foreign keys). *Id.*

In contrast to the '911 Patent, the hierarchical model used in Rohall, with its rigid parent-child structure, is less suitable for representing complex relationships such as many-to-many or cyclical associations. EX2005, ¶133. In the '911 Patent, such associations – i.e., complex relationships such as many-to-many or cyclical associations – may exist. *Id.*, ¶134. For instance, a message container can be linked to multiple sub-messages, and a sub-message can be referenced by multiple containers. *Id.*

To model many-to-many relationships, the hierarchical model typically relies on redundant data or the use of artificial nodes to simulate such links, leading to inefficiencies and potential data inconsistencies. EX2005, ¶135. Hierarchical models often depend on physical pointers to connect records, making them inflexible in handling complex referencing scenarios. *Id.* Additionally, they tend to introduce data duplication due to their structure. *Id.*

In contrast, relational databases minimize redundancy through normalization and support dynamic relationship changes. EX2005, ¶136. Notably, minimizing

redundancy is one of the problems the '911 Patent's solutions sought to address. *Id.* (citing EX1001, 1:40-55). This flexibility of relational databases makes them more scalable and better suited to evolving data requirements compared to hierarchical systems, which are constrained by their static and predefined relationships. EX2005, ¶136.

For all of these reasons, these differences between the hierarchical model in Rohall and the relational model in the '911 Patent demonstrate why it would not be obvious to incorporate a relational model with “*relational references*” into Rohall, and why a skilled artisan would not expect to succeed in doing so. EX2005, ¶138.

In sum, the combination of Rohall and Schiavone does not render obvious the “*relational references*” limitation in every claim of the '911 Patent. As a result, the combination of Rohall and Schiavone does not render obvious any claim of the '911 Patent.

4. A Skilled Artisan Would Not Look to the Rohall Reference to Solve the Problems Addressed by the '911 Patent.

In addition to the fact that multiple claim limitations are missing from the Rohall-Schiavone combination, another reason why Petitioner's Rohall-Schiavone combination does not render obvious any challenged claim is because a skilled artisan would not combine Rohall and Schiavone to solve the problems in the '911 Patent. EX2005, ¶¶79-101.

One reason a skilled artisan would not combine Rohall and Schiavone to solve the problems in the '911 Patent is because, for at least two reasons, a skilled artisan would not look to Rohall at all to solve the problems addressed by the '911 Patent. EX2005, ¶¶ 93-95.

The **first** reason that a skilled artisan would not look to Rohall at all to solve the problems addressed by the '911 Patent is because the fundamental problem being solved by the '911 Patent is not a problem that existed in the systems discussed in Rohall. *See* EX2005, ¶¶ 81-83 & 93-95; EX1005, [0008]. In particular, as discussed above, the '911 Patent solves the problem of submessages being replicated as a result of e-mail strings, and the resulting problems of storage issues and problems applying rules from compliance policies. EX1001, 1:40-55. According to the disclosures in Rohall, in the systems discussed in Rohall, submessages were **not** replicated when others replied to or forwarded the initial message, resulting in gaps in the threads. EX2005, ¶¶ 81-83 & 93-95; EX1005, [0008]. As a result, a skilled artisan would not look to a reference that does not address the problem of replicating submessages to come up with a solution for replicating submessages. *See* EX2005, ¶¶ 81-83 & 93-95.

A **second** reason that a skilled artisan would not look to Rohall at all to solve the problems addressed by the '911 Patent is because the solution offered by Rohall would **exacerbate** the problem the '911 Patent sought to solve. EX2005, ¶95. In

particular, one problem the '911 Patent seeks to solve is that the replication of submessages results in storage issues. EX1001, 1:44-45; *see also* EX2005, ¶95. The '911 Patent solves this problem in part by storing each submessage only once. EX1001, Claim 27; *see also* EX2005, ¶95. Rohall, however, exacerbates this problem by creating shadow documents, which **add data** to the system, requiring **additional** storage. EX1005, [0013]; *see also* EX2005, ¶95.

For both of these reasons, a skilled artisan would not look to Rohall to solve the problems addressed by the '911 Patent.

5. A POSA Would Not Be Motivated to Combine Rohall and Schiavone or Expect to Succeed in Doing So.

As set forth above, (1) Petitioner's Rohall-Schiavone does not disclose multiple limitations required by the claims of the '911 Patent and, even if they did, (2) a skilled artisan would not look to the Rohall reference at all to solve the problems set forth in the '911 Patent. In addition, there are numerous reasons a skilled artisan would not combine the Rohall and Schiavone references to make the inventions set forth in the claims of the '911 Patent. EX2005, ¶¶96-101.

As an initial matter, it is important to stress that, although Petitioner's expert identifies purported reasons a skilled artisan would be motivated to combine Rohall and Schiavone, none of the analysis includes any motivation to **add** the limitations that, as discussed above, are missing from both references. *See generally* EX1003; *see also* EX2005, ¶97. Therefore, Petitioner's combination does not render obvious

any claim. *Id.* Moreover, as discussed above, a skilled artisan would not expect to succeed in both (1) combining the references and (2) adding the missing features. EX2005, ¶¶96-101. For example, moving from the hierarchical model described in the Rohall reference to the relational model claimed in the '911 Patent would not be a simple substitution. *Id.* And, it is a modification that Petitioner and its expert do not even address. *See generally* Pet. & EX1003.

In addition to the fact that a skilled artisan would not look to Rohall at all to solve the problems addressed in the '911 Patent, there are several additional reasons a skilled artisan would not look to combine Rohall and Schiavone to solve the problems in the '911 Patent. EX2005, ¶¶96-101.

The **first** reason a skilled artisan would not look to combine Rohall and Schiavone to solve the problems in the '911 Patent is because neither the Rohall nor the Schiavone reference discusses or discloses the **problem** addressed by the '911 Patent – i.e., the problem that submessages are replicated as a result of text strings, resulting in multiple copies of the same submessages, which in turn results in storage problems and problems applying rules from compliance policies. EX2005, ¶¶96-101. As discussed above, the problem of replicating submessages did not exist in Rohall, and Schiavone contains no discussion of acting upon the individual message components within email strings/threads.

A **second** reason a skilled artisan would not look to combine Rohall and Schiavone to solve the problems in the '911 Patent is because neither of the references offers any **solution** to the problem of replicating submessages. The '911 Patent solves the problem of replicating submessages by breaking down message strings/threads so that "*submessages*" can be acted upon individually (e.g., different rules can apply to different submessages in the same string/thread). A skilled artisan would not look to Schiavone for this solution because Schiavone offers no solutions that address e-mail strings or submessages. EX2005, ¶¶96-101. And, a skilled artisan would not look to Rohall for this solution because Rohall's solution does the opposite: Rohall seeks to **unite** disconnected portions of the same e-mail string/thread, teaching that all of the portions of the string/thread should be treated the same (e.g., forwarded as a single entity). EX1005, [0008]. Rohall criticizes, or teaches away from, systems in which users must "act on each message individually" because doing so is "time consuming" and results in message items being "disconnected." *Id.* In sum, neither reference teaches or suggests a solution to the problems addressed in the '911 Patent. Notably, Petitioner's expert does not point to any evidence beyond the Rohall or Schiavone references as supporting a motivation to combine. *See generally* EX1003, ¶¶116-121. Therefore, there is no evidence of any motivation to make the particular combination that Petitioner advances – i.e., the solutions offered by the '911 Patent.

Finally, Petitioner has presented no evidence of why a skilled artisan would be motivated to combine Rohall and Schiavone to come up with the inventions in the '911 Patent. The only rationale appears to be hindsight reasoning, using the claims as a roadmap. EX2005, ¶98. This is prohibited. *See KSR*, 550 U.S. at 421; *Sci. Plastic Prods.*, 766 F.3d at 1359 (“The pertinence of the reference as a source of solution to the inventor’s problem must be recognizable with the foresight of a person of ordinary skill, not with the hindsight of the inventor’s successful achievement.”).

As described above, neither Rohall nor Schiavone suggests doing what the inventors in the '911 Patent did – i.e., creating a system that **both** breaks down e-mail threads into submessages that are linked using “*relational references*” and stored only once **and also** allows for application of rules at the submessage level, such that different rules can apply to different submessages in the same thread. Petitioner and its expert cite to no evidence showing that either of these features – let alone both – was within the level of ordinary skill at the time the claimed invention was made. *See generally* Pet. & EX1003.

Rohall addresses message components like replies and forwards, but Rohall does not teach or suggest applying **any** rules from compliance policies to its invention. EX2005, ¶99. Therefore, there is no teaching or suggestion **in Rohall** that would motivate a skilled artisan to add rules from Schiavone to Rohall.

Petitioner's only stated reason for adding rules from Schiavone to Rohall are the conclusory statements of Petitioner's expert. For example, Petitioner's expert concludes that a PHOSITA "would have understood Schiavone's teachings to expand or otherwise improve the capabilities of Rohall" and that "a POSITA would have been motivated to additionally include Schiavone's teachings of 'rule-based processing of electronic mail messages' to improve Rohall's electronic messaging system." EX1003, ¶¶118-20. The only "evidence" cited in support are generic statements in Rohall about people being frustrated and overwhelmed by email and a summary of Schiavone's solutions. *Id.* (citing EX1005, [006] & EX1006, [0001]). Petitioner's expert concludes that Schiavone's rules would solve Rohall's problems of people being overwhelmed by email. EX1003, ¶118. This conclusory analysis ignores that Rohall was concerned with addressing a **particular** frustration that people had with e-mails: parts of e-mail threads going missing. EX1005, [0008]. Schiavone's rules would do nothing to solve that problem. Moreover, Petitioner's expert does not cite **any** evidence as to why a skilled artisan would understand from reading Rohall that rules-based processing needed to be added to Rohall. There is no discussion in Rohall of rules at all. EX2005, ¶99.

Petitioner's expert's conclusory statements regarding combining Rohall and Schiavone should be ignored. *KSR*, 550 U.S. at 418 ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be

some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” (internal quotation omitted)); *Rohm & Haas Co. v. Brotech Corp.*, 127 F.3d 1089, 1092 (Fed. Cir. 1997) (“Nothing in the [federal] rules [of evidence] or in our jurisprudence requires the fact finder to credit the unsupported assertions of an expert witness.”); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 294 (Fed. Cir. 1985) (“Lack of factual support for expert opinion going to factual determinations ... may render the [expert] testimony of little probative value in a validity determination” (citations omitted)).

Petitioner also fails to provide evidence of why a skilled artisan would think that Schiavone's rules-based processing would be improved by being combined with Rohall's data structures. EX2005, ¶100. Schiavone addresses governance and compliance issues, but Schiavone does not discuss the individual components that make up e-mail strings/threads (i.e., replies, forwards, etc.). *Id.* Therefore, there is no teaching or suggestion in Schiavone that would motivate a skilled artisan to combine Schiavone with Rohall's data structures. *Id.*

The only stated reasons for combining Schiavone with Rohall's data structures are the conclusory statements of Petitioner's expert. EX1003, ¶¶120-21. For example, Petitioner's expert concludes that “[a] POSITA would have recognized that Schiavone's teachings of ‘rule-based processing of electronic mail messages,’ would be complimentary to the system of Rohall, which seeks to develop an

improved inbox for messages by enhancing usability of messages and user productivity, e.g., by implementing shadows documents using data structures.” *Id.* But Petitioner’s expert does not cite any evidence as to why a skilled artisan would understand from reading Schiavone that Schiavone would benefit from Rohall’s system architecture. Petitioner and its expert does not explain, for example, why a skilled artisan would consider the resulting modified inbox to be “improved.” *See In re Fritch*, 972 F.2d at 1266 (“The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification.”).

Given the lack of any evidence supporting the conclusory opinions regarding motivation to combine, it is apparent that the only reason for combining the references is hindsight. Petitioner’s combination should be rejected because it is using the claims as a roadmap in selecting its combination, which is improper as a matter of law. *Fritch*, 972 F.2d at 1266 (“It is impermissible to use the claimed invention as an instruction manual or ‘template’ to piece together the teachings of the prior art so that the claimed invention is rendered obvious.”).

As discussed above, Petitioner’s Rohall-Schiavone combination does not render obvious numerous required limitations of the ‘911 Patent. Therefore, Petitioner has not established a case of *prima facie* obviousness based upon the

Rohall and Schiavone references. Moreover, there are numerous reasons why a skilled artisan would not look to Rohall to solve the problems of the '911 Patent at all, and there are numerous reasons why a skilled artisan would not be motivated to combine the Rohall and Schiavone references. For all of these reasons, Petitioner has not met its burden of proving obviousness with respect to its challenge asserted in Ground 1.

D. The Board Should Reject Ground 2.

Claims 9 and 27 of the '911 patent are not obvious based on the combination of Rohall, Schiavone, and Gomes. EX2005, ¶¶156-176.

1. Gomes

Gomes describes a method and system for managing electronic data within an enterprise. EX1016, Abstract; *see also* EX2005, ¶¶72-77 (describing Gomes). Data can originate from various sources, such as backup systems (e.g., backup tapes) or enterprise networks. *Id.* A file extraction engine is used to separate email files from other types of files—such as those extracted from backup tapes. *Id.*, 4:19-37. The extracted data is then loaded into a central, collective database. *Id.*, 4:32-34.

A de-duplication engine processes both the extracted files and additional data from the network to remove duplicate content while preserving metadata for each version of the content. EX2016, 4:26-30. The metadata may include details

such as file path and name, the last modified date on the original machine, a pointer to the content's location, file size, and similar attributes. *Id.*, 7:14-20.

To identify duplicates, the de-duplication engine generates hashed values from portions of the content and metadata. EX1016, 7:21-23. One hashed value represents the content, while another hashed value corresponds to the metadata. *Id.*, 7:24-26.

Targeted data can be identified from the collective database by applying filters or rules. EX2016, 7:21-25. Once identified, this data—originally stored on backup tapes—can be used for various purposes, including legal discovery, internal investigations, building specialized databases on specific topics, or deletion in accordance with data retention policies. *Id.*, 7:25-30. A data retention policy defines the criteria for evaluating electronic data, ensuring that only data meeting the specified conditions is preserved. *Id.*, 7:33-47.

Gomes does not address the internal structure of email strings/threads, such as original messages, replies, and forwards. *See generally* EX1016. As a result, Gomes also does not discuss applying different processing rules to individual components within a message. *See generally id.* While the system in Gomes handles de-duplication of entire electronic messages (*id.*, 2:13-16), it does not consider submessages or employ a relational data model. EX2005, ¶172. Instead,

its focus remains on enterprise-level data sourced from networks and backup systems. *Id.*

2. For the Same Reasons in Ground 1, the Combination of Rohall, Schiavone, and Gomes Does Not Render Obvious Claims 9 or 27.

As discussed above, every claim of the '911 Patent, including Claims 9 and 27, requires "*relational references pointing to a plurality of sent submessages.*" As discussed above, however, the Rohall-Schiavone combination does not disclose this limitation, including because Rohall uses a hierarchical model, not the claimed relational model that uses "*relational references.*" EX2005, ¶¶102-138. Petitioner and its expert do not argue that Gomes discloses "*relational references.*" Therefore, the Rohall-Schiavone-Gomes combination also does not teach, disclose, or suggest the limitation of "*relational references pointing to a plurality of sent submessages.*"

Claim 9 (which depends upon Claim 1) and Claim 27 both require (1) applying rules from a compliance policy at the submessage level and (2) require that "*different rules of the compliance policy are applicable to different ones of the plurality of sent submessages.*" As discussed above, however, the Rohall-Schiavone combination does not teach, disclose, or suggest these limitations. EX2005, ¶¶139-155. And, Petitioner and its expert do not argue that Gomes discloses this limitation. Therefore, the Rohall-Schiavone-Gomes combination also does not teach, disclose, or suggest these limitations.

The combination of Rohall, Schiavone, and Gomes that Petitioner proposes also does not render obvious Claims 9 or 27 because, as discussed above, a skilled artisan would not be motivated to look to the Rohall reference at all (because it solves the opposite problem than the '911 Patent seeks to solve), and a skilled artisan would not be motivated to combine Rohall and Schiavone to make the inventions set forth in the '911 Patent. EX2005, ¶¶93-101.

3. Ground 2 (Claim 9): The Combination of Rohall, Schiavone, and Gomes Does Not Teach, Suggest, or Render Obvious the Limitation of “search rules describing which population structure entities can view which sent submessages when searching the sent submessages stored by the messaging system” [9.0].

Claim 9 of the '911 Patent requires “*search rules describing which population structure entities can view which sent submessages when searching the sent submessages stored by the messaging system.*” EX1001, Claim 9.

Petitioner's expert acknowledges that Rohall and Schiavone do not disclose this limitation. EX1003, ¶279. Instead, he opines that Gomes discloses this limitation. EX1003, ¶279. To the contrary, however, Gomes does not disclose this limitation. Indeed, Gomes does not discuss “*submessages*” at all. EX2005, ¶¶160-166.

Claim 9 requires the application of rules at the “*submessage*” level, including “*search rules*” describing which “*entities can view which sent submessages when searching.*” EX2005, ¶163. This ability to apply rules at the

submessage level is an important part of the invention in the '911 Patent. *Id.* The '911 Patent explains that “[s]earch rules determine which end-users, domains, and groups are allowed to view content written by other end-users, domains, and groups when searching.” EX1001, 11:56-58. The '911 Patent explains that “[i]f the search produces submessages or other content that the searcher is not allowed to view,” “the messaging system can ‘cut the chain’ of the message at the prohibited content” (*id.*, 12:18-22) – i.e., the system can apply the rule at the submessage level. EX2005, ¶163. The search rules can “automatically reflect an enterprise’s reporting hierarchy,” such that “an end-user can search their own message components, as well as any components from users reporting to him.” EX1001, 12:22-28. Again, this is describing applying the rule at the submessage (“message component”) level. EX2005, ¶163. In sum, this feature of applying rules at the submessage level is an important component of the '911 Patent.

Gomes does not disclose this limitation. Gomes does not address “*submessages*” at all. EX2005, ¶164. For example, Gomes does not address the internal structure of email threads, such as original messages, replies, and forwards. *Id.* (citing EX1016). As a result, Gomes also does not discuss applying different processing rules to individual components within a message. *Id.* Therefore, Gomes does not disclose rules “*describing which population structure*

entities can view which sent submessages.” *Id.* The rules in Gomes simply are not applied at the submessage level. *Id.*

Petitioner and its expert assert that Gomes discloses this limitation because Gomes includes rules for “search of files” (which include “email files”) and because Gomes discusses access by “authorized users.” EX1003, ¶280. Petitioner and its expert fail, however, to address the requirement that the rules requiring who can view content must be applied at the “submessage” level. EX2005, ¶165. Indeed, Petitioner’s expert’s analysis does not discuss the “*submessage*” portion of the limitation at all. *Id.*; *see generally* EX1003. Instead, his analysis seems to assume that “email messages” are the same as “*sent submessages*.” EX1003, ¶280 (“Therefore, Gomes discloses ... storing data such as ‘email messages’ (e.g., ‘*the sent submessages*’).”). This is incorrect. EX2005, ¶165. The ‘911 Patent states that “messages” are different than “*submessages*.” EX1001, at 5:27-30 & Fig. 2. In sum, Petitioner’s expert’s analysis ignores this important limitation in Claim 9. EX2005, ¶165.

For all of these reasons, Gomes does not teach, disclose, or suggest the limitation of Claim 9 requiring that that “*search rules describing which population structure entities can view which sent submessages when searching the sent submessages stored by the messaging system.*” This is another reason why the Rohall-Schiavone-Gomes combination does not render obvious any claim.

4. Ground 2 (Claim 27): The Combination of Rohall, Schiavone, and Gomes Does Not Teach, Disclose, or Suggest the Limitations requiring that “each of the sent submessages is stored exactly once within the email database” and that “the first sent submessage is not duplicated within the email database.”

In addition to other limitations discussed above, independent Claim 27 of the ‘911 Patent requires that “*each of the sent submessages is stored exactly once within the email database*” and that “*the first sent submessage is not duplicated within the email database.*” EX1001, Claim 27 [27.4]. This is an important aspect of the ‘911 Patent invention, because the ‘911 Patent is focused on solving the problems created by the replication of submessages within e-mail strings. EX1001, at 40-55; EX2005, ¶167. By storing each submessage only once, the ‘911 Patent helps to address this problem. *Id.*

Petitioner and its expert admit that the Rohall-Schiavone combination does not disclose this limitation. *E.g.*, Pet. at 5 (asserting, in Ground 1, that the Rohall-Schiavone combination renders obvious only Claims 1-8, 10-13, 15, 18, and 20-21

– i.e., **not** Claim 27); EX1003, ¶283⁶ (chart relying upon expert's analysis of Gomes "below" to supply limitation No. 27.4). Instead, Petitioner and its expert assert that Gomes discloses this limitation. Pet., 70-73; EX1003, ¶285. However, once again, Gomes does not disclose actions at the "*submessage*" level. EX2005, ¶¶170.

Claim 27 requires actions on a "*submessage*" level, including storing "*each of the sent submessages ... exactly once*" and "*not duplicat[ing]*" a "*first sent submessage*" when replying. EX1001, Claim 27; EX2005, ¶170. As discussed above, however, Gomes does not address "*submessages*" at all. EX2005, ¶¶77 & 170. That is, Gomes does not address the internal structure of email threads, such as original messages, replies, and forwards. *Id.* (citing EX1016). Gomes does not disclose de-duping at the submessage level, such that each submessage is stored only once. *Id.* Instead, Gomes discloses de-duping each "electronic mail message," such that the resulting database comprises "a single copy of the content portion for

⁶ Petitioner's expert's declaration includes a statement that "the Rohall/Schiavone combination renders obvious each element of claims ...27..." EX1003, ¶ 272. Patent Owner understands that the inclusion of Claim 27 in this statement is a typo. This is because Petitioner's expert discusses certain of the limitations in Claim 27 – i.e., the limitation that "each of the sent submessages is stored exactly once" – **only in connection with Gomes**. He does not assert anywhere in his declaration that Rohall or Schiavone disclose the limitation. Therefore, it is Patent Owner's understanding that Petitioner and its expert admit that the Rohall-Schiavone combination does not render obvious Claim 27. It is only the Rohall-Schiavone-Gomes combination that Petitioner contends renders obvious Claim 27.

each ... electronic mail message....” EX1016, 7:2-10 & 9:8-11. Therefore, Gomes does not disclose these limitations required by Claim 27.

Petitioner and its expert claim that Gomes discloses this limitation because Gomes discloses de-duplication of files, including email files. Pet. 72-73; EX1003, ¶288 (citing EX1016, 2:4-16 & Abstract). The problem with this argument is that Gomes does not disclose de-duplication of “*submessages*.” EX2005, ¶171. Petitioner and its expert do not discuss the “*submessage*” portion of this limitation at all in their analysis. Pet. 72-74; EX1003, ¶¶285-292.

Gomes does not teach, disclose, or suggest the limitation of storing each submessage only once. EX2005, ¶172. This is because Gomes handles de-duplication of entire electronic messages, not submessages. *Id.* Gomes does not consider submessages or employ a relational data model. *Id.* Instead, the focus in Gomes remains on enterprise-level data sourced from networks and backup systems. *Id.*

Importantly, when the de-duplication process described in Gomes is applied to e-mail strings, the process will not result in de-duplication of “*submessages*”; it will only result in de-duplication of the entire e-mail string/thread. EX2005, ¶173. This is because Gomes de-duplicates using hashed values. *Id.*

When assigning hashed values to content, each reply and forward of will be assigned a hashed value that is different from the other replies and forwards (and

from the original message) in the same e-mail string/thread. EX2005, ¶173. As a result, different parts of an e-mail string/thread will have different hashed values. *Id.* ¶174. For example, assume Joe sends Katie an e-mail (Joe's original message is "message 1") and Katie replies to Joe's message (Katie's reply is "message 2"). *Id.* In this example, the thread containing Katie's reply to Joe (message 2) will have a different hashed value from the initial message that Joe sent to Katie (message 1). *Id.* This is because the reply adds content to the original message, such that the initial message has, essentially, been altered. *Id.* (citing EX1016, at 11:63-64 ("If the content of the file or record has been altered, the hashed value for the content will be changed.")). Therefore, when de-duplicating by hashed value (as taught by Gomes), the submessages within the thread will **not** be de-duplicated. EX2005, ¶175. For example, in the example above, even after de-duplication, Joe's initial e-mail will still appear in the system twice: once in the initial message (which has its own unique hashed value) and again in the e-mail string containing Katie's reply (which also has its own unique hashed value). *Id.*

For all of these reasons, Gomes does not teach, disclose, or suggest the limitations of Claim 27 requiring that that "*each of the sent submessages is stored exactly once within the email database*" and that "*the first sent submessage is not duplicated within the email database.*" This is another reason why the Rohall-Schiavone-Gomes combination does not render obvious any claim.

VII. CONCLUSION

For the reasons set forth herein, Patent Owner respectfully submits that Petitioner has not met its burden of proving obviousness with respect to any challenged ground. Furthermore, the gaps in its evidence for a term that is in every claim establishes that Petitioner has failed to make a *prima facie* case of obviousness.

Respectfully submitted,

Dated: December 16, 2025

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. 42.6(e), I certify that on this 16th day of December, 2025, a true and correct copy of the foregoing **Patent Owner's Response** was served by electronic mail on Petitioner's lead and backup counsel at the following addresses:

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