

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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MICROSOFT CORPORATION,

Petitioner,

v.

STERLING COMPUTERS CORPORATION,

Patent Owner.

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IPR2025-00270

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

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**PETITION FOR *INTER PARTES* REVIEW OF**

**U.S. PATENT NO. 8,073,911**

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**EXHIBIT LIST**

| <b>No.</b> | <b>Exhibit Description</b>                                                                                                        |
|------------|-----------------------------------------------------------------------------------------------------------------------------------|
| 1001       | U.S. Patent No. 8,073,911 (“the 911 Patent”)                                                                                      |
| 1002       | File History of U.S. Patent No. 8,073,911                                                                                         |
| 1003       | Declaration of Dr. John R. Black, Jr.                                                                                             |
| 1004       | CV of Dr. John R. Black, Jr.                                                                                                      |
| 1005       | U.S. Patent Pub. No. 2003/0163537 (“Rohall”)                                                                                      |
| 1006       | U.S. Patent Pub No. 2002/0120600 (“Schiavone”)                                                                                    |
| 1007       | File History of U.S. Patent Pub No. 2002/0120600 (“Schiavone-FH”)                                                                 |
| 1008       | Document History of U.S. Patent Pub No. 2002/0120600 (“Schiavone-DH”)                                                             |
| 1009       | T. Denehy et al., “Duplicate Management for Reference Data,” IBM Research Report, RJ 10305 (A0310-017) October 7, 2003            |
| 1010       | Sterling’s Preliminary Infringement Contentions (PIC)                                                                             |
| 1011       | U.S. Patent Pub. No. 2003/0167310 (“Moody310”)                                                                                    |
| 1012       | U.S. Patent Pub. No. 2003/0177190 (“Moody190”)                                                                                    |
| 1013       | <i>Collaboration Support in Networked Distance Learning</i> , B. Krämer et al, INTERNATIONAL COMPUTER SCIENCE INSTITUTE, May 1997 |
| 1014       | K. Sierra and B. Bates, “Head First Java: Your Brain on Java – A Learner’s Guide,” 1 <sup>st</sup> Edition, 2003                  |
| 1015       | U.S. Patent Pub. No. 2004/0177271 (“Arnold”)                                                                                      |
| 1016       | U.S. Patent No. 8,375,008 (“Gomes”)                                                                                               |
| 1018       | U.S. Patent No. 6,978,274 (Gallivan)                                                                                              |

| No.  | Exhibit Description                                                                                                         |
|------|-----------------------------------------------------------------------------------------------------------------------------|
| 1019 | <i>Filtering Spam Using Search Engines</i> , O. Kolesnikov et al., published as Georgia Tech Technical Report, GIT-CC-03-58 |
| 1020 | U.S. Patent No. 7,380,039 (“Miloushev”)                                                                                     |
| 1021 | “Main memory caching of Web documents,” E.Makatos, Computer Networks and ISDN Systems 28 (1996) 893-905                     |

**TABLE OF ABBREVIATIONS AND CONVENTIONS**

| <b>Abbreviation</b>                  | <b>Meaning</b>                                  |
|--------------------------------------|-------------------------------------------------|
| 911 Patent                           | Ex.1001: U.S. Patent No. 8,073,911              |
| IPR                                  | <i>inter partes</i> review                      |
| Petitioner                           | Microsoft Corporation (“Microsoft”)             |
| Patent Owner or PO                   | Sterling Computers Corporation.<br>(“Sterling”) |
| Preliminary Infringement Contentions | PIC: Ex.1010                                    |
| <i>xx.yy–zz</i>                      | column <i>xx</i> , lines <i>yy</i> to <i>zz</i> |

## I. INTRODUCTION

Petitioner submits this Petition for *Inter Partes* Review of claims 1-13, 15, 18, 20-21, and 27 of U.S. Patent No. 8,073,911 (“the 911 Patent”). Petitioner respectfully submits that the Challenged Claims of the 911 Patent are unpatentable under 35 U.S.C. §103 in view of the prior art discussed herein and respectfully requests that the Board institute an *inter partes* review of the 911 Patent.

## II. MANDATORY NOTICES

### A. Real Party-in-Interest

The real party-in-interest for this Petition is Microsoft Corporation.

### B. Related Matters

The 911 Patent is asserted by PO in *Sterling Computers Corp., v. Microsoft Corp.*, 1-24-cv-00406 (WDTX).

### C. Lead and Back-Up Counsel and Service Information

| Lead Counsel                                                                                                                                                    | Back-Up Counsel                                                                                                                                                       |
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|--|-----------------------------------------------------------------------------------------------|

Petitioner consents to electronic service by email at Winston-Microsoft-Sterling@winston.com and the e-mail addresses listed above.

### **III. REQUIREMENTS FOR *INTER PARTES* REVIEW**

#### **A. Grounds for Standing**

Petitioner certifies that the 911 Patent is available for *inter partes* review. Petitioner is not barred or estopped from requesting an *inter partes* review challenging the claims on the identified grounds herein. Petitioner has not filed a civil action challenging the validity of a claim of the 911 Patent. This petition is being filed no more than 1 year after the date on which Petitioner was served with a complaint alleging infringement of the 911 Patent.

#### **B. Identification of Challenged Claims**

**Ground 1:** Claims 1-8, 10-13, 15, 18, and 20-21 are unpatentable as obvious under 35 U.S.C. § 103 based on Rohall (Ex.1005) and Schiavone (Ex.1006).

**Ground 2:** Claims 9 and 27 are unpatentable as obvious under 35 U.S.C. § 103 based on Rohall, Schiavone and Gomes (Ex.1016).

#### **IV. THE 911 PATENT**

##### **A. Effective Filing Date**

Petitioner assumes for the purposes of this Petition that May 12, 2004, is the effective filing date.

##### **B. Person of Ordinary Skill in the Art**

A Person of Ordinary Skill in The Art (“POSITA”) 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. Ex.1003, ¶22.

##### **C. Overview of the 911 Patent**

The 911 Patent was filed May 12, 2005, and claims priority to Prov. Apps. 60/570,848, filed May 12, 2004, and 60/570,861, filed May 12, 2004. Ex.1001, 1:7-10.

The 911 Patent relates to a system and method for enforcing compliance on electronic messages delivered via a network. Ex.1001, Abstract, 1:18-21. The 911 Patent states that there is a need for an electronic messaging system to facilitate

separating business records from general e-mail “chatter” and enforces compliance policies on the messages. Ex.1003, ¶¶38–57.

## **V. CLAIM CONSTRUCTION**

Claims are given their “ordinary and customary meaning” as understood by a POSITA and the prosecution history pertaining to the patent. 37 C.F.R. § 42.100(b). Because a POSITA would find the challenged claims unpatentable under any interpretation consistent with their plain and ordinary meaning in the context of the 911 Patent, the Board need not expressly construe the claim terms. *See Vivid Techs., Inc. v. Am. Sci. & Eng. ’g. Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

## **VI. PRINCIPAL PRIOR ART**

### **A. Summary of Rohall**

U.S. Publication No. 2003/0163537 (“Rohall”) generally relates to “reviewing and processing electronic mail and electronic mail threads.” Ex.1005, [0005]. Rohall was based on application number 10/334,087, filed December 30, 2002, and published August 28, 2003. Rohall is therefore prior art at least under 35 U.S.C. §§102(a) and 102(e).

### **B. Summary of Schiavone**

U.S. Publication No. 2002/0120600 (“Schiavone”) generally relates to “System and method for rule-based processing of electronic mail messages.” Ex.1006, Cover. Schiavone was based on application number 09/793,263, filed February 26, 2001 and published August 29, 2002. Schiavone is therefore prior art

at least under 35 U.S.C. §§102(a), 102(b) and 102(e). While Schiavone published containing five drawings numbered Figs. 1-5 (see Ex.1006, pp. 2-6), Schiavone provides written description support for six drawing figures—including those Figure 6 which is missing from the Schiavone publication. Ex.1003, ¶103 (citing Ex.1006, [0014], [0061]-[0066]; Ex.1007, and Ex.1008). Therefore, Petitioner has considered Figure 6 to inform its analysis.

## VII. THE CHALLENGED CLAIMS ARE UNPATENTABLE

### A. Ground 1: Rohall and Schiavone Renders Obvious Claims 1-8, 10-13, 15, 18, and 20-21

#### 1. The “Rohall/Schiavone” Combination

It would have been obvious to include Schiavone’s teachings related to “rule-based processing of electronic mail messages,” including identifying rules, referencing a rule base storing a compliance policy, processing rules (including identifying rule elements such as senders and recipients), determining that certain rules are applicable selectively and applying its teachings (*e.g.*, Ex.1006, Abstract, [0001], [0007], [0010], [0015]-[0017], [0020]-[0021], [0028]-[0030], [0031]-[0035], [0064], [0066], and Figures 1 and 2) to messages (and submessages) sent using Rohall’s “electronic messaging system” for the reasons explained below. Ex.1003, ¶116.

Both Rohall and Schiavone are analogous art to the 911 Patent. *First*, both references are directed toward the same field of endeavor of the 911 Patent—email

messaging systems. Ex.1001, Abstract; Ex.1005, Abstract; Ex.1006, Abstract. *Second*, both Rohall and Schiavone are reasonably pertinent to a problem described by the 911 Patent: automating the process of filtering e-mails, which is a problem of conventional electronic mail systems identified in the 911 Patent. Ex.1001, 1:36-40. Rohall describes its invention as “an improved inbox or viewer for electronic mail that allows for greater integration of functions to enhance usability and productivity.” Ex.1005, [0012]. Rohall explains that by making calls to filtering software modules, its inbox helps to focus on which messages are important. Ex.1005, [0059], [0012]. Schiavone, which is directed at “rule-based processing of electronic mail messages” expressly describes that its “invention can be used for filtering.” Ex.1006, [0001], [0007]; Ex.1003, ¶117.

Rohall describes the problem associated with email usage: “people increasingly feel frustrated by their electronic mail,” and they “are overwhelmed by the volume, lose important items, and feel pressure to respond quickly.” Ex.1005, [0006]. Rohall recognizes that email systems have not materially changed since first invented. Ex.1005, [0006]. Schiavone solves these problems because it discloses a “rule-based processing of electronic mail messages” that can “perform spam filtering,” “prioritization and standardization of e-mail to transactions,” as well as “enabl[ing] automated verification of compliance with privacy, legal, regulatory and/or best practices standards.” Ex.1006, [0001]. Dr. Black thus explains that a

POSITA would have understood Schiavone's teachings to expand or otherwise improve the capabilities of Rohall. Ex.1003, ¶118.

Schiavone also identifies shortcomings of conventional electronic mail systems stating that “few standards, rules, or laws apply to govern how the e-mail communications medium is used . . . applicable laws, however, have limited regional application, and knowledge and enforcement of such laws is difficult due to the global nature of the e-mail infrastructure.” Ex.1006, [0006]. To overcome these, Schiavone proposes “rule-based processing of electronic mail messages.” Ex.1006, Cover. Schiavone explains that such processing would allow electronic mail messages “to negotiate transactions, enable automated verification of compliance with privacy, legal, regulatory and/or best practices standards, to perform spam filtering, anonymous profiling, target marketing through dynamic offers, and prioritization and standardization of e-mail to transactions.” Ex.1006, [0001]. Additional benefits of Schiavone teachings include “maintaining confidentiality of a recipient’s profile data by storing . . . data privately.” Ex.1006, [0019]; Ex.1003, ¶119.

Because of Schiavone's benefits, Dr. Black opines that a POSITA would have been motivated to include Schiavone's teachings of “rule-based processing of electronic mail messages” to improve Rohall's electronic messaging system. The teachings of Rohall and Schiavone themselves provide a POSITA with a strong

motivation to combine them. *First*, both references are in the same field and address the same issue in the same context—managing electronic mail messaging systems. *Second*, Rohall’s system architecture, involving the use of shadow documents (e.g., created from electronic mail messages sent among users) represented by data structures and including pointers to other messages in a conversation thread, provides efficient implementation. Ex.1005, [0017]. **“Such implementation may be more efficient in an environment where the thread trees can be recomputed quickly relative to storing and retrieving the thread trees from a memory.”** Ex.1005, [0064] (emphasis added<sup>1</sup>). *See also* Ex.1005, [0063], [0068], [0129], Figs. 4, 6C. Ex.1003, ¶120.

A POSITA would have recognized, Dr. Black explains, that Schiavone’s teachings of “rule-based processing of electronic mail messages,” would be complimentary to Rohall’s system, which seeks to develop an improved inbox for messages by enhancing usability of messages and user productivity by implementing shadows documents using data structures. Ex.1005, [0012]. A POSITA would have thus recognized that combining Rohall with Schiavone would yield predictable benefits and results because the combined electronic mail message processing system would enforce various rules to ensure compliance, as well as provide filtering

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<sup>1</sup> Emphasis added where bolded below unless otherwise noted.

features, which would have been helpful given the proliferation of email use at the time. Ex.1005, [0001]; Ex.1006, [0002]; Ex.1003, ¶121.

Dr. Black explains that a POSITA would have recognized that Schiavone's engines and data stores can be implemented on Rohall's messaging server, and would include the governance module of Schiavone. Ex.1001, 14:44-46. As Dr. Black explains, Schiavone teaches that the functionalities of its engines and data stores can be implemented on a server. Ex.1003, ¶122 (citing Ex.1006, [0066], [0064], [0030]). Schiavone explains, for example, that (1) the “recipient compliance engine” may reside at “the commercial mailer, trusted authority and/or another third party,” instead of at a client device, and (2) “**mail server software ... is well known in the art.**” Ex.1006, [0066], [0064], [0030]. Schiavone explains that in “an alternate embodiment .... **the rule base 155 may also or alternatively be stored at the commercial mailer, trusted authority and/or another third party** and referenced as necessary via a communications network.” Schiavone defines “**a third party trusted intermediary**” as a “**central source**” that is “responsible for defining rules, maintaining and updating rules, approving proposed rules, and distributing such rules to senders and recipients known to the trusted intermediary.” Ex.1006, [0066], [0030]. From these teachings, a POSITA would have recognized that there are only two possible ways of implementing engines and data stores: at the server-

side or at the client-side, and moreover, both implementations were well-known in the prior art. Ex.1006, [0066]; Ex.1003, ¶122.

Accordingly, a POSITA would have understood that server-side and client-side implementations of Schiavone's engines and data stores represent a finite number of identified, predictable solutions to the design need of implementing engines and data stores. Thus, Dr. Black demonstrates that a POSITA would have been motivated to combine these teachings such that Rohall's messaging servers as modified by Schiavone's teachings of rule-based processing of email messages would include Schiavone's teachings of "recipient compliance engine," "transaction data," "rule base," "public preference data," "private profile data," and "private commerce data," collectively serving the claimed functionality of the "*governance module*" as described in more detail below. Therefore, Rohall/Schiavone teach or suggest that the "*messaging server*" includes the "*governance module*" per Schiavone. Ex.1003, ¶123.

Furthermore, the references make clear that their servers/engines/systems require no specialized hardware. For example, Rohall's system includes a CPU, memory (temporary and permanent), and input (keyboard, mouse, microphone) and output devices (video display, speaker), and network components for local area network and wide area network (WAN). Ex.1005, [0041]-[0042]. Schiavone states that its techniques can be implemented on a "general-purpose computer running mail

client software.” Ex.1006, [0020]. The systems of both references run on commercially available operating systems, such as Windows or Unix. Ex.1005, [0043]; Ex.1006, [0065]; Ex.1003, ¶124.

Rohall also teaches using metadata associated with email messages, which can be used to implement Schiavone’s structure—message type specifier or a rule. Ex.1005, [0057]–[0058], [0096]; Ex.1006, [0007], [0024]–[0030]. Indeed, both Rohall and Schiavone are concerned about reducing memory/storage requirements. For example, Rohall describes “[a]n object is actually created by the program at runtime by means of a special function called a constructor which uses the corresponding class definition and additional information, such as arguments provided during object creation, to construct the object. Likewise, objects are destroyed by a special function called a destructor.” Ex.1005, [0046]. It is well-known that a constructor is used to allocate memory to an instance or object and a destructor is used to free up memory space occupied by objects created by the constructor. Ex.1020, 25:10-26. Therefore, using well-known computer programming techniques, such as constructors and destructors for memory management demonstrates Rohall’s concern for reducing memory/storage requirements. Similarly, Schiavone identifies that “there are significant and increasing costs associated with the cost of ... storage ... absorbed by e-mail service providers and corporate domains.” Ex.1006, [0002]. A POSITA would have thus

recognized that Schiavone's email processing techniques are compatible with Rohall's system in many ways, and therefore would have had a reasonable expectation of success for combining them. Ex.1003, ¶125.

Additionally, a POSITA would have had a reasonable expectation of success in implementing Schiavone's teachings (which include its enforcement and filtering methods) with Rohall's system, because doing so would involve minimal changes to Rohall's system architecture and the combined system uses the hardware and techniques already described in each reference, and each system would perform the same in the combined system. For instance, a POSITA would recognize that Schiavone's teachings related to rule-based processing of email messages, e.g., identifying, storing, and processing rules would merely be a few additional process steps for messaging servers (e.g., servers 302-310) used in Rohall's "electronic messaging system" architecture. Ex.1005, [0051]-[0052], and Figures 1 and 3. See Ex.1005, [0060] (provides an exemplary implementation using the Lotus Notes/Domino electronic email system.). Rohall's invention, the "Mail Agent module" already implements<sup>2</sup> several process steps. Ex.1005, [0012], [0054]-

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<sup>2</sup> For example, parser 232, shadow document generator 234, both of which are included in the Mail Agent Module 230 implement the process steps outlined in Figures 5A and 5B. See Rohall, Figures 2, 5A, 5B, and [0060].

[0056], [0073]. And, therefore, in one implementation, Dr. Black explains that a POSITA would have been motivated to modify Rohall's system architecture (e.g., the Mail Agent Module) to additionally include, for instance, one or more extra sub-modules incorporating Schiavone's teachings related to "rule-based processing of electronic mail messages."

And in another implementation, for instance, a POSITA would have understood to incorporate Schiavone's teachings related to "rule-based processing of electronic mail messages" directly into Rohall's Mail Agent Module without developing a sub-module. A POSITA would have the ability to make the combination cited above and would have further understood these options as obvious-to-try and therefore had good reason to pursue them. Ex.1003, ¶126.

Finally, a POSITA would be motivated to combine Rohall with Schiavone because to do so would have been the arrangement of old elements (an electronic mail system comprising messaging servers, use of data structures for representing conversation threads and messages within the electronic mail system, modules applying rules of compliance policies to electronic messages, database servers) with each performing the same function it has been known to perform (e.g., determining and applying different rules to different messages, storing and applying rules of compliance policies to messages) and yielding no more than what one would expect from such an arrangement (an improved electronic mail system/inbox that includes

automated filtering capabilities), as Rohall demonstrates. Ex.1005, [0012]; Ex.1003, ¶127.

## 2. Independent Claims 1, 10:

### a. Preamble: Electronic Messaging System

**[1.0] A computerized messaging server in an electronic messaging system, comprising:**

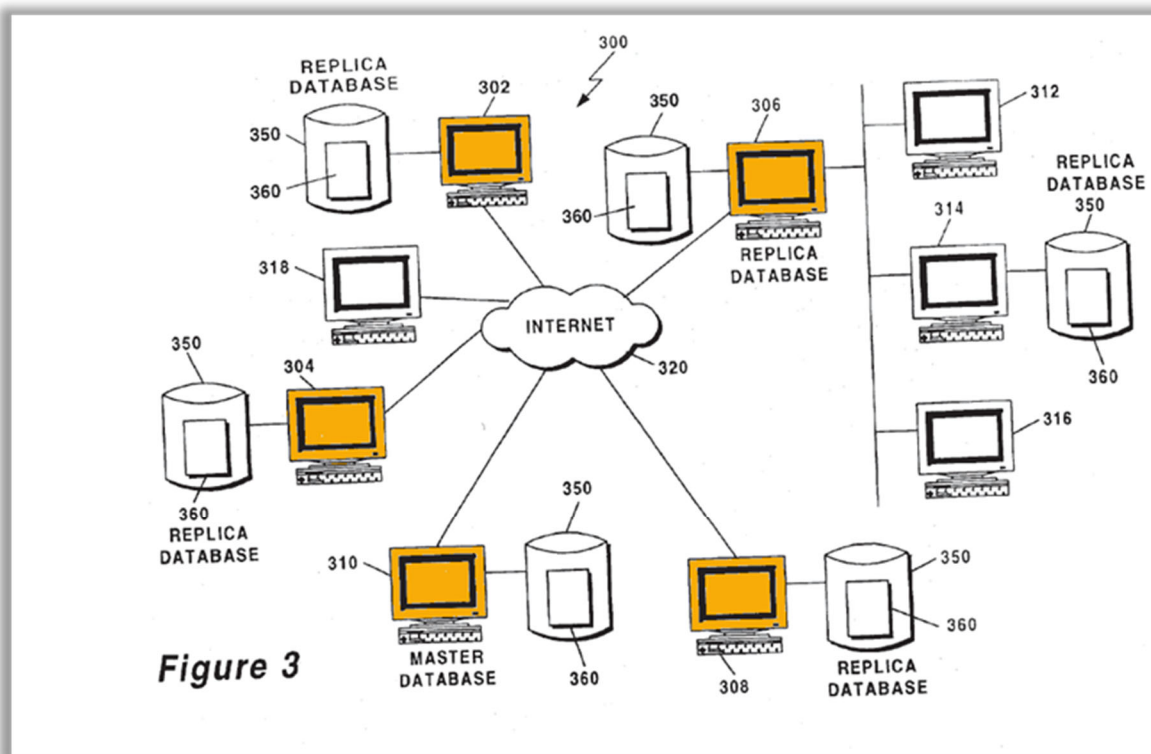
**[10.0] A computer program product having a non-transitory computer-readable medium having embodied thereon program code for use in an electronic messaging system, the program code comprising:**

Rohall explains that its invention “may be implemented using any number of electronic mail systems” (“*electronic messaging system[s]*”) and provides an exemplary implementation in which the “electronic mail system” is the Lotus Notes/Domino electronic mail domain. Ex.1005, [0060], [0048]. Ex.1003, ¶¶128–129.

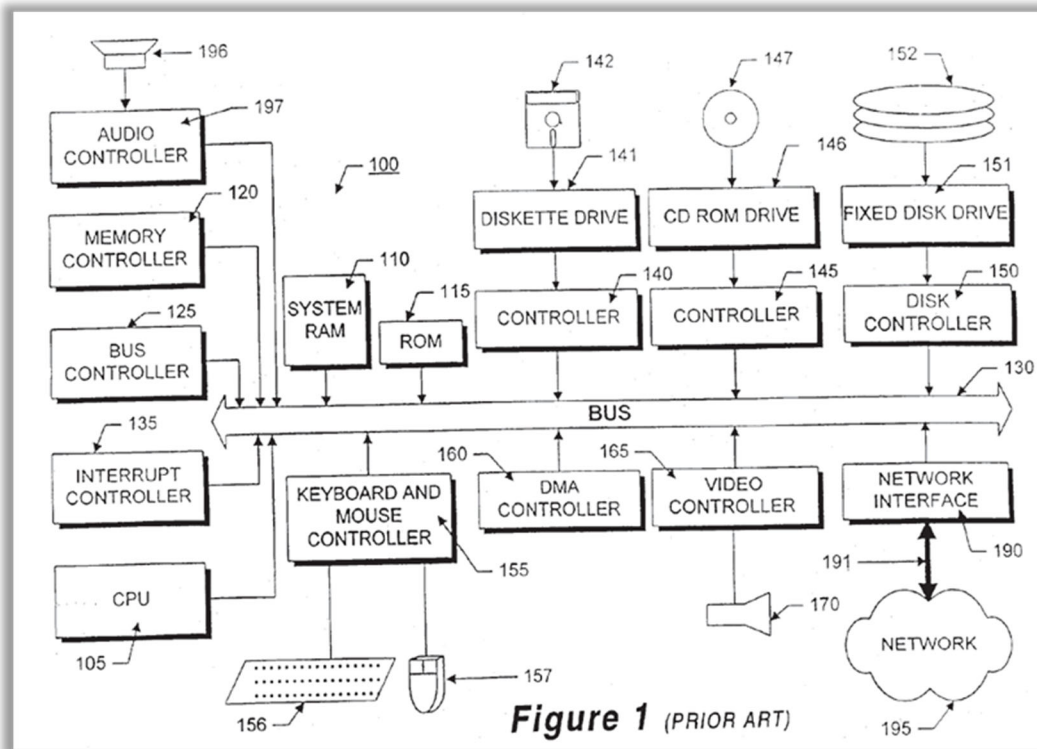
Furthermore, referencing Figures 1 and 3, Rohall explains that the “*electronic messaging system*” executes on computer architecture (depicted in Figure 1) and operates in a network environment (depicted in Figure 3):

**[A] computer system operatively connectable to a network and capable of executing a communication process** for sending and receiving electronic mail documents [and includes] servers 302-310.

Ex.1005, [0014]. Specifically, the network environment of Figure 3 “**in which the invention may be practiced**” includes “**a packet-switched data network 300**” comprising “**servers 302-310**” that “may interface with global network 320,” and that “may be implemented as part of an all software application which executes on a computer architecture similar to that described with reference to FIG. 1.” Ex.1005, [0051]-[0052]. Accordingly, servers (e.g., servers 302-310 in Figure 3) included in Rohall’s electronic mail system disclose a “*computerized messaging server[s] in an electronic messaging system.*” Ex.1003, ¶130.



Ex.1005, Figure 3 (annotated).



Ex.1005, Figure 1<sup>3</sup>; Ex.1003, ¶130.

Therefore, Rohall discloses “[a] computerized messaging server in an electronic messaging system.” Ex.1003, ¶131.

Additionally, as required in claim 10, Rohall’s “electronic messaging system” uses “[a] computer program product having a non-transitory computer-readable medium having embodied thereon program code.” Specifically, Rohall explains that “[a] software implementation of the above-described embodiments may

<sup>3</sup> Although Rohall’s Figure 1 is captioned as “Prior Art,” Rohall describes it as “a computer system[] suitable for use with the present invention.” Ex.1005, [0020].

**comprise a series of computer instructions either fixed on a tangible medium, such as a computer readable media, e.g. diskette 142, CD-ROM 147, ROM 115, or fixed disk 152 of FIG. 1A [sic: FIG. 1], ... over a medium [that] can be either a tangible medium, including but not limited to optical or analog communications lines ...** The series of computer instructions [which] embod[y] all or part of the functionality previously described herein with respect to the invention ... can be written in a number of programming languages for use with many computer architectures or operating systems.” Ex.1005, [0133]; Ex.1003, ¶132.

**b. Messaging Module Controlling a Message Database**

**[1.1] a messaging module adapted to control a message database storing messages sent among users of the messaging system,**

**[10.1] a messaging module adapted to control a message database storing messages sent among users of the messaging system to at least one other end user of the messaging system,**

Rohall discloses “*message(s)*.” Like the 911 Patent, which explains that a “‘message’ refers to a data communication sent by one end-user to one or more end-users of the messaging system,” Rohall teaches a “system ... for sending and receiving electronic mail documents,” where document refers to “a document, database, electronic mail message code, a ‘Note’ or any file which is accessible and storable by a computer system.” Ex.1005, [0014], [0050]; Ex.1001, 3:4–6; Ex.1003, ¶¶135–136.

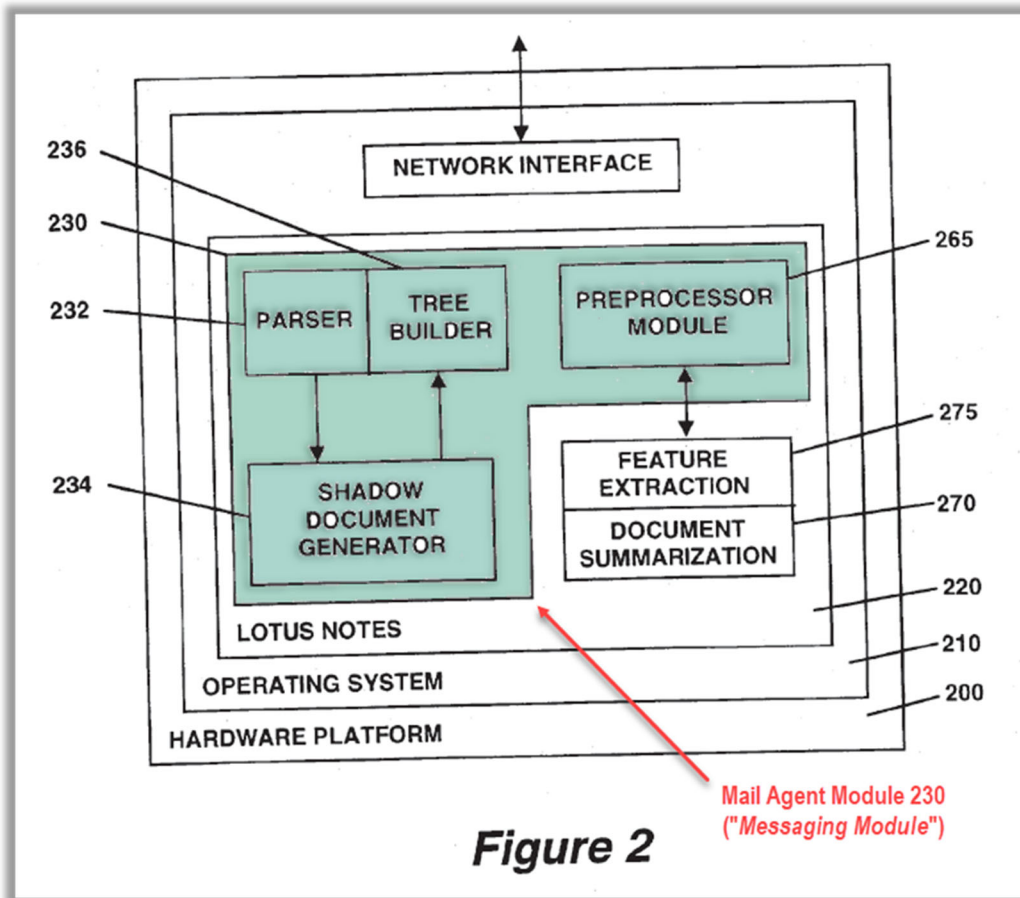
Rohall also discloses “*a messaging module*:”

To implement the primary functionality of the present invention in a Lotus Notes environment, **a module, referred to hereafter as Notes Mail Agent 230** interacts with the existing functionality, routines or commands of Lotus Notes client application and/or a Lotus “Domino” server, many of which are publicly available.

Ex.1005, [0054]. Rohall explains that “Mail Agent<sup>4</sup> 230 may be implemented ... as a back-end module for processing electronic mail messages” and its “primary function” is “to create a shadow document from an original document ... [such as] an electronic mail message.” Ex.1005, [0055], [0073]. Rohall provides an example in which the Mail Agent module is implemented as a “Notes Mail Agent” or “Lotus Notes Mail Agent.” Ex.1005, [0054]-[0055]. Rohall’s Figure 2 (reproduced below) depicts the “Mail Agent module” (“*a messaging module*”), e.g., referenced in Figure 2 as Mail Agent Module 230 and annotated in green.

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<sup>4</sup> Rohall refers to “Mail Agent” alternatively as “Mail Agent Module.” Ex.1005, [0054]-[0055].



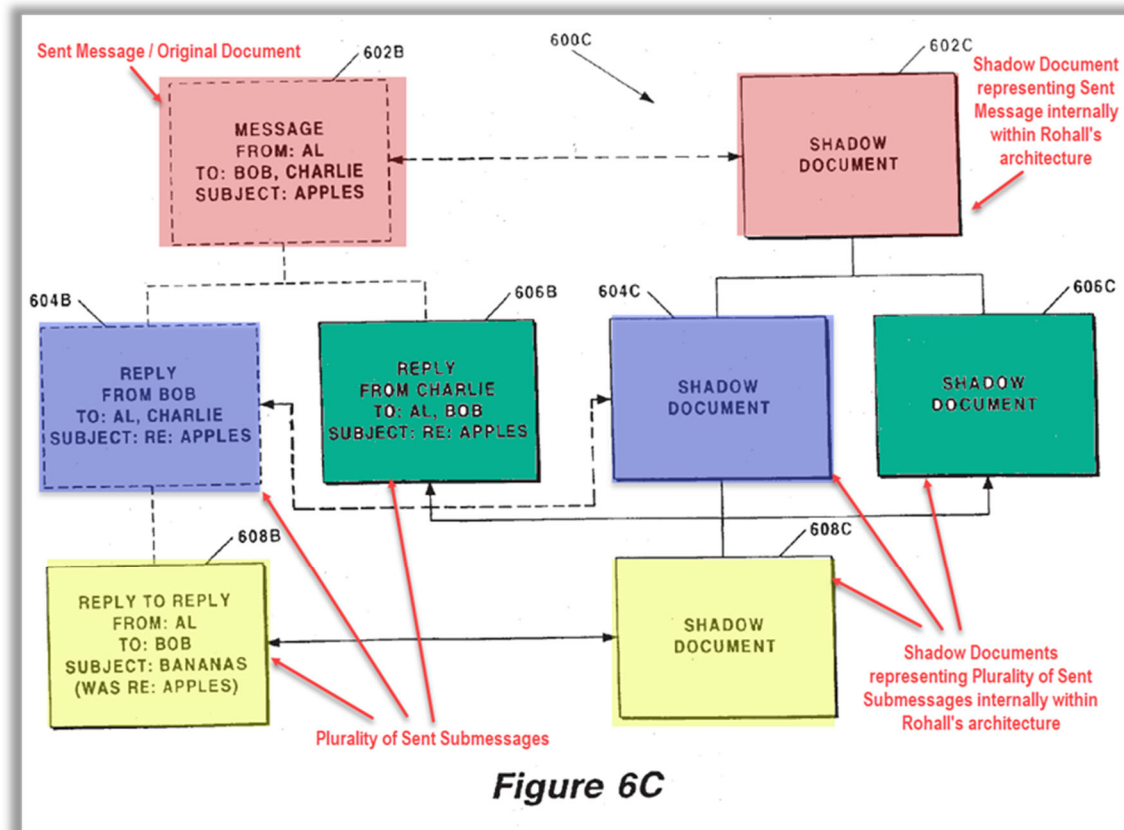
Ex.1005, Figure 2 (annotated); Ex.1003, ¶¶137–139.

Rohall's "Mail Agent module" (*"a messaging module"*) is *"adapted to control a message database storing messages sent among users of the messaging system"* because Rohall explains that the Mail Agent module is **"invoked upon the sending of an electronic mail message,"** "creates a shadow document from ... [the] electronic mail message," and **"interacts with one or more documents 260 in databases 250"** (*"a message database"*) for example, with regards to storing shadow documents. Ex.1005, [0054]-[0055]. Rohall provides an example in which databases 250 (*"message database[s]"*) corresponds to a Notes mail database.

Mail Agent 230 creates a shadow document **from an original document by generating a file containing data related to the document**. ... [S]hadow documents are **stored as documents in a Lotus Notes database ....** The shadow documents are generated transparently to the actual user sending or receiving the electronic message.

Ex.1005, [0055]-[0056]. As Dr. Black explains, Rohall discloses original electronic mail messages sent among users (“*messages sent among users*”). Ex.1003, ¶¶140–142 (citing Ex.1005, [0096]).

Referencing Rohall’s Figure 6C, Dr. Black explains the relationships between original electronic mail messages sent among users and shadow documents. Ex.1003, ¶153 (citing Ex.1005, [0068]). For example, Rohall describes a conversation thread among users Al, Bob, and Charlie. There, a message sent from Al to Bob and Charlie is the “*message[] sent*” and serves as an original document (original document 602B). Documents 604B, 606B, and 608B are replies or replies-to-replies of the sent message and are therefore child documents of original document 602B. Shadow documents 602C (red), 604C (blue), 606C (green), 608C (yellow) created from their corresponding original documents 602B (red), 604B (blue), 606B (green), 608B (yellow) are representations of their corresponding original documents within Rohall’s architecture. *See* Ex.1005, [0068]. Ex.1003, ¶153.



Ex.1005, Figure 6C. Ex.1003, ¶153.

Dr. Black also explains that the phrase “shadow document” was a known term at the time of the 911 Patent used to describe a way to represent the relationships between electronic messages. Ex.1003, ¶142 (citing Ex.1011, [0061]-[0064], Ex.1012, [0059]-[0062], Ex.1013, 14-15). Similarly, Rohall describes using shadow documents for defining a parent/child hierarchy with electronic messages:

The data maintained in a shadow document defines the parent/child relationships among original documents and their respective shadow documents. In the illustrative embodiment, a new electronic mail message is considered a parent document and serves as the root

from which a new shadow tree may be derived, as explained hereinafter. **Any replies to the original electronic mail message is/are considered a child/children document(s).** Within a **conversation thread**, and a hierarchical tree that represents such thread, children documents derive from a common root document.

Ex.1005, [0056]. Rohall explains that a “conversation thread, that may include a parent/child hierarchy of a plurality of original electronic mail documents, summaries of electronic mail documents, shadow documents of original electronic mail documents, or any combination thereof.” Ex.1005, [0125]; Ex.1003, ¶143.

Additionally, because the “*messages sent among users of the messaging system*” encompass “*messages sent ... to at least one other end user of the messaging system*” and also “*receiving a message sent by one end user of the messaging system to at least one other end user of the messaging system,*” Rohall also discloses element [10.1]. Ex.1003, ¶¶144–145.

**c. Sent Message comprising a Message Container**

**[1.2] at least one of the sent messages stored in the message database comprising a message container containing relational references pointing to a plurality of sent submessages stored externally to the message container in the message database,**

**[10.2] at least one of the sent messages comprising a message container containing relational references pointing to a plurality of sent submessages stored in the message database externally to the message container,**

Initially, the 911 Patent states that “[t]he messaging system treats a set of related messages, such as an email string between two or more people, as a message container (200) having relational references to one or more submessages (210, 212, 214)” but “[t]he container itself does not contain content, but rather points to submessages and/or attachments in which content resides.” Ex.1001, 1:65–2:2, 4:62–64. Ex.1003, ¶¶146–147.

Rohall explains that the Mail Agent module is “invoked upon the **sending of an electronic mail message**,” “**creates a shadow document from ... [the] electronic mail message**” and “interacts with one or more documents 260 in databases 250” (“*a message database*”) for example, with regards to storing shadow documents and Rohall provides an example in which databases 250 (“*message database[s]*”) corresponds to a Notes mail database and describes that the “shadow documents” are “stored as documents in a Lotus Notes database.” Ex.1005, [0054]-[0056], [0129]. Rohall further explains that “Mail Agent 230 creates a shadow document from an original document by generating a file containing data related to the document.” Ex.1005, [0055]. Thus, in Rohall, electronic messages (e.g., “*sent messages*”) are represented internally or characterized by “shadow documents” (“*at*

*least one of the sent messages . . . comprising<sup>5</sup> a message container”)* that include data structures having pointers to other messages in a conversation thread such as children documents or shadows thereof (“*containing relational references pointing to a plurality of sent submessages.*”) Ex.1005, [0056], [0129]; Ex.1003, ¶148.

Rohall describes details of data structures used to maintain data associated with a conversation thread of an email in connection with sending/receiving email:

a **data structure stored in the memory** and usable to maintain data associated with a conversation thread of an electronic mail document, the data structure comprising:  
**(a) data identifying the electronic mail document; (b) data identifying a root document of the conversation thread; and (c) data identifying any of the child documents of the root document**

Ex.1005, [0017]. As Rohall explains, “[t]he data maintained in a shadow document defines the parent/child relationships among original documents and their respective shadow documents.” Ex.1005, [0056]. Rohall further explains that the meta data in shadow documents may include . . . **key words or summaries of the content of the document or any attachments may likewise be included.** Ex.1005, [0058].

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<sup>5</sup> *Regeneron Pharm., Inc. v. Merus N.V.*, 864 F.3d 1343, 1352 (Fed. Cir. 2017) (citing MPEP § 2111.03 (“The transitional term ‘comprising’ [] is synonymous with ‘including,’ ‘containing,’ or ‘characterized by,’ . . . .”))

Indeed, Rohall explains the benefits of implementing shadow documents: “[s]uch implementation may be **more efficient.**” Ex.1005, [0064]; Ex.1003, ¶¶148–153.

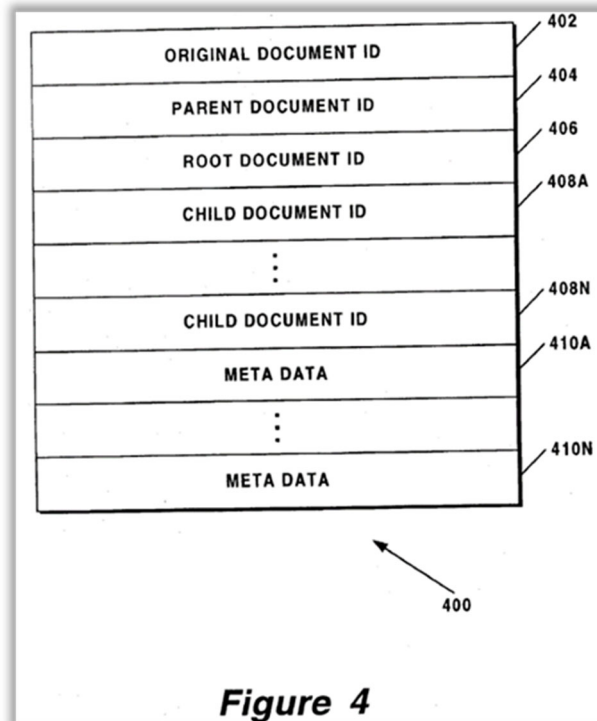
Referencing Figures 4 and 17B, Rohall provides examples of shadow document data structures having pointers to other messages in a conversation thread (“*relational references pointing to*”), such as children documents or shadows thereof (“*a plurality of sent submessages*”).

**[S]hadow document 400 comprises an Original Document Identified (ID) 402, a Parent Document ID 404, an optional Root Document ID 406, zero or more Child Document IDs 408 a-n ...[which] may comprise a list of pointers to the immediate children documents, whether shadow or original, in the tree hierarchy.**

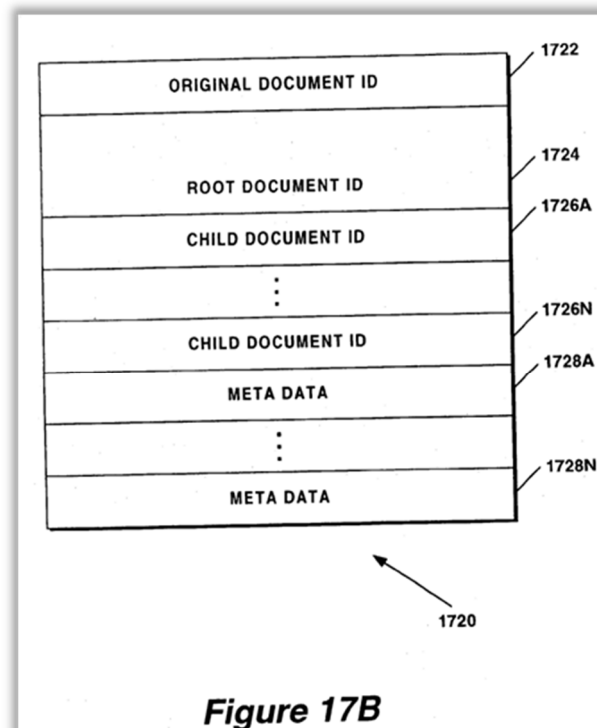
Ex.1005, [0057].

**[D]ata structure 1720 comprises an Original Document Identified (ID) 1722, Root Document ID 1724, zero or more Child Document IDs 1726A-N ... [which] may comprise a list of pointers to the immediate children documents, whether shadow or original, in the tree hierarchy.**

Ex.1005, [0129].



Ex.1005, Figure 4 (showing shadow document 400 comprising pointers to children documents).



Ex.1005, Figure 17B (showing shadow document 1720 comprising pointers to children documents). In Figures 4 and 17B, which relate to Rohall's shadow document, its data structures, and their use in implementing a conversation thread, Rohall shows multiple children document IDs that identify multiple children documents. Rohall defines "children documents or shadows thereof" as follows:

**Any replies to the original electronic mail message is/are considered a child/children document(s).** Within a conversation thread, and a hierarchical tree that represents such thread, children documents derive from a common root document. Accordingly, **a parent/child tree hierarchy representing a conversation thread** terminates at one extreme with a root document, or a shadow document thereof, and, at the other extreme, with **one or more children documents, or shadows thereof**, as the leaves of the tree.

Ex.1005, [0056]; Ex.1003, ¶¶152, 154.

Furthermore, as Dr. Black explains, "children documents" (or, as Rohall describes, **shadows thereof**) ("*the plurality of sent submessages*") are essentially email messages sent as replies to an original message and arranged in a parent/child hierarchy with respect to the original message. Ex.1003, ¶152. Referencing Figure 6C, Dr. Black shows how Rohall describes the relationship between shadow

documents created from email messages sent among users and children documents or, shadows thereof. Ex.1003, ¶153 (citing Ex.1005, Figure 6C and [0068]).

Indeed, Rohall discloses “shadow documents are stored as documents in a Lotus Notes database” and “[a] **Notes database ... acts as a container in which data Notes ...** compris[ing] user defined documents and data” may be grouped. Ex.1005, [0049] and [0056]. Rohall notes that a “document” such as a user-defined document “may refer to a document, database, electronic mail message code, a “Note” or any file which is accessible and storable by a computer system.” Ex.1005, [0050]. Therefore, Rohall teaches or suggests “*at least one of the sent messages stored in the message database comprising a message container containing relational references pointing to a plurality of sent submessages.*” Ex.1003, ¶¶149–156.

Rohall discloses “*at least one of the sent messages stored in the message database comprising a message container containing relational references pointing to a plurality of sent submessages*” for an additional reason.

Similar to the 911 Patent’s description of “an email string between two or more people, as a message container ... having relational references to one or more submessages” (Ex.1001, 1:65-2:2), Rohall discloses building “conversation threads” represented by data structures that include pointers. Rohall explains:

The **conversation thread, that may include a parent/child hierarchy of a plurality of original electronic mail documents**, summaries of electronic mail documents, shadow documents of original electronic mail documents, or any combination thereof, may be generated dynamically and the data structure representing the thread forwarded to another electronic mail user.

Ex.1005, [0013]. Rohall explains “a conversation thread” is constructed by “travers[ing] the chain of pointers or references to **the parent** of each shadow document.” Ex.1005, [0062]; Ex.1005, [0063], Figure 5B (describing “resolv[ing] the child document IDs 408 a-n in the document identified by the pointer within the Root Document ID field, i.e. the root document, as well as each of their respective child documents”). Therefore, and as Dr. Black explains, Rohall discloses conversation threads (“*at least one of the sent messages stored in the message database comprising a message container*”) which have pointers to other messages in a conversation thread such as children documents or shadows thereof (“*containing relational references pointing to a plurality of sent submessages*”) for this additional reason. Ex.1003, ¶¶155–156.

Moreover, to the extent one asserts that Rohall does not expressly or implicitly disclose “*at least one of the sent messages stored in the message database comprising a message container . . .*” as demonstrated above, it would have been obvious in view of Rohall’s express teachings of hybrid conversation trees, which

include original documents and shadow documents. Ex.1005, [0068] (“**a hybrid tree consisting of shadow documents 602C-604C and original documents 606D and 608D**”). Such a modification, for example, can provide the benefit of faster searches in an email search application where emails containing a certain term are to be searched. Thus, and as Dr. Black explains, having the original email included with its shadow document would reduce the access time required to retrieve the original email from memory facilitating faster searches and accordingly, a POSITA would have had a reasonable expectation of success in implementing the modification above because it is analogous to “caching,” a well-known technique providing faster data access. Ex.1003, ¶157 (citing Ex.1021, Abstract, 894, and 904).

Rohall’s disclosures describe this limitation at least consistent with Sterling’s apparent interpretation of this limitation in its PIC in which Sterling has mapped this limitation to “defin[ing] conversations based on the Message-ID value of the first email message in a thread” in Microsoft Exchange Online. Ex.1010, 7.

Additionally, as explained below, Rohall discloses that “[*the*] plurality of sent submessages” are “*stored externally to the message container in the message database.*” Referencing Figures 4 and 17B, Rohall describes:

[S]hadow document 400 comprises an Original Document Identified (ID) 402, ... zero or more **Child Document IDs 408 a-n ...[that] comprise a list of pointers to the**

**immediate children documents**, whether shadow or original, in the tree hierarchy

[D]ata structure 1720 comprises an Original Document Identified (ID) 1722, ... zero or more **Child Document IDs 1726A-N ... [that] comprise a list of pointers to the immediate children documents**, whether shadow or original, in the tree hierarchy

Ex.1005, [0057], [0129]. Rohall's teaching of shadow documents specifically comprising a list of pointers to children documents thus discloses "*a plurality of sent submessages stored externally to the message container.*" Notably, Rohall explains that although the ID for the original document is included in the shadow document, for children documents (stored outside the shadow document and identified by Child Document IDs), a list of **pointers** to the children documents is necessary. Moreover, Dr. Black explains that Rohall's description of shadow documents including "pointers" to children documents would be understood by a POSITA to be describing values that "point" to the "location" of the children document data "*stored externally to the message container.*" See, e.g., Ex.1005, [0096] ("[P]ointer to the[] actual data"); [0100] ("[C]omplete with a pointer to the document location, within the folder or mail database"). This understanding is consistent with the 911 Patent's description of "*relational references*," which also point to the **location** of the message content. Ex.1001, 4:63-63 ("A message can be thought of as a container

with **relational references**. The container itself **does not contain content**, but rather **points to submessages and/or attachments in which content resides.**") Ex.1003, ¶160; *see also* Ex.1003, ¶¶70-73 (describing pointers as variables containing memory address locations).

Additionally, as Dr. Black explains, because a pointer is a reference providing the location of a resource/object, Rohall's disclosures of storing "a surrogate document<sup>6</sup> complete with a pointer to the document location within the folder or mail database" and generating "a surrogate document including ... a pointer to the [ ]actual data" further teach or suggest that children documents or shadows thereof are stored externally to the surrogate document / shadow document [i.e., "*a plurality of sent submessages stored externally to the message container*"] Ex.1003, ¶160 (citing Ex.1005, [0096], [0100]); *see also* Ex.1003, §VIII.C.

Rohall discloses "*the plurality of sent submessages [is] stored externally to the message container*" for an additional reason. For example, Rohall teaches that a shadow document identifying any parent and/or child documents of the subject document "is stored in an electronic mail database which may then be replicated" and further that "[a]ll other copies of database 350 within the network are replica copies of the master copy." Ex.1005, [0052], [0059]. Therefore, by storing

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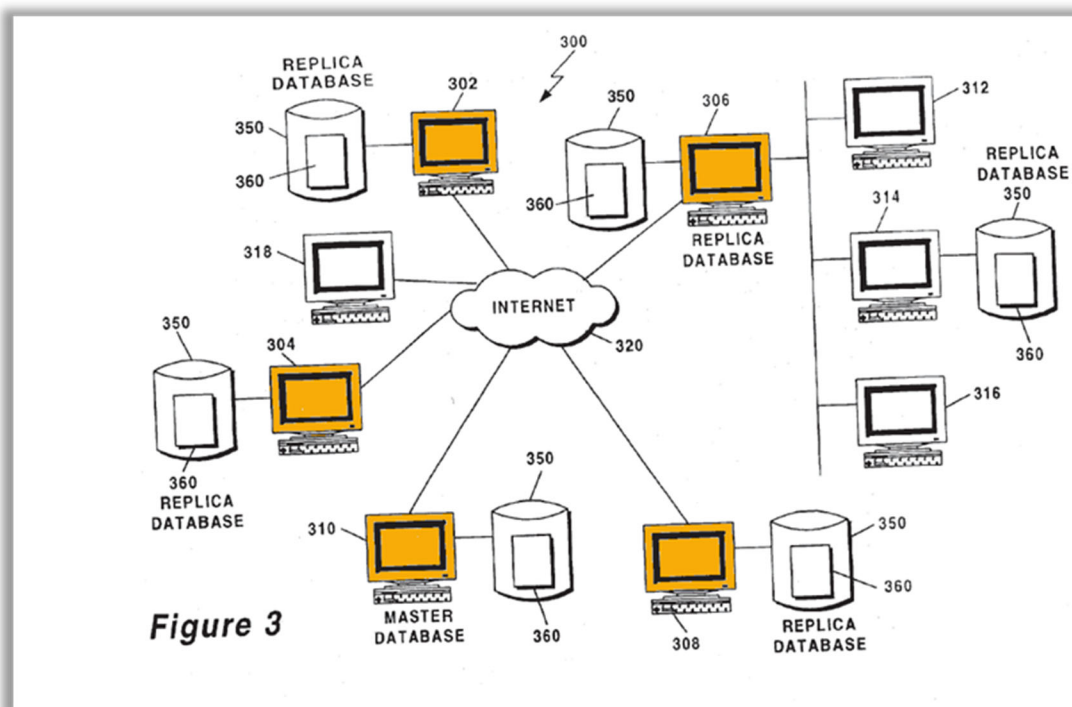
<sup>6</sup> Rohall uses surrogate document to describe shadow documents. Ex.1005, [0097].

messages distributed across databases containing replicas of a master database, Rohall teaches or suggests that the “children documents or shadows thereof” (“*the plurality of sent submessages*”) is “*stored externally to the message container*” for this additional reason. Ex.1003, ¶161.

Indeed, in Rohall, the “children documents or shadows thereof” (“*the plurality of sent submessages*”) is “*stored ... in the message database.*” “[A] shadow document ... identifies any parent and/or child documents of the subject document” and further that it “is stored in an electronic mail database which may then be replicated ... in the Notes environment” and further that “the shadow document is stored in memory, which, in the illustrative embodiment, is a mail database” such as a Notes database. Ex.1005, [0059], [0060].

A Notes database, referred to hereafter as simply a “database”, acts as a container in which data **Notes [comprising user defined documents and data]** and design Notes [comprising application elements such as code or logic that make applications function] may be grouped. ... In Notes, **every database has a master copy which typically resides on the server or user platform where the database was created. All other copies of the database are replicas of the master copy.** Replicas of databases may be located remotely over a wide area network, which may include as a portion thereof one or more local area networks.

Ex.1005, [0048]-[0049]. Specifically, with reference to Figure 3, Rohall explains that “the copy of database 350 associated [which includes document 360] with server 310 is designated as the ‘master’ copy of database 350,” where “[a]ll other copies of database 350 within the network are replica copies of the master copy.” Ex.1005, [0052].



Ex.1005, Figure 3 (annotated), [0050]. Ex.1003, ¶¶162–164, 166.

Moreover, Rohall’s disclosures of the “*message container*” limitation using replica databases that store copies of the messages stored in the master are consistent with Sterling’s statements during prosecution that copies of messages are locally cached. Ex.1003, ¶165 (citing Ex.1002, 243-244, Ex.1001, Figure 1).

**d. Sent submessages Are a Reply-To or a Forward-Of**

**[1.3] at least one of the sent submessages<sup>7</sup> being one of a reply to and a forward of other sent submessages of the sent message; and**

**[10.3] at least one of the sent submessages<sup>4</sup> being one of a reply to and a forward of other sent submessages of the sent message; and**

As explained with respect to element [1.2], in Rohall, “children documents or shadows thereof” constitute “*a plurality of sent submessages*.” Rohall also teaches that “a child/children document(s) or shadows thereof” is/are “*a reply to the sent message*.”

**Any replies to the original electronic mail message is/are considered a child/children document(s). ...** Accordingly, a parent/child tree hierarchy representing a conversation thread terminates at one extreme with a root document, or a shadow document thereof, and, at the other extreme, with one or more children documents, or shadows thereof, as the leaves of the tree.

Ex.1005, [0056]. Rohall explains how to determine if a particular message (which can be “*one of the sent submessages*”) is “*a reply to the sent message*.”

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<sup>7</sup> It appears that reciting “*the sent submessages*” here instead of “*the plurality of sent submessages*” is a typographical error.

If the incoming message is from the Internet or from a non-Notes environment, a conventional algorithm can be **used to determine if the message is a new message or a reply to an existing message by determining if the message has an “In-Reply-To” header**, or whether the subject lines of the message match an existing message or shadow document.

Ex.1005, [0060]. Rohall teaches **“the use of In-Reply-To headers where a document refers to its parent.”** Ex.1005, [0091]. *See also* Ex.1005, [0093] (disclosing an “electronic mail box,” that includes “a map 912 illustrating other messages in the conversation thread—the Ccs, **the Reply Tos**, the forwards”). Ex.1003, ¶¶167–172.

Therefore, Rohall discloses this claim element. Ex.1003, ¶173.

e. **Governance Module controlling a Governance Policy**

**[1.4] a governance module adapted to control a governance policy database storing a compliance policy describing rules applicable to the sent submessages,**

**[10.4] a governance module adapted to control a governance policy database storing a compliance policy describing rules applicable to the sent submessages,**

Although Rohall does not expressly disclose these claim elements, the Rohall/Schiavone combination<sup>8</sup> does. For example, Schiavone discloses

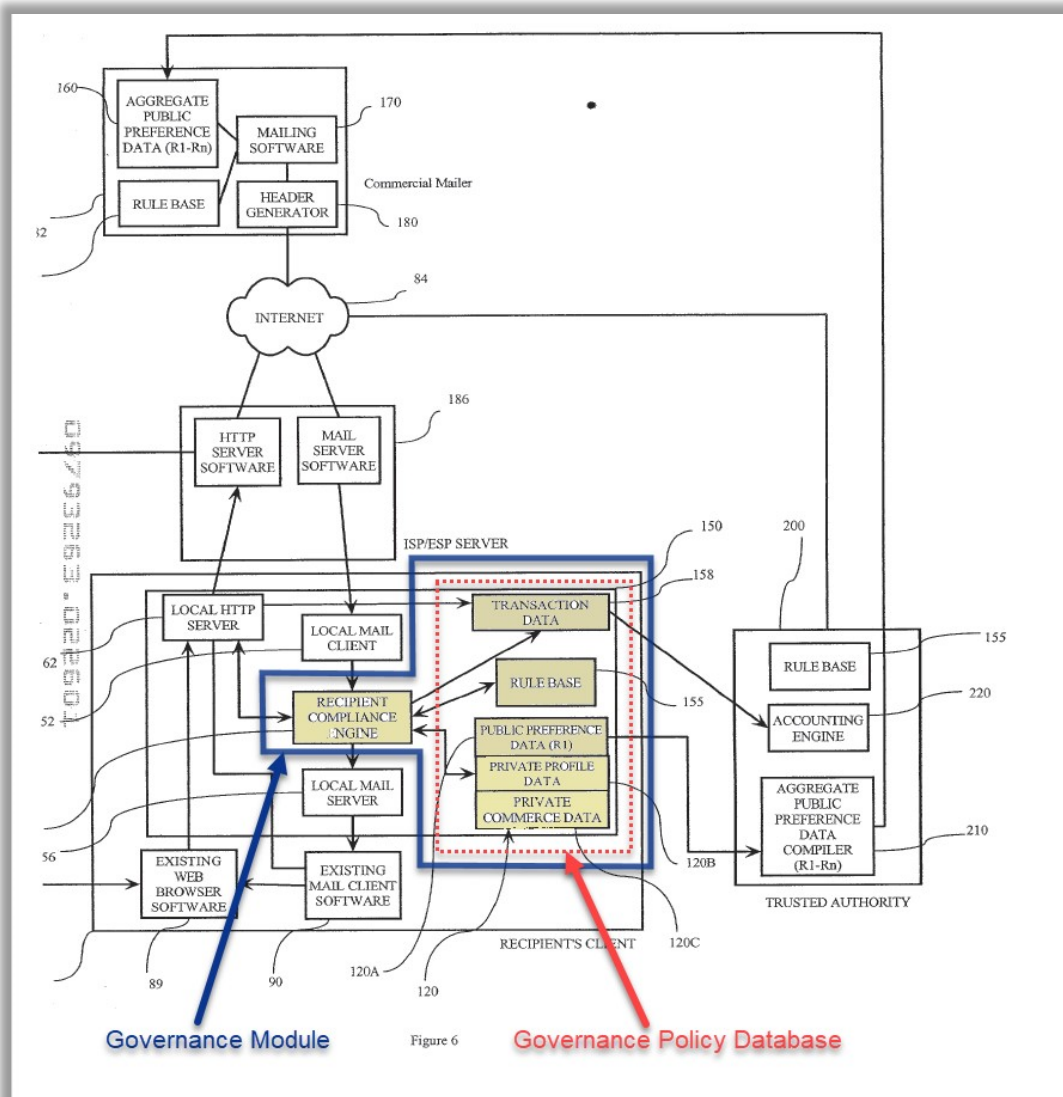
[A] recipient compliance engine 154 [that] is configured to identify a rule associated with the message, including referencing a rule base 155 as necessary, and to process the rule, e.g., by referring to public preference data 120 a, private profile data 120 b and/or private commerce data 120 c stored in the recipient client's data store 120. [T]he recipient compliance engine may reference private profile data and modify the message in accordance with the rule as a function of the recipient's profile data.

Ex.1006, [0064]. Thus, by “**identify[ing] a rule associated with the message, including referencing a rule base 155 and ... process[ing] the rule,**” the “recipient compliance engine” in Schiavone (e.g. included in a “*governance*”

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<sup>8</sup> Rohall/Schiavone is described in §VIII.A.1 and incorporated into this analysis.

*module*”) discloses the claimed functionality of “*control[ling]*” a database including (“*a governance policy database storing*”) “rule base 155” (“*a compliance policy describing rules*”). Ex.1006, [0064]. Specifically, with reference to Schiavone’s Figure 6 below, “*governance module*” (annotated with a solid blue bounding box as including the “recipient compliance engine,” “transaction data,” “rule base,” “public preference data,” “private profile data,” and “private commerce data”) “*control[s]*” the “*governance policy database*” (annotated with a dashed red bounding box as including transaction data store 158, rule base 155, a public preference data store 120a, a private profile data store 120b, and a private commerce data store 120c).



Ex.1006, Figure 6 (annotated); Ex.1003, ¶¶174–179.

Schiavone discloses “storing” in the “governance policy database ... a compliance policy describing rules applicable to the sent submessages” because Schiavone teaches that “the rule is obtained from a data store of rules 155” and “[a] common set of rules is used by two or more users of the system. The rule may be associated with messages by default, in an automated fashion, or as the result of a

sender's specification" and therefore "provides for widespread usage of a common, standard set of rules." Ex.1006, [0030], [0007], [0035]; Ex.1003, ¶180.

Schiavone's "rule base," such as rule base 155 in Figure 6 (e.g., "*a compliance policy describing rules*") may be "*stor[ed]*" on a client device or a server. Schiavone states: "rule base" can be "stored in a memory of the recipient's communications device" or, that the "rule base" "may also or alternatively be stored at the commercial mailer, trusted authority and/or another third party and referenced as necessary via a communications network." Ex.1006, [0030], [0066]; *see also* Ex.1006, [0029] (describing an example of a "COPPA" rule that is in compliance with laws of the United States). Therefore, Schiavone discloses "*a governance module adapted to control a governance policy database storing a compliance policy describing rules.*" Ex.1003, ¶181.

Claim 1 requires the "messaging server" to include the "*governance module.*" (See [1.0], [1.4] in Claim Listing.) Schiavone's Figure 6 depicts several engines and data stores (e.g, the "recipient compliance engine," "transaction data," "rule base," "public preference data," "private profile data," and "private commerce data") (collectively the "*governance module*") as a client-side module. However, as explained in §VII.A.1, it would have been obvious for a POSITA to modify Schiavone's disclosures constituting "*the governance module*" to explicitly

implement these engines and data stores on the server (such as Rohall's servers in the Rohall/Schiavone combination). Ex.1003, ¶¶182–185.

Furthermore, Schiavone discloses that “*rules [stored in the governance policy database]*” are “*applicable to the sent submessages.*” “[T]he **electronic mail message is processed based upon reference to a rule applicable to that particular message**” such that “[t]he rule may be associated with messages by default, in an automated fashion, or as the result of a sender’s specification, e.g., by including a mail-type specifier in the message.” Ex.1006, [0007], Abstract. Schiavone also discusses its process flow, stating that “an incoming **electronic mail message is received**, and a message type specifier associated with the electronic mail message is identified,” and “**a rule associated with the message type specifier is identified.**” Ex.1006, [0028]-[0030] (emphases added). Ex.1003, ¶186.

Therefore, Rohall/Schiavone teach or suggest these claim elements. Ex.1003, ¶187.

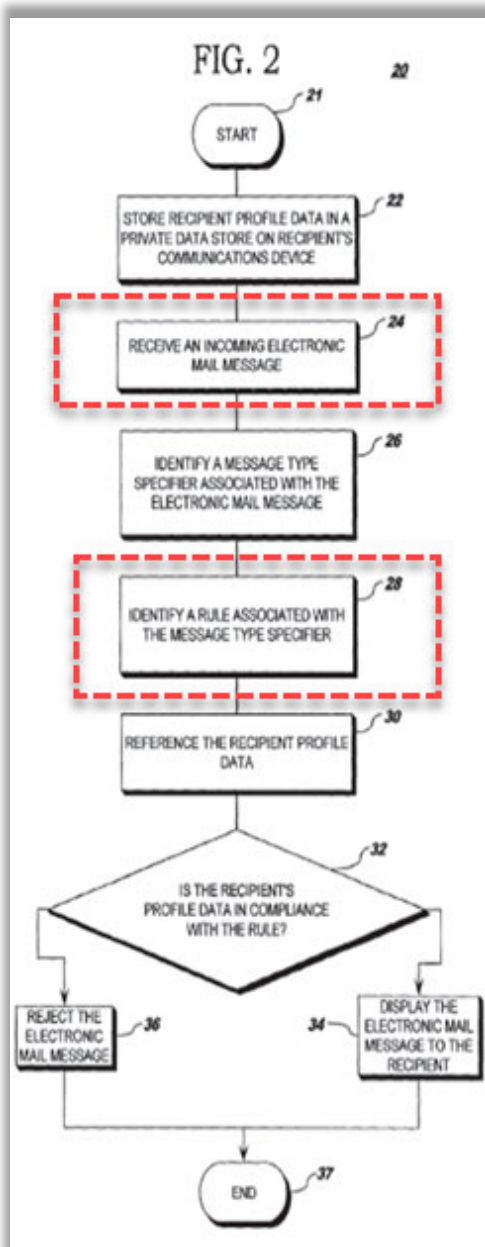
**f. Governance module determines rules described by Compliance Policy**

**[1.5] the governance module further adapted to determine rules described by the compliance policy that are applicable to ones of the plurality of sent submessages,**

**[10.5] the governance module further adapted to determine rules described by the compliance policy that are applicable to ones of the plurality of sent submessages,**

As explained in connection with [1.4] and [10.4], Rohall/Schiavone teaches or suggests “*a governance module.*”

Further, Schiavone (reproduced below) describes receiving an incoming message and identifying a rule (“*determin[ing] rules*”) “obtained from a data store of rules 155” (“*described by the compliance policy*”). Ex.1006, [0010], [0030], Figure 2 (blocks 24 and 28).



Ex.1006, Figure 2 (annotated). For instance, “a sender could select several different rule sets to automate their compliance with selected US federal and local laws and regulations and ... varying laws and regulations enacted by the European Union and elsewhere globally” in which “[t]he rule controls how the e-mail message will be processed.” Ex.1006, [0029]-[0030]; Ex.1003, ¶¶188–191.

In one example, “consider ... the COPPA [rule] ... that the mail message should be delivered to a U.S. recipient only if the recipient is over the age of 13.” Ex.1006, [0031]. Specifically, if “the recipient lives in the US and is 45 years of age,” then “it is determined that the recipient’s profile data [e.g., stored in private profile data] is in compliance, i.e., compatible, with the applicable rule ... and the electronic mail message is delivered to the recipient, e.g. placed in the recipient’s electronic “inbox” and/or displayed to the recipient.” Ex.1006, [0033]; Ex.1003, ¶191.

Therefore, Rohall/Schiavone teach or suggest these claim elements. Ex.1003, ¶¶192–193.

**g. Rules of the compliance policy selectively apply to submessages**

**[1.6] wherein different rules of the compliance policy are applicable to different ones of the plurality of sent submessages;**

**[10.6] wherein different rules of the compliance policy are applicable to different ones of the plurality of sent submessages;**

As demonstrated above, Schiavone teaches providing “*rules of the compliance policy*.” Moreover, Schiavone provides an example describing how “*different rules ... are applicable to different ... sent submessages*:”

[C]onsider that the recipient’s profile data indicates that the recipient lives in the US and is 45 years of age. Accordingly, it is determined that the recipient’s profile

data is in compliance, i.e., compatible, with the applicable rule ... and the electronic mail message is delivered to the recipient, e.g. placed in the recipient's electronic "inbox" and/or displayed to the recipient ... The transaction then ends ... . For example, the same message sent to a 10 year old in France could result in a determination of compliance and delivery of the message because the rule (and COPPA law) is applicable only to residents of the US. Compliance with local laws is thereby ensured.

Ex.1006, [0033]. Accordingly, Schiavone explains, "a sender could select **several different rule sets to automate their compliance with selected US federal and local laws and regulations and, if desired, varying laws and regulations enacted by the European Union and elsewhere globally.**" Ex.1006, [0029]. "The rules include logic for processing of incoming messages," such that a "common set of rules is used by two or more users of the system," and "rules may be implemented for a wide variety of applications, **including compliance with applicable laws,**" and "[a]ccordingly, **a mail message can be automatically processed and consequently filtered or routed based on a patchwork of applicable laws, regulations and best practices applicable to the specific sender, receiver and content of the e-mail message.**" Ex.1006, [0007], [0016] (emphases added); Ex.1003, ¶¶194–198.

Therefore, Rohall/Schiavone teach or suggest these claim elements. Ex.1003, ¶199.

**h. Entities in a Population Structure**

**[1.7] wherein the messaging system is utilized by a set of entities in a population structure and**

**[10.7] wherein the messaging system is utilized by a set of entities in a population structure and**

Rohall describes an electronic mail system (“*messaging system*”) that is “*utilized by*” “users/people” (“*a set of entities*”), e.g., “in a group or organization” (“*a population structure*”). Rohall explains that:

Electronic mail has become one of the most widely used business productivity application. . . . [but] many current electronic mail applications do not interact with other productivity tools of the user, such as calendar programs and collaborative meeting applications.

Ex.1005, [0006]-[0007]. Accordingly, Rohall teaches “an improved inbox or viewer for electronic mail that allows for greater integration of functions to enhance usability and productivity.” Ex.1005, [0012]. Rohall explains that “the Notes database” (“*the message database*”) “acts as a container in which data Notes . . . compris[ing] **user defined documents**” are stored, and therefore the electronic mail system (“*messaging system*”) is “*utilized by*” “users/people” (“*a set of entities*”). Ex.1005, [0049]; Ex.1003, ¶¶200–202.

Rohall discloses examples of how its “*messaging system*” is “*utilized by*” “users/people” (“*a set of entities*”) “in a group or organization” (“*a population structure*”). For example, Rohall explains that “Mail Agent 230 first detects the occurrence of a triggering event,” which “may include the sending or receipt of an electronic message, or, alternatively a request to delete an electronic message” by a user. Ex.1005, [0060]. Additionally, “the user may designate specific electronic mail types by name, keywords or senders as ‘Urgent’ and have a folder or Notes mail database created into which these urgent documents may be stored until accessed.” Ex.1005, [0107]. In another example, “Mail Agent 230 performs the functionality necessary to dynamically generate conversation threads, store the conversation thread representations and forward the same to other electronic mail users.” Ex.1005, [0126]; Ex.1003, ¶203.

Therefore, Rohall discloses these claim elements. Ex.1003, ¶204.

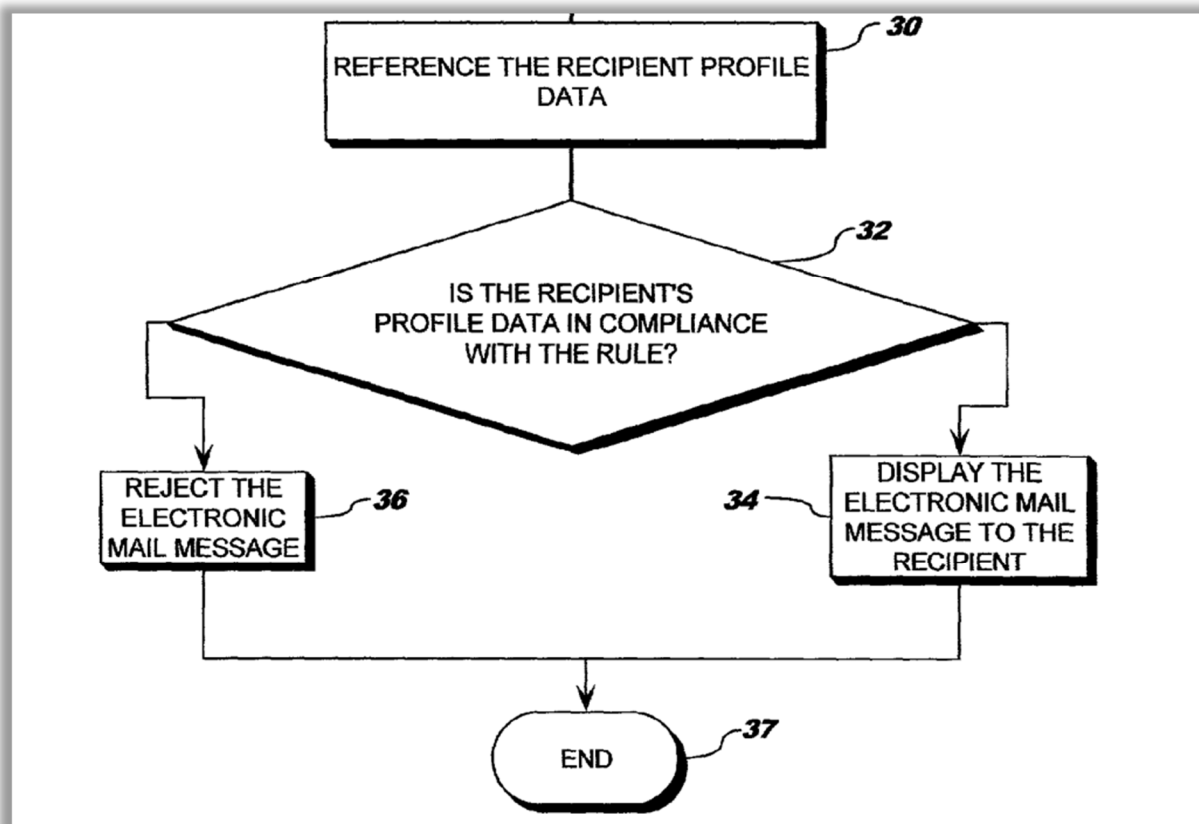
**i. Rule Elements of Compliance policy**

**[1.8] wherein a rule of the compliance policy includes one or more rule elements describing whether the rule is applicable to a sent submessage,**

**[10.8] wherein a rule of the compliance policy includes one or more rule elements describing whether the rule is applicable to a sent submessage,**

Schiavone teaches providing “*a rule of the compliance policy*” and for the reasons below, these elements are taught by Rohall/Schiavone. Ex.1003, ¶¶205–207; *see also* element [1.4].

Schiavone teaches an example in which U.S.-based, COPPA laws (e.g., “a rule of the compliance policy”) “includes” age-related restrictions (e.g., applies to recipients under 13 and does not apply to recipients over 45) (“one or more rule elements describing whether the rule is applicable to a sent submessage”). Ex.1006, [0031], [0033]. Referencing Figure 2 (blocks 30 and 32), Schiavone teaches using “reference profile data” (“one or more rule elements”) “describing whether the rule” is “in compliance with” (“applicable to”) “the electronic mail message” (“a sent submessage”). Ex.1003, ¶208.



Ex.1006, Figure 2. “The recipient’s profile data is ... referenced, as shown at step 30, and it is determined whether the recipient’s profile data is in compliance with the

rule, as shown at step 32.” Ex.1006, [0032]. If “it is determined that the recipient’s profile data is in compliance, i.e., compatible, with the applicable rule in step 32 ... the electronic mail message is delivered to the recipient, e.g. placed in the recipient’s electronic “inbox” and/or displayed to the recipient” but “[i]f the recipient’s profile data is determined not to be in compliance with the applicable rule ..., then the electronic mail message is rejected, ... and the transaction ends” Ex.1006, [0033]-[0034]. Also, and as Dr. Black explains, Schiavone describes processing messages based on determining applicability to specific senders, receivers and content of messages. Ex.1003, ¶209 (citing Ex.1006, [0016], [0031]-[0034]).

Therefore, Rohall/Schiavone teach or suggest these claim elements. Ex.1003, ¶210.

**j. Rule Elements selected from Source/Target/Rank**

**[1.9] at least one of the rule elements selected from the group consisting of: a source element describing a population structure entity that is a source of the sent submessage; a target element describing a population structure entity that is a recipient of the sent submessage; and a rank describing a ranking of the rule relative to other rules in the compliance policy.**

**[10.9] at least one of the elements selected from the group consisting of: a source element describing a population structure entity that is a source of the sent submessage; a target element describing a population structure entity that is a recipient of the sent submessage; and a rank describing a ranking**

**of the rule relative to other rules in the compliance policy.**

Rohall discloses “*a set of entities in a population structure*” and Schiavone teaches “*rule elements*” and thus for the reasons below, elements [1.9] and [10.9] are taught by Rohall/Schiavone. Ex.1003, ¶¶211–212.

Schiavone teaches “*source element*” and “*target element*.” Schiavone states that “rules may be implemented for a wide variety of applications, including compliance with applicable laws,” where “a mail message can be automatically processed and consequently filtered or routed based on ... best practices **applicable to the specific sender, receiver** and content of the e-mail message.” Ex.1006, [0016]. In the above-mentioned disclosures, the “sender” (“*a source element*”) is a “*rule element*” “*that is a source of*” “an electronic mail message” (“*the sent submessage*”). And similarly, the message “recipient” corresponds to the “*target element*.” Ex.1003, ¶213; (citing Ex.1006, [0016] (“a message may ... not delivered to the **intended recipient**)); [0031] (“the rule applies only to **recipients** living in the US”)).

Therefore, Rohall/Schiavone teach or suggest the “*source element*” and “*target element*” aspects of the claims. Ex.1003, ¶¶213–215.

Each of elements [1.9], and [10.9] are written in Markush form. It is well-established that, “the entire element is disclosed by the prior art if one alternative in the Markush group is in the prior art.” *Fresenius USA, Inc. v. Baxter Int’l, Inc.*, 582

F.3d 1288, 1298 (Fed. Cir. 2009). *Cisco Systems, Inc. v. WSOU Investments Inc.*, IPR2021-01117, Paper No. 28, 26 (PTAB Jan. 5, 2023) (finding a prior art disclosure of element “[A]” disclosed entire Markush group recited as “at least one of [A], [B], and [C]”).

### 3. Dependent Claims 2-8 and 11-12:

#### a. Jobcode

**[2.0] The messaging server of claim 1, wherein the compliance policy describes a population structure of end-users of the messaging system, a set of jobcodes with which the sent submessages can be classified, and a set of rules applicable to the population structure, jobcodes, and sent submessages.**

As demonstrated above for elements [1.7], [1.4], and [1.5], Rohall/Schiavone (see §VII.A.1), renders obvious “a group or organization” (“*a population structure*”) “users/people” (“*of end-users*”) of the “electronic mail system” (“*of the messaging system*”) and “*rules described by the compliance policy.*” Additionally, because the “*compliance policy*” in Rohall/Schiavone is defined—in accordance with the group or organization where such a policy applies—it would have been obvious to a POSITA that “*the compliance policy*” applies to, or otherwise “*describes [the] population structure.*” Ex.1003, ¶¶216–219.

Rohall/Schiavone further teaches or suggests that “*the compliance policy*” “*describes ... a set of jobcodes with which the sent submessages can be classified.*”

The 911 Patent explains that “jobcodes describe which rules are applicable in which

circumstances, and can represent exceptions to the standard rules,” and that jobcodes “allow submessages to be tied to external business processes,” e.g., “jobcodes allow messages to be associated with a business deal such as a merger, with a patient at a hospital, with particular clients of a law firm.” Ex.1001, 8:17–19, 12:35–40; Ex.1003, ¶¶219–220.

Similarly, Schiavone teaches use of privacy information such as “personal/demographics information” which can include private profile information such as “name, address, telephone number, age, sex, race and social security number,” for identifying “a specific transaction, specific sender, or specific message” to allow “enhanced preference-based **filtering**, targeting and/or compliance” of the messaging system/platform. Therefore, Schiavone discloses recipients’ “personal/demographics information” (“*a set of jobcodes*”) “*with which*” specific messages sent to recipients (such as those sent using Rohall’s system and including messages in a conversation thread represented using children documents or shadows thereof) (e.g., “*the sent submessages*”) “*can be*” “filtered” (“*classified*”). Ex.1006, [0004], [0022], and [0032]; Ex.1003, ¶¶219–221.

Further, in view of the above, and Schiavone’s teachings of use of “personal/demographics information” for “providing enhanced preference-based filtering, targeting and/or compliance” (“*a set of jobcodes*”), which a POSITA would have understood as examples of rule-based processing of email messages,

Rohall/Schiavone also render obvious “*a set of rules applicable to the population structure, jobcodes, and sent submessages.*” Ex.1003, ¶¶221–223.

**b. Jobcode Rules applicable to all sent submessages**

**[3.0] The messaging server of claim 2, wherein a jobcode describes a set of jobcode rules applicable to all sent submessages classified with the jobcode.**

As explained in claim 2, by teaching use of “personal/demographics information” (“*a set of jobcodes*”) for identifying “a specific transaction, specific sender, or specific message” to allow “enhanced preference-based filtering, targeting and/or compliance” of the messaging system/platform—which a POSITA would have understood as examples of rule-based processing of email messages, Schiavone’s use of “personal/demographics information” (“*jobcodes*”) constitute “*describ[ing] a set of jobcode rules applicable to ... sent submessages classified with the jobcode.*” Ex.1006, [0032]. Moreover, Schiavone does not teach any restrictions on the number of “*sent submessages*” to which its teachings of rule-based processing apply. Rather, Schiavone teaches using its rule-based processing of electronic messages for enabling “nearly limitless transaction types” and further describes that “rules can be added, deleted and/or revised easily without a need for revisions to the data stored in the private profiles of individual users.” Ex.1006, [0035].

Therefore, based on Rohall/Schiavone, a POSITA would have found it obvious that “[*the*] set of jobcode rules” is “*applicable*” nearly limitlessly—“*to all sent submessages*” that are “*classified with the jobcode.*” Ex.1003, ¶¶224–227.

**c. Associate a jobcode with a sent submessage**

**[4.0] The messaging server of claim 2, wherein the messaging module is further adapted to receive an indication of a jobcode and of a sent submessage from an end-user, and is further adapted to associate the jobcode with the sent submessage responsive to receipt of the indication of the jobcode from the end-user.**

As explained in connection with [1.1] and [2.0], Rohall discloses Mail Agent module (“*the messaging module*”) and Schiavone’s use of recipient’s “personal/demographics information” including private profile information such as “name, address, telephone number, age, sex, race and social security number” serve as “*a set of jobcodes.*” Ex.1006, [0022]; Ex.1003, ¶¶228–229.

Schiavone also teaches that the “personal/demographics information” such as that included in the recipient’s private and public preference data “**may be compiled ... during the recipient’s completion of a questionnaire**” and thus in the combined Rohall/Schiavone system, the recipient providing his/her personal/demographic information as answers in Schiavone’s questionnaire would enable a “*messaging module,*” such as Rohall’s Mail Agent module” “*receiv[ing] an indication of a jobcode ... from an end-user.*” Ex.1006, [0022]; Ex.1003, ¶¶230–232.

Furthermore, in Rohall/Schiavone, Rohall's teachings of "detect[ing] the occurrence of a triggering event" such as "the sending or receipt of an electronic message" for a recipient (Ex.1005, [0060]), whose personal/demographic information is stored in a recipient's private profile, as taught in Schiavone, would result in Rohall's Mail Agent module ("*messaging module associate[ing] the*") "personal/demographic information" ("*jobcode with the*") "sending of a message" ("*sent submessage*") "responsive to receipt of" the recipient's answers providing his/her personal/demographic information ("*the indication of the jobcode from the end-user*"). Ex.1003, ¶¶230–233.

**d. Communication and Readership Rules**

**[5.0] The messaging server of claim 1, wherein the rules described by the compliance policy include one or more types of rules from the set consisting of: communication rules describing which population structure entities can communicate with other population structure entities via the messaging system; and**

**readership rules describing which population structure entities can read messages from other population structure entities via the messaging system.**

As demonstrated in connection with [1.7], [1.4], and [1.5], Rohall discloses "*messaging server*" and "users in a group or organization" ("*population structure entities*"), which are modified by Schiavone's teachings of "*rules described by the compliance policy*." See §VII.A.1. Additionally, Schiavone provides an example of

a company-developed rule which “may require internal approval (e.g., by clicking an appropriate button or typing OK ...) from a purchasing agent, a supervisor, an accountant, and a vice-president before a purchase order is forwarded to a vendor,” “although the mail message is prepared by the purchasing agent and addressed to the vendor, the electronic mail message will be processed according to the rule and forwarded to each individual for approval before the message is able to be sent to the vendor” and therefore serves as an example of a “*communication rule*” because it “*describe[es] which population structure entities*” (such as the specific users/people using Rohall’s messaging system”) “*can communicate with other population structure entities via the messaging system.*” Ex.1006, [0036]; Ex.1003, ¶¶234–237.

A POSITA would have found it obvious that Rohall’s electronic messaging system, which is utilized by “users/people” (“*the set of entities*”) in “a group or organization” (“*a population structure*”) to be additionally modified to include Schiavone’s teachings of “a company-developed rule” (“*a “communication rule”*”) “*describing*” “specific personnel holding positions of rank and involved in approving a purchase order” (“*which population structure entities can communicate with other population structure entities via*”) Rohall’s electronic messaging system (“*the messaging system*”). Ex.1003, ¶237.

Furthermore, Schiavone also discloses “*readership rules*.” Schiavone teaches that its “invention can be used for filtering, ... by allowing receipt of a message only if certain laws or standards are complied with” and provides an example of a COPPA rule which “forbids delivery of commercial electronic mail communications to [a group comprising] children aged thirteen (13) and under unless a parent has given prior consent.” Ex.1006, [0007], [0029]. This rule therefore meets the “*readership rule*” element because it describes “recipients under the age of thirteen having parental consent” (“*which population structure entities*”) “*can read messages from*” “commercial mailers” (“*other population structure entities*”) “*via the messaging system*” (e.g., Rohall’s messaging system). Ex.1003, ¶¶238–240.

**e. Validity and Retention Rules**

**[6.0] The messaging server of claim 1, wherein the rules described by the compliance policy include one or more types of rules from the set consisting of: validity rules describing a time period for which a sent submessage or entity in the population structure is useable; and**

**retention rules describing a time period after which a sent submessage or entity in the population structure should be deleted from the messaging system.**

Schiavone teaches “*validity rules describing a time period for which a sent submessage ... is useable*” and “*retention rules describing a time period after which a sent submessage . . . should be deleted from the messaging system.*” Ex.1003, ¶¶241–242.

Schiavone explains that “a recipient’s profile data may **contain time-based limitations for receiving electronic mail**, which may be useful for filtering purposes. [For example,] a recipient may include in the recipient profile data that for a period of two months, e.g. after purchasing a house, the recipient wishes to receive sale offers relating to purchases of new homes, or home furnishings” and that “[t]he rule can be used to reject or discard the electronic mail message, e.g. before viewing by a recipient, if the appropriate information is not contained in the recipient’s profile data.” Ex.1006, [0067]. Therefore, “the two-month rule” is a “*validity rule*” “*describing*” “until two-months of new home purchase” (“*a time period for which*”) “a sale-offer message” (such as those sent using Rohall’s system and including messages in a conversation thread represented using children documents or shadows thereof) (“*a sent submessage is useable.*”) Moreover, the “two-month rule” is also a “*retention rule*” “*describing*” “beyond two-months of new home purchase” (“*a time period*”) “*after which*” “a sale-offer message” (“*a sent submessage*”) “*should be*” “discard[ed]” “*deleted*” “*from*” “*the messaging system*” (e.g., Rohall’s messaging system). Ex.1003, ¶¶243–245.

**f. Prior compliance policy active at a prior time**

**[7.0] The messaging server of claim 1, wherein the governance policy database further stores at least one prior compliance policy active at a time prior to a time at which the compliance policy was active, and**

**wherein the sent submessages of the stored messages are associated with a compliance policy that was active at a time that content of the sent submessages was created.**

As demonstrated for element [1.4], Rohall's "*messaging system*," as modified by Schiavone's rule-based processing of email messages (see §VII.A.1) renders obvious "*a governance policy database storing a compliance policy ... applicable to the sent submessages.*" Ex.1003, ¶¶246–247.

Further, Schiavone teaches providing "*at least one prior compliance policy active at a time prior to a time at which the compliance policy was active and wherein the sent submessages of the stored messages are associated with a compliance policy that was active at a time that content of the sent submessages was created.*"

Schiavone describes an example of a two-month rule in which "a recipient may include in the recipient profile data that for a period of two months, e.g. after purchasing a house, the recipient wishes to receive sale offers relating to purchases of new homes, or home furnishings" and that "[t]he rule can be used to reject or discard the electronic mail message, e.g. before viewing by a recipient, if the appropriate information is not contained in the recipient's profile data." Ex.1006, [0067]. Therefore, "the two-month rule" ("*at least one prior compliance policy*") allows "the recipient to receive sale-offer messages until two-months of new home purchase" ("*active at a time prior to a time at which the compliance policy was*

*active and wherein*”) “sale-offer messages” (“*the sent submessages*”) are associated with the “two-month rule” (“*are associated with a compliance policy*”) “prior to receiving the sale-offer message”) (“*that was active at a time that content of the sent submessages was created*”). Ex.1003, ¶¶248–250.

**g. Rules are associated with submessages**

**[8.0] The messaging server of claim 7, wherein at least one of the messages stored in the message database has a first sent submessage associated with a first compliance policy and**

**a second sent submessage associated with a second compliance policy different from the first compliance policy, and**

**wherein the governance module applies the rules described by the first compliance policy to the first sent submessage and applies the rules described by the second compliance policy to the second sent submessage.**

Rohall/Schiavone renders obvious claim 8 for the same reasons as demonstrated above for elements [1.4], [1.5], and [1.6], which recite substantively the same features as the language of claim 8, other than claim 8 reciting “*a first compliance policy*” and “*a second compliance policy*.” Specifically, as explained in [1.4], Schiavone’s “rule base” corresponds to “*a compliance policy describing rules*.” Dr. Black explains that an organization/group can have multiple compliance policies and therefore “rule base 155” can store one or more “*compliance polic[ies] describing rules*,” which suggests or teaches “*a first compliance policy*” and “*a*

*second compliance policy.*” Ex.1015, [0028], [0030] (disclosing “explicitly defined business policies” within an enterprise and “needs to accommodate different policies in different environments”). Ex.1003, ¶¶251–252.

Furthermore, and as Dr. Black explains, Schiavone discloses “[a] rule may be associated with messages ... as the result of a sender’s specification,” e.g., included as part of a group or an organization’s compliance policy. Ex.1003, ¶ (citing Ex.1006, [0007]). Because one sender’s specification can be different from another sender’s specification, this would result in “*different*” compliance policies (such as “*a first compliance policy*” and “*a second compliance policy*”). Ex.1003, ¶¶253–254.

**h. Communication, Readership, Action, and Search Rules**

**[11.0] The computer program product of claim 10, wherein the rules described by the compliance policy include one or more types of rules from the set consisting of: communication rules describing which population structure entities can communicate with other population structure entities via the messaging system;**

**readership rules describing which population structure entities can read messages from other population structure entities via the messaging system; action rules describing actions a population structure entity can perform on a message component in the messaging system; and**

**search rules describing which population structure entities can view which message components when**

**searching the messaging components stored by the messaging system.**

*See claim 5 for “communication rules” and “readership rules.”*

**i. Validity and Retention Rules**

**[12.0] The computer program product of claim 10, wherein the rules described by the compliance policy include one or more types of rules from the set consisting of: validity rules describing a time period for which a sent submessage or entity in the population structure is useable; and**

**retention rules describing whether a sent submessage or entity in the population structure should be deleted from the messaging system**

*See claim 6.*

**4. Claim 13:**

Rohall/Schiavone teaches or suggests all of the elements of claim 13 for the same reasons demonstrated above with respect to claims 1 and 10, as incorporated below.

| <b>Claim 13</b> | <b>Analogous Claim Limitations</b> |
|-----------------|------------------------------------|
| [13.0]          | [1.0], [10.0] <i>and see below</i> |
| [13.1]          | [1.4], [10.4] <i>and see below</i> |
| [13.2]          | [1.1], [10.1]                      |
| [13.3]          | [1.2], [10.2]                      |
| [13.4]          | [1.3], [10.3]                      |

|        |               |
|--------|---------------|
| [13.5] | [1.6], [10.6] |
| [13.6] | [1.7], [10.7] |
| [13.7] | [1.8], [10.8] |
| [13.8] | [1.9], [10.9] |

Element [13.0] additionally recites “[a] *computer-implemented method of managing messages.*” Rohall describes that **“the methods of the invention [relating to a technique for effectively reviewing and processing electronic mail and electronic mail threads] may be achieved in either all software implementations, using the appropriate processor instructions, or in hybrid implementations which utilize a combination of hardware logic and software logic to achieve the same results.”** Ex.1005, [0134], [0005].

Element [13.1] additionally recites “*defining a compliance policy describing rules applicable to sent submessages of sent messages in the electronic messaging system*” which is substantively similar to [1.4], [10.4]. Additionally, Schiavone, through its “defining rules” explanation discloses this element. Ex.1006, [0030]. Schiavone explains that “[a] data store [such as rule base 155] is preferably periodically updated by a third party trusted intermediary responsible **for defining rules.**” Ex.1006, [0030].

## 5. Claims 15, 18, and 20-21

### a. [15.0]

As explained in element [1.7], Rohall discloses “*the set of entities in the population structure.*” Schiavone describes an example involving an email requiring approval by specific personnel holding positions of rank for a purchase order (“*a group defined by their locations in a hierarchy*”) “*defined by the*” organizational chain-of-command (“*hierarchical population structure*”) before it is sent to the vendor. Schiavone explains: “a company-developed rule may require internal approval (... by clicking an appropriate button or typing OK ...) from a purchasing agent, a supervisor, an accountant, and a vice-president before a purchase order is forwarded to a vendor,” and “the electronic mail message will be processed according to the rule and forwarded to each individual for approval before the message is ... sent to the vendor.” Ex.1006, [0036]. Here, requiring purchase order approval by the specific personnel involved in the approving process constitutes “*a set of rules applicable to the entities in the group.*” As Dr. Black explains, Rohall’s messaging system would be modified to include Schiavone’s teachings of specific personnel holding positions of rank (e.g., involved in approving a purchase order) (“*group defined by their locations in a hierarchy defined by the*”) organizational chain-of-command (“*hierarchical population structure*”). Ex.1003, ¶¶257–260.

**b. [20.0]**

Schiavone discloses this claim through its disclosures regarding auction rules.

The **auction rule** could specify that a message is sent to each of the other individuals every time **any individual places a bid** by e-mailing the seller, although the message is addressed only to the seller, and **sending an automated e-mail message ... to the highest bidder after expiration of a predetermined auction period (e.g. a predetermined length of time or number of bids).**

Ex.1006, [0037]. Thus, the “auction rule” (“*action rule describe[s]*”) rules for an auction bidder “placing a bid” (“*actions an entity can perform*”) “on” (“*message to the highest bidder*”) (“*a sent submessage*”) and “a predetermined length of time or number of bids” (“*a number of times within a given time period that the entity*”) “*can*” place a bid (“*perform a specified action*”). Ex.1003, ¶¶263–266.

**c. [18.0], [21.0]**

Rohall/Schiavone renders obvious claims 18 and 21 as identified below.

| <b>Claim</b> | <b>Analogous Claim Elements</b>                                          |
|--------------|--------------------------------------------------------------------------|
| [18.0]       | [5.0] (“ <i>communication rules</i> ”) and (“ <i>readership rules</i> ”) |
| [21.0]       | [1.7], [15.0] <i>and see below</i>                                       |

Elements [1.7] and [15.0] meet the “*defining a group of entities in the population structure*” element of claim 21, and for the additional reasons below,

Schiavone teaches the other elements of this claim. Schiavone discloses an auction rule describing (“*defining*”) auction participants (“*a group of entities in the population structure*”) and the rules apply to the participants when the message(s) is/are sent to seller and/or bidders:

The *auction rule* could specify that *a message is sent to each of the other individuals* every time any individual places a bid by e-mailing the seller, although the message is addressed only to the seller, and sending an automated e-mail message ... to the highest bidder after expiration of a predetermined auction period ....

Ex.1006, [0037]. *See also* Ex.1006, [0029], [0039]. Ex.1003, ¶¶267–271.

**B. Ground 2: Rohall, Schiavone, and Gomes Renders Obvious Claims 9 and 27**

**1. The Rohall/Schiavone/Gomes Combination**

A POSITA would have been motivated to combine Rohall’s messaging system server with Schiavone’s rule-based processing of messages for the reasons demonstrated above. *See* §VII.A.1. A POSITA would have additionally been motivated to implement the teachings of Gomes related to de-duplication in Rohall/Schiavone. Ex.1003, ¶273.

U.S. Patent No. 8,375,008 to Gomes (“Gomes”) was filed on January 16, 2004 and is prior art to the 911 Patent at least under §102(e). Gomes is directed at

managing data to retain (or store or process) electronic data within an enterprise. Ex.1016, 1:65-67. Ex.1003, ¶115.

Gomes is analogous art as the 911 Patent (and Rohall/Schiavone) because it is directed at electronic mail messaging systems. Ex.1016, 2:4-16, Abstract. Gomes is reasonably pertinent to a problem described in the 911 Patent: automating the process of filtering e-mails, e.g., to remove duplicates, which the 911 Patent and Gomes explain is a problem of current email systems. Ex.1016, 7:2-11, 1:49-61. Ex.1001, 1:36-45. Ex.1003, ¶274.

A POSITA would have been motivated to combine the de-duplication teachings of Gomes with Rohall/Schiavone because de-duplication would improve Rohall/Schiavone by requiring less memory/storage space consistent with Rohall's goal of "reduce[ing] memory requirements" and performing "memory management" and Schiavone's concerns of "significant and increasing costs associated with ... [data] storage." Ex.1005, [0064], [0043]. Ex.1006, [0002]; Ex.1003, ¶275.

A POSITA would have been motivated to combine Gomes with Rohall/Schiavone because Gomes's teachings of applying filters or rules to identify "compliant data" (Ex.1016, Abstract, 9:21-27) in a database would address Schiavone's concern that presently "few standards, rules, or laws apply to govern how the e-mail communications medium is used," and that "even with respect to laws, regulations and best practices ... there are no satisfactory techniques for

ensuring compliance of e-mail messages with applicable standards and/or laws and/or otherwise determining appropriateness of a message for an intended recipient,” and therefore, Gomes’ teachings would improve the filtering capabilities of the Rohall/Schiavone combination. Ex.1006, [0006]. Moreover, a POSITA would have been further motivated to combine Gomes with Rohall/Schiavone because Gomes’s teachings of data retention policies (Ex.1016, 9:21-42) would ensure that a messaging system according to the teachings of the combination meets the legal and statutory requirements of data retention in organizations/businesses. Ex.1003, ¶276.

Additionally, a POSITA would have been motivated to combine Gomes with Rohall/Schiavone because Gomes’s methods apply to data from different data sources (Ex.1016, 13:16-21) which would improve Rohall/Schiavone by allowing a messaging system to have greater applicability and versatility in handling different data types. Ex.1003, ¶277.

Moreover, a POSITA would have had a reasonable expectation of success in implementing Gomes’s teachings in the Rohall/Schiavone because Gomes describes an embodiment using the same type of email file system as Rohall, “Lotus Notes files.” Ex.1016, 6:27-31. Ex.1005, [0060]. Additionally, a POSITA would have had a reasonable expectation of success in making the combination because it would be a simple substitution well within the skill of a POSITA. For example, modifying

Rohall/Schiavone based on Gomes would be nothing more than adding an extra processing module/engine in the messaging system server that incorporates Gomes's teachings of a de-deduplication engine and further, adding such a module/engine would not change the principle of operation of the messaging system because it is still functional on Lotus Notes files. Ex.1003, ¶278.

## 2. Dependent Claim 9

### a. Search Rules

**[9.0] The messaging server of claim 1, wherein the rules described by the compliance policy include search rules describing which population structure entities can view which sent submessages when searching the sent submessages stored by the messaging system.**

Rohall/Schiavone does not expressly disclose the “*search rules . . .*” as recited in claim 9, but it would have been obvious in view of Rohall/Schiavone and Gomes. Ex.1003, ¶279.

Gomes describes an example of a legal repository rule including “defin[ing]” “the criteria for a **search of files, messages**, records, or other data ... based on the names of the parties involved” which would “**allow authorized users access** to the legal repository (or any other “targeted data” database),” *e.g.*, “authorized users may be allowed read-only access to the evidence data and read and write access to the other information.” Ex.1016, 11:40-47, 12:46-55; *see also* Ex.1016, 13:1-6 (disclosing an embodiment in which “only read access may be granted to the

authorized users”). Gomes explains that the legal repository “may include files or other records related to a legal matter.” Indeed, Gomes identifies that its methods apply to different file types, including “email files” such as “Exchange Database (“EDB”) files” and “Lotus Notes files.” Ex.1016, 6:21-31. Therefore, Gomes discloses “a rule including the criteria for a search” “defining” (“*a search rule[] describing*”) “authorized users” (“*which population structure entities can view which sent submessages when*”) “accessing” (“*searching*”) “the legal repository storing data such as email messages” (“*the sent submessages*”). Ex.1003, ¶280.

Moreover, as Dr. Black explains, a POSITA would have recognized that limiting searches of an electronic database to certain groups of people was a well-known technique at time of the 911 Patent. Ex.1003, ¶281 (citing, Ex.1017, Claims 4-7, [0013]-[0014]). Ex.1003, ¶¶281–282.

### 3. Independent Claim 27

Rohall/Schiavone teaches or suggests all of the elements of claim 27 for the same reasons demonstrated above with respect to claims 1 and 10, with the below-mentioned distinctions noted.

| Claim 27 | Analogous Claim Elements           |
|----------|------------------------------------|
| [27.0]   | [1.0], [10.0]                      |
| [27.1]   | [1.1], [10.1] <i>and see below</i> |
| [27.2]   | [1.2], [10.2] <i>and see below</i> |

|         |                            |
|---------|----------------------------|
| [27.3]  | [1.3], [10.3]              |
| [27.4]  | [1.2] and <i>see below</i> |
| [27.5]  | [1.4], [10.4]              |
| [27.6]  | [1.5], [10.5]              |
| [27.7]  | [1.6], [10.6]              |
| [27.8]  | [1.7], [10.7]              |
| [27.9]  | [1.8], [10.8]              |
| [27.10] | [1.9], [10.9]              |

Other than replacing “*message*” in [1.1] and [1.2] with “*email*” in [27.1] and [27.2], the language in claim 27 is substantively the same as claims 1 and 10. Unlike claims 1 and 10, claim 27 includes element [27.4] which recites “*each of the sent submessages is stored exactly once within the email database*” and that “*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,*” and this element is taught by Rohall/Schiavone as further modified by Gomes, as explained below. Ex.1003, ¶284.

a. **Sent submessages stored exactly once within the email database**

**[27.4] 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; and**

As explained in element [1.2], Rohall discloses “*the reply is added to the message container as an additional sent submessage.*” Furthermore, Gomes discloses “email files can be ... de-duplicated, including de-duplication of attachments, message bodies and metadata ... **such that only one copy of the content is in the database regardless of the location of the file.**” Ex.1016, 2:4-16, Abstract. In Rohall/Schiavone and Gomes, Rohall’s modified messaging system server would include a de-duplication engine according to Gomes. That combination would accordingly teach or suggest the elements “*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.*” Ex.1003, ¶¶285–288.

Gomes recognizes the benefits of de-duplication in processing enterprise-wide data: “By having fewer files, less storage space is needed and quicker searches can be performed” and by “automating the operation, the de-duplication operation can occur real-time without any human intervention.” Ex.1016, 3:40-42, 13:32-34; Ex.1003, ¶289.

Referencing Figure 4, Gomes describes its de-duplication process:

[T]he de-duplication operation, as performed by de-duplication engine 144, can comprise separating each of the original data into a content portion and a metadata portion at step 422. For a file, the metadata portion may include an Internet Protocol address or other address of a computer from which the file is obtained. Additional data within the metadata portion may include the file path and filename, date the file was last saved on that particular computer, a pointer to the content portion within that computer, size of the file, and the like. ...

Ex.1016, 7:11-26.

In one embodiment, **rather than storing multiple copies of the same content portion, only one copy of the content is stored within collective database 162.**

Ex.1016, 8:8-10. Ex.1003, ¶290.

Additionally, Gomes recognizes that de-duplication can be done in multiple ways:

After reading this specification, skilled artisans realize that the foregoing are simply examples of the de-duplication embodiments and de-duplication can be implemented in a variety of different manners.

Ex.1003, ¶291 (citing Ex.1016, 7:39-60). Indeed, Dr. Black explains that de-duplication techniques were known in the art (*see* Ex.1003, §VIII.D).

Accordingly, Gomes discloses this claim element. Ex.1003, ¶292.

## **VIII. THE BOARD SHOULD NOT EXERCISE ITS DISCRETION AND DENY INSTITUTION**

### **A. The Board Should Not Deny Institution Under 35 U.S.C. § 325(d)**

Denial under § 325(d) is not warranted because the challenges presented in this Petition are neither cumulative nor redundant to the prosecution of the 911 Patent (or related patents), as none of Rohall, Schiavone nor Gomes were cited or considered by the Examiner during prosecution of the 911 Patent. *Sony v. MZ Audio Scis., LLC*, IPR2022-01544, Paper No. 12, \*7 (§325(d) discretion improper where “Examiner did not consider the specific combination of references asserted”). Moreover, the Examiner also did not have the benefit of Dr. Black’s detailed expert testimony and the further evidence of record. Finally, the 911 Patent has not been previously challenged in an IPR.

The same or substantially the same art or arguments were not considered, but even if they were, the Examiner materially erred by not rejecting the Claims for the reasons discussed above. The Examiner otherwise “did not expressly consider” any art with substantially the same teachings as the art in this Petition, rendering it “impossible . . . to determine the consideration the Examiner gave” to such references, and demonstrating that “the Office erred in a manner material to

patentability.” *Ecobee Techs. v. Causam Enterprises, Inc.*, IPR202201339, Paper No. 20, \*20–21 (declining to exercise §325(d) discretion).

**B. The Board Should Not Deny Institution Under 35 U.S.C. § 314(a)**

**1. Factor 1: Stay**

Factor 1, for example, is **neutral** because no request for stay has been filed. *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15, 12 (May 13, 2020) (informative) (“*Fintiv*”).

**2. Factor 2: Date**

Based on the current Scheduling Order, trial will not occur before October 26, 2026. Any Final Written Decision can be expected before the end of July 2026, which is at least three months before trial. Accordingly, this factor **weighs against** discretionary denial.

**3. Factor 3: Parallel Proceeding**

Factor 3 **weighs against** discretionary denial. In the related litigation, Plaintiff served its initial infringement contentions on October 11, 2024. Discovery has not opened and claim construction is just beginning. The investment by the parties to date has been relatively minimal.

**4. Factor 4: Overlapping Issues**

In the interest of efficiency, Petitioner offers a *Sotera* stipulation—i.e., Petitioner stipulates that if the Board institutes a trial, the petitioner will not raise in district court litigation any grounds that it raised in the IPR petition or reasonably

could have raised in this IPR petition. Factor 4, therefore, **strongly against** discretionary denial.

#### **5. Factor 5: Overlapping Parties**

Factor 5 is **neutral**. Microsoft is a defendant in the related litigation. As *Fintiv* demonstrates, this factor should play a role only where a Petitioner is unrelated to a defendant in a district court proceeding.

#### **6. Factor 6: Strength/Other Considerations**

Here, the merits of the Petition are particularly compelling—for example, Rohall and Schiavone are strikingly similar disclosures to that of the 911 Patent, is directed at the same problem, proposes the same solutions as the 911 Patent, and discloses nearly identical functionality as the claimed “*messaging server*”/“*method of managing messages in an electronic messaging system*.” The evidence presented, if unrebutted, would lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence.

### **IX. CONCLUSION**

Claims 1-13, 15, 18, 20-21, and 27 of the 911 Patent are unpatentable for the reasons discussed above.

Dated: January 17, 2025

Respectfully Submitted,

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**CERTIFICATE OF COMPLIANCE**

I hereby certify that this brief complies with the type-volume limitations of 37 C.F.R. § 42.24, because it contains 13,848 words (as determined by the Microsoft Word word-processing system used to prepare the brief and including annotated figures), excluding the parts of the brief exempted by 37 C.F.R. § 42.24.

Dated: January 17, 2025

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**CERTIFICATE OF SERVICE**

Pursuant to 37 C.F.R. § 42.6(e), I hereby certify that on this 17<sup>th</sup> day of January, 2025, I caused to be served a true and correct copy of the foregoing and any accompanying exhibits by Federal Express Priority Overnight on the following:

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**CLAIM LISTING**

| <b>Claim 1</b> |                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [1.0]          | A computerized messaging server in an electronic messaging system, comprising:                                                                                                                                                                                                                                                                                                  |
| [1.1]          | a messaging module adapted to control a message database storing messages sent among users of the messaging system,                                                                                                                                                                                                                                                             |
| [1.2]          | at least one of the sent messages stored in the message database comprising a message container containing relational references pointing to a plurality of sent submessages stored externally to the message container in the message database,                                                                                                                                |
| [1.3]          | at least one of the sent submessages being one of a reply to and a forward of other sent submessages of the sent message; and                                                                                                                                                                                                                                                   |
| [1.4]          | a governance module adapted to control a governance policy database storing a compliance policy describing rules applicable to the sent submessages,                                                                                                                                                                                                                            |
| [1.5]          | the governance module further adapted to determine rules described by the compliance policy that are applicable to ones of the plurality of sent submessages,                                                                                                                                                                                                                   |
| [1.6]          | wherein different rules of the compliance policy are applicable to different ones of the plurality of sent submessages;                                                                                                                                                                                                                                                         |
| [1.7]          | wherein the messaging system is utilized by a set of entities in a population structure and wherein a rule of the compliance policy includes one or more rule elements describing whether the rule is applicable to a sent submessage, and                                                                                                                                      |
| [1.8]          | wherein a rule of the compliance policy includes one or more rule elements describing whether the rule is applicable to a sent submessage,                                                                                                                                                                                                                                      |
| [1.9]          | at least one of the rule elements selected from the group consisting of: a source element describing a population structure entity that is a source of the sent submessage; a target element describing a population structure entity that is a recipient of the sent submessage; and a rank describing a ranking of the rule relative to other rules in the compliance policy. |
| <b>Claim 2</b> |                                                                                                                                                                                                                                                                                                                                                                                 |
| [2.0]          | The messaging server of claim 1, wherein the compliance policy describes a population structure of end-users of the messaging system, a set of jobcodes with which the sent submessages can be classified, and a set of rules applicable to the population structure, jobcodes, and sent submessages.                                                                           |

| <b>Claim 3</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [3.0]          | The messaging server of claim 2, wherein a jobcode describes a set of jobcode rules applicable to all sent submessages classified with the jobcode.                                                                                                                                                                                                                                                                                                                 |
| <b>Claim 4</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| [4.0]          | The messaging server of claim 2, wherein the messaging module is further adapted to receive an indication of a jobcode and of a sent submessage from an end-user, and is further adapted to associate the jobcode with the sent submessage responsive to receipt of the indication of the jobcode from the end-user.                                                                                                                                                |
| <b>Claim 5</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| [5.0]          | The messaging server of claim 1, wherein the rules described by the compliance policy include one or more types of rules from the set consisting of: communication rules describing which population structure entities can communicate with other population structure entities via the messaging system; and readership rules describing which population structure entities can read messages from other population structure entities via the messaging system. |
| <b>Claim 6</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| [6.0]          | The messaging server of claim 1, wherein the rules described by the compliance policy include one or more types of rules from the set consisting of: validity rules describing a time period for which a sent submessage or entity in the population structure is useable; and retention rules describing a time period after which a sent submessage or entity in the population structure should be deleted from the messaging system.                            |
| <b>Claim 7</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| [7.0]          | The messaging server of claim 1, wherein the governance policy database further stores at least one prior compliance policy active at a time prior to a time at which the compliance policy was active, and wherein the sent submessages of the stored messages are associated with a compliance policy that was active at a time that content of the sent submessages was created.                                                                                 |
| <b>Claim 8</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| [8.0]          | The messaging server of claim 7, wherein at least one of the messages stored in the message database has a first sent submessage associated with a first compliance policy and a second sent submessage associated with a second compliance policy different from the first compliance policy, and wherein the governance module applies the rules described                                                                                                        |

|                 |                                                                                                                                                                                                                                                               |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | by the first compliance policy to the first sent submessage and applies the rules described by the second compliance policy to the second sent submessage.                                                                                                    |
| <b>Claim 9</b>  |                                                                                                                                                                                                                                                               |
| [9.0]           | The messaging server of claim 1, wherein the rules described by the compliance policy include search rules describing which population structure entities can view which sent submessages when searching the sent submessages stored by the messaging system. |
| <b>Claim 10</b> |                                                                                                                                                                                                                                                               |
| [10.0]          | A computer program product having a non-transitory computer-readable medium having embodied thereon program code for use in an electronic messaging system, the program code comprising:                                                                      |
| [10.1]          | a messaging module adapted to control a message database storing messages sent among users of the messaging system to at least one other end user of the messaging system,                                                                                    |
| [10.2]          | at least one of the sent messages comprising a message container containing relational references pointing to a plurality of sent submessages stored in the message database externally to the message container,                                             |
| [10.3]          | at least one of the sent submessages being one of a reply to and a forward of other sent submessages of the sent message; and                                                                                                                                 |
| [10.4]          | a governance module adapted to control a governance policy database storing a compliance policy describing rules applicable to the sent submessages,                                                                                                          |
| [10.5]          | the governance module further adapted to determine rules described by the compliance policy that are applicable to ones of the plurality of sent submessages                                                                                                  |
| [10.6]          | wherein different rules of the compliance policy are applicable to different ones of the plurality of sent submessages                                                                                                                                        |
| [10.7]          | wherein the messaging system is utilized by a set of entities in a population structure and wherein a rule of the compliance policy includes one or more rule elements describing whether the rule is applicable to a sent submessage,                        |
| [10.8]          | wherein a rule of the compliance policy includes one or more rule elements describing whether the rule is applicable to a sent submessage,                                                                                                                    |
| [10.9]          | at least one of the elements selected from the group consisting of: a source element describing a population structure entity that is a source of the sent submessage; a target element describing a population                                               |

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | structure entity that is a recipient of the sent submessage; and a rank describing a ranking of the rule relative to other rules in the compliance policy.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Claim 11</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| [11.0]          | The computer program product of claim 10, wherein the rules described by the compliance policy include one or more types of rules from the set consisting of: communication rules describing which population structure entities can communicate with other population structure entities via the messaging system; readership rules describing which population structure entities can read messages from other population structure entities via the messaging system; action rules describing actions a population structure entity can perform on a message component in the messaging system; and search rules describing which population structure entities can view which message components when searching the messaging components stored by the messaging system. |
| <b>Claim 12</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| [12.0]          | The computer program product of claim 10, wherein the rules described by the compliance policy include one or more types of rules from the set consisting of: validity rules describing a time period for which a sent submessage or entity in the population structure is useable; and retention rules describing whether a sent submessage or entity in the population structure should be deleted from the messaging system.                                                                                                                                                                                                                                                                                                                                              |
| <b>Claim 13</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| [13.0]          | A computer-implemented method of managing messages in an electronic messaging system, comprising:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| [13.1]          | defining a compliance policy describing rules applicable to sent submessages of sent messages in the electronic messaging system;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| [13.2]          | receiving a message sent by one end user of the messaging system to at least one other end user of the messaging system,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| [13.3]          | the sent message comprising a message container containing relational references pointing to a plurality of sent submessages stored in a message database externally to the message container,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| [13.4]          | the plurality of sent submessages including a first sent submessage and a second sent submessage, at least one of the sent submessages being one of a reply to and a forward of another sent submessage of the plurality of sent submessages; and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| [13.5]          | selectively applying rules of the compliance policy to the sent submessages;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [13.6]          | wherein the messaging system is utilized by a set of entities in a population structure and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| [13.7]          | wherein a rule of the compliance policy includes one or more rule elements describing whether the rule is applicable to a sent submessage,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| [13.8]          | at least one of the elements selected from the group consisting of: a source element describing a population structure entity that is a source of the sent submessage; a target element describing a population structure entity that is a recipient of the sent submessage; and a rank describing a ranking of the rule relative to other rules in the compliance policy.                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Claim 15</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| [15.0]          | The computer-implemented method of claim 13, wherein the compliance policy describes the set of entities in the population structure, the method further comprising:<br>defining a group containing a set of entities, the entities in the group defined by their locations in a hierarchy defined by the hierarchical population structure; and<br>defining a set of rules applicable to the entities in the group.                                                                                                                                                                                                                                                                                                                                                         |
| <b>Claim 18</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| [18.0]          | The computer-implemented method of claim 13, wherein the rules described by the compliance policy include one or more types of rules from the set consisting of: communication rules describing which population structure entities can communicate with other population structure entities via the messaging system; readership rules describing which population structure entities can read sent messages from other population structure entities via the messaging system; action rules describing actions a population structure entity can perform on a sent submessage in the messaging system; and search rules describing which population structure entities can view which sent submessages when searching the sent submessages stored by the messaging system. |
| <b>Claim 20</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| [20.0]          | The computer-implemented method of claim 13, wherein the rules described by the compliance policy include action rules describing actions an entity can perform on a sent submessage in the messaging system, and wherein the action rules describe a number of times within a given time period that the entity can perform a specified action.                                                                                                                                                                                                                                                                                                                                                                                                                             |

| <b>Claim 21</b> |                                                                                                                                                                                                                                                                                                                                                            |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [21.0]          | The computer-implemented method of claim 13, further comprising:<br>defining a group of entities in the population structure;<br>defining group rules applicable to sent submessages related to the group of entities; and<br>applying the group rules to a sent submessage related to the group of entities.                                              |
| <b>Claim 27</b> |                                                                                                                                                                                                                                                                                                                                                            |
| [27.0]          | A computerized messaging server in an electronic messaging system, comprising:                                                                                                                                                                                                                                                                             |
| [27.1]          | a messaging module adapted to control an email database storing emails sent among users of the messaging system, wherein                                                                                                                                                                                                                                   |
| [27.2]          | at least one of the sent emails comprises an email container containing relational references pointing to a plurality of sent submessages stored in the email database externally to the email container,                                                                                                                                                  |
| [27.3]          | at least one of the sent submessages being one of a reply to and a forward of other sent submessages of the message, and                                                                                                                                                                                                                                   |
| [27.4]          | 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; and |
| [27.5]          | a governance module adapted to control a governance policy database storing a compliance policy describing rules applicable to the sent submessages,                                                                                                                                                                                                       |
| [27.6]          | the governance module further adapted to determine rules described by the compliance policy that are applicable to ones of the plurality of sent submessages,                                                                                                                                                                                              |
| [27.7]          | wherein different rules of the compliance policy are applicable to different ones of the plurality of sent submessages,                                                                                                                                                                                                                                    |
| [27.8]          | wherein the messaging system is utilized by a set of entities in a population structure and                                                                                                                                                                                                                                                                |
| [27.9]          | wherein a rule of the compliance policy includes one or more rule elements describing whether the rule is applicable to a sent submessage,                                                                                                                                                                                                                 |
| [27.10]         | at least one of the elements selected from the group consisting of: a source element describing a population structure entity that is a source of the sent submessage; a target element describing a population structure entity that is a recipient of the sent submessage; and a rank                                                                    |

describing a ranking of the rule relative to other rules in the compliance policy.

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