Trials@uspto.gov
571-272-7822

Paper No. 52
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FACEBOOK, INC.,
Petitioner,

v.

WINDY CITY INNOVATIONS, LLC,
Patent Owner.

Case IPR2016-01156[1]
Patent 8,458,245 B1

Before KARL D. EASTHOM, DAVID C. MCKONE, and MELISSA A. HAAPALA, *Administrative Patent Judges*.

MCKONE, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

[1] Case IPR2017-00709 has been joined with this proceeding.

I. INTRODUCTION

A. Background

Facebook, Inc. ("Petitioner") filed a Petition (Paper 1, "Pet.") seeking *inter partes* review of claims 1–15, 17, and 18 of U.S. Patent No. 8,458,245 B1 (Ex. 1001, "the '245 Patent"). Windy City Innovations, LLC ("Patent Owner") filed a Preliminary Response (Paper 6, "Prelim. Resp.").

Pursuant to 35 U.S.C. § 314, in our Institution Decision (Paper 7, "Dec."), we instituted this proceeding as to claims 1–15, 17, and 18.

Patent Owner filed a Patent Owner's Response (Paper 22, "PO Resp."), and Petitioner filed a Reply to the Patent Owner's Response (Paper 31, "Reply").

Petitioner relies on the Declarations of Tal Lavian, Ph.D. (Ex. 1002, "Lavian Decl."; Ex. 1021, "2nd Lavian Decl."). Patent Owner relies on the Declaration of Jaime G. Carbonell, Ph.D. (Ex. 2005, "Carbonell Decl.").

On January 17, 2017, Petitioner filed a petition seeking *inter partes* review of claims 19 and 22–25 of the '245 patent and sought to join that proceeding to this proceeding. IPR2017-00709, Paper 2 ("the '709 Pet."), Paper 3 (Mot. for Joinder). We instituted a trial in that proceeding and joined it to this proceeding. Paper 34 ("the '709 Dec."). Petitioner relies on the Declaration of Dr. Lavian in the '709 proceeding (IPR2017-00709, Ex. 1002 ("Lavian '709 Decl.").

As to the additional claims challenged in the '709 Petition, Patent Owner filed a Supplemental Patent Owner's Response (Paper 45, "Supp. PO Resp.") and Petitioner filed a Supplemental Reply (Paper 46, "Supp. Reply").

An oral argument was held on October 19, 2017 (Paper 51, "Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Decision is a final written decision under 35 U.S.C. § 318(a) as to the patentability of claims 1–15, 17–19, and 22–25. Based on the record before us, Petitioner has not proved, by a preponderance of the evidence, that any claim of the '245 patent is unpatentable.

B. Related Matters

The parties indicate that the '245 patent has been asserted in *Windy City Innovations, LLC v. Microsoft Corp.*, Civ. A. No. 15-cv-00103-GM (W.D.N.C.) (transferred to 16-cv-1729 (N.D. Cal.)), and *Windy City Innovations, LLC v. Facebook, Inc.*, Civ. A. No. 15-cv-00102-GM (W.D.N.C.) (transferred to 16-cv-1730 (N.D. Cal.)). Pet. 1; Paper 4, 1. The '245 patent also is the subject of *inter partes* review petitions in IPR2016-01141, Paper 4, 1, and IPR2017-00655, which was joined to IPR2016-01141. The '245 patent was the subject of IPR2017-00669 (now terminated), which Microsoft Corp. filed and sought to join with this proceeding prior to settling with Patent Owner. Patents related to the '245 patent are subjects of additional *inter partes* review petitions.

C. Asserted Prior Art References

Petitioner relies on the following prior art:

U.S. Patent No. 6,608,636 B1, issued Aug. 19, 2003, filed May 13, 1992 (Ex. 1003, "Roseman");

Published European Pat. App. No. 0 621 532 A1, published Oct. 26, 1994 (Ex. 1004, "Rissanen");

Ronald J. Vetter, *Videoconferencing on the Internet*, IEEE COMPUTER SOCIETY 77–79 (Jan. 1995) (Ex. 1005, "Vetter");

MARY ANN PIKE ET AL., USING MOSAIC (1994) (Ex. 1006, "Pike");

U.S. Patent No. 5,226,176, issued July 6, 1993 (Ex. 1007, "Westaway"); and

TOM LICHTY, THE OFFICIAL AMERICA ONLINE FOR MACINTOSH MEMBERSHIP KIT & TOUR GUIDE (2nd ed. 1994) (Ex. 1008, "Lichty").

D. The Instituted Grounds

We instituted a trial on the following grounds of unpatentability. Dec. 30; '709 Dec. 6–7.

References	Basis	Claims Challenged
Roseman, Rissanen, Vetter, Pike, and Westaway	§ 103(a)	1–5, 7, 9–14, 19, and 22–25
Roseman, Rissanen, Vetter, Pike, Westaway, and Lichty	§ 103(a)	6, 8, 15, 17, and 18

E. The '245 Patent

The '245 patent describes an Internet "chat room." According to the '245 patent, it was known to link computers together to form chat rooms in which users communicated by text, graphics, and multimedia, giving the example of the Internet service provider "America On Line." Ex. 1001, 1:40–46. The '245 patent acknowledges that chat rooms have been implemented on the Internet, albeit with "limited chat capability," but contends that the complex chat room communications capable with Internet service providers had not been developed on the Internet "at least in part

because [the] Internet was structured for one-way communications analogous to electronic mail, rather than for real time group chat room communications" and because "there is no particular control over the platform that would be encountered on the Internet." *Id.* at 1:47–54, 1:60–62.

Figure 1, reproduced below, illustrates an embodiment of the invention:

FIG. 1

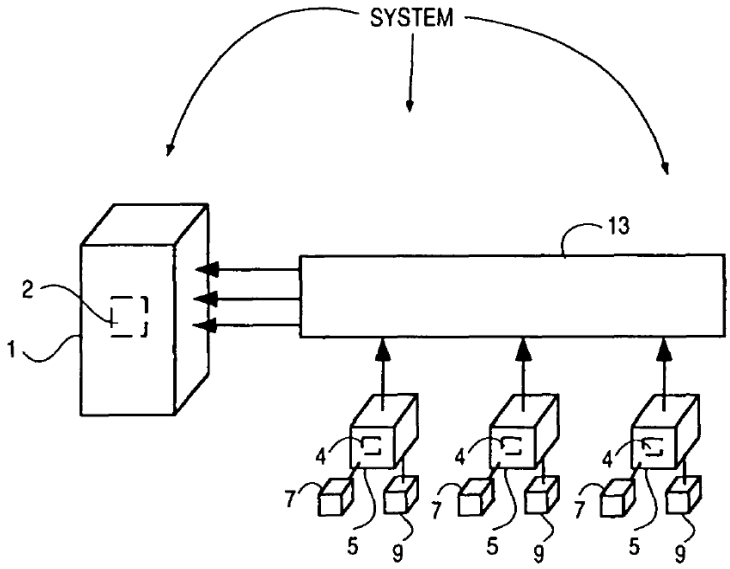

Figure 1 is a block diagram showing the components and data flow of a computerized human communication arbitrating and distributing system. *Id.* at 4:60–64. The system includes a controller computer (shown as 1 in Figure 1 but described as 3 in the written description) in communication with several participator computers 5 (e.g., IBM-compatible personal

computers) over connection 13 (e.g., an Internet connection or a World Wide Web connection). *Id.* at 4:65–5:17.

The controller computer runs under the control of controller software 2, and the software arbitrates, in accordance with predefined rules (including user identities), which participator computers 5 can interact in a group through the controller computer, and directs real-time data to the members of the group. *Id.* at 5:19–25. The software uses "identity tokens," or pieces of information associated with user identity, in the arbitration. *Id.* at 8:6–9. The tokens are stored in memory 11 in a control computer database along with personal information about the users. *Id.* at 8:9–14.

The arbitration can be used to control a user's ability to join or leave a group of participator computers, to moderate communications involving the group, and to see other users in the group. *Id.* at 8:21–32. Arbitration using tokens also can be used to perform censorship:

> Censorship, which broadly encompasses control of what is said in a group, is also arbitrated by means of the tokens. Censorship can control of access [sic] to system 1 by identity of the user, which is associated with the user's tokens. By checking the tokens, a user's access can be controlled per group, as well as in giving group priority, moderation privileges, etc.
>
> Censorship also can use the tokens for real time control of data (ascii, text, video, audio) from and to users, as well as control over multimedia URLs [Uniform Resource Locators]—quantity, type, and subject.

Id. at 8:36–44.

According to the specification, "[t]he present invention comprehends communicating all electrically communicable multimedia information as Message 8, by such means as pointers, for example, URLs. URLs can point to pre-stored audio and video communications, which the Controller

Computer 3 can fetch and communicate to the Participator Computers 5." *Id.* at 5:36–41.

The '245 patent also describes a participator computer that can locate an agent for presenting a communication that the participator computer, on its own, cannot present. *See id.* at 7:34–43. Figure 6, reproduced below, illustrates an example:

FIG. 6

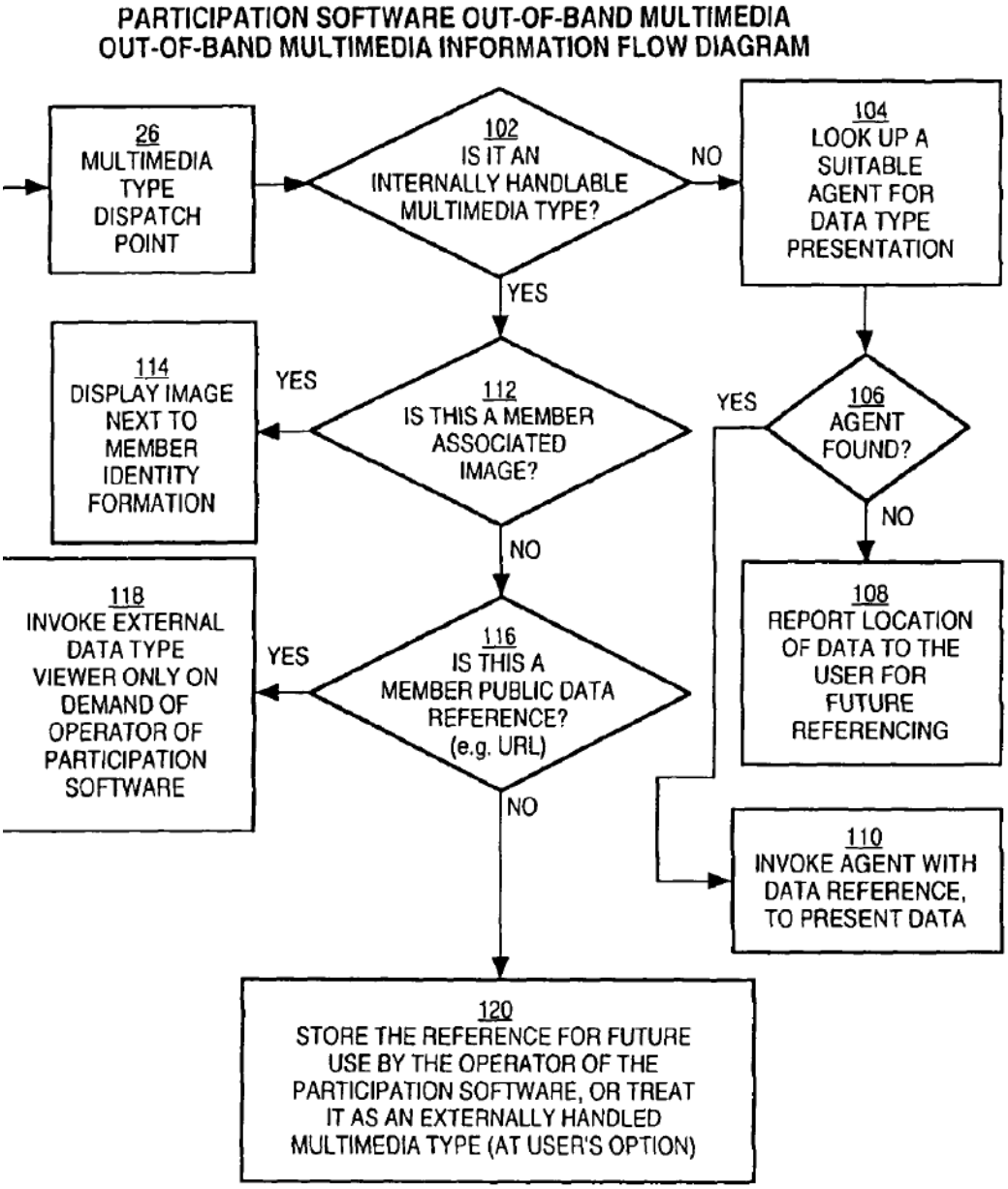

Figure 6 is a flow diagram of participator software for out-of-band multimedia handling. *Id.* at 2:64–65, 7:34–45. When the software identifies a type of multimedia (step 26), the software determines whether it is an

internally handlable multimedia type (step 102). *Id.* at 7:35–38. If not, the software looks up a suitable agent for presentation of that data type (step 104) and, if a suitable agent is found (step 106), the agent is invoked with a data reference (e.g., URL) to present the data (step 110). *Id.* at 7:38–43.

Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. A computer apparatus distributing a communication over an Internet network, the apparatus including:
>
> a controller computer system adapted to communicate responsive to a respective authenticated user identity corresponding respectively to each of a plurality of participator computers,
>
> each said participator computer communicatively connected to said Internet network, each said participator computer programmed to enable the communication, the communication including at least one of a pre-stored sound, video, graphic, and multimedia,
>
> the controller computer system including a controller computer and a database which serves as a repository of tokens for other programs to access, thereby affording information to each of the participator computers which are otherwise independent of each other;
>
> wherein
>
> one said authenticated user identity is used to communicate a pointer-triggered private message from a first of said participator computers to said controller computer and from said controller computer to a second of said participator computers that invokes said pointer-triggered private message to fetch and receive the communication from a computer other than said first or said second said

> participator computers in real time over the Internet network
>
> such that the second of said participator computers internally determines whether or not the second of the participator computers can present the communication, if it is determined that the second of the participator computers can not present the communication then obtaining an agent with an ability to present the communication, and otherwise presenting the communication independent of the first of the independent participator computers and the computer.

II. ANALYSIS

A. Claim Construction

We interpret claims of an unexpired patent using the broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–45 (2016). In applying a broadest reasonable construction, claim terms generally are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

1. Constructions in the Institution Decision

In the Institution Decision, we preliminarily construed the following terms (Dec. 6–9):

Claim Term	Preliminary Construction
"token"	"piece of information associated with user identity"
"censored"	"controlled with respect to what is said in a group"

Patent Owner adopts our construction of "token" (which Petitioner initially proposed), PO Resp. 8, and challenges our construction of "censored," *id.* at 12–13. Petitioner accepts our construction of "censored" and presents arguments in favor of that construction. Reply 3. The parties also dispute the meaning of "database," PO Resp. 8–12; Reply 3–6. Nevertheless, we determine that construction of these terms is not necessary to resolve the dispute in this proceeding. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) ("[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.").

B. Asserted Grounds of Unpatentability

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are "such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." We resolve the question of obviousness on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of

nonobviousness, i.e., secondary considerations.[2] *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

In an obviousness analysis, some reason must be shown as to why a person of ordinary skill would have combined or modified the prior art to achieve the patented invention. *See Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1374 (Fed. Cir. 2008). A reason to combine or modify the prior art may be found explicitly or implicitly in market forces; design incentives; the "interrelated teachings of multiple patents"; "any need or problem known in the field of endeavor at the time of invention and addressed by the patent"; and the background knowledge, creativity, and common sense of the person of ordinary skill. *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1328–29 (Fed. Cir. 2009) (quoting *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418–21 (2007)).

1. Level of Ordinary Skill

Neither party proposes a level of ordinary skill in the art. Nevertheless, both parties' experts testify to similar levels of skill. Specifically, Dr. Lavian testifies that a skilled artisan "would possess at least a bachelor's degree in electrical engineering or computer science (or equivalent degree or experience) with practical experience or coursework in the design or development of systems for network-based communication between computer systems." Ex. 1002 ¶ 14. For his part, Dr. Carbonell testifies that a skilled artisan "would have had a bachelor's degree in

[2] The record does not include arguments or evidence regarding objective indicia of nonobviousness.

computer science (or a related field) and at least one year of work experience in programming in computer communication methods" and notes that his "opinions herein would not change even if the person having ordinary skill in the art were to be found to have the level of skill proposed by Dr. Lavian." Ex. 2005 ¶ 18. We adopt Dr. Lavian's proposal, as it is consistent with the level of skill reflected in the prior art of record. Nevertheless, we discern no material difference between his proposal and that of Dr. Carbonell. Thus, our findings and conclusions would be the same under either proposal.

2. Scope and Content of the Prior Art

Petitioner contends that the challenged claims would have been obvious over Roseman, alone or in combination with Rissanen, Vetter, Pike, Westaway, and Lichty. Pet. 7–8; '709 Pet. 6.

a. Overview of Roseman

Roseman describes a system for multimedia conferencing, in which parties are linked by both video and audio media. Ex. 1003, Abstract. In Roseman, a conference is represented visually as a common virtual conference table, in which each participant can place a document onto the table electronically, manipulate and write on the document, write on a virtual notepad, and move a pointer to draw other users' attention. *Id.* at 2:38–45, 7:55–8:37. Participants can see the events as they occur. *Id.* at 2:46–47. Figure 9, reproduced below, illustrates an example conference room:

FIG. 9

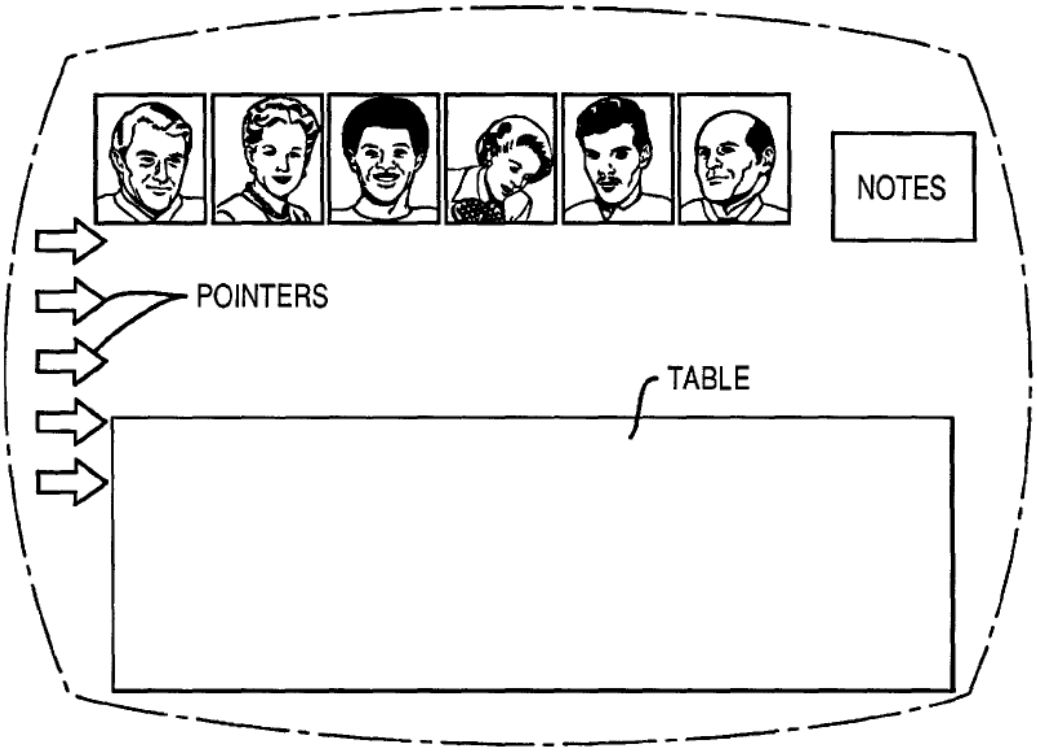

Figure 9 is a picture of a video screen that is generated by a host computer and distributed to all participants in a conference. *Id.* at 2:16–18.

The parties operate their own local computers (which include video cameras and speaker-type telephones) and, when a conference is established, connect to a host computer via commercially available local area networks ("LANs") and wide area networks ("WANs"). *Id.* at 1:34–41. In the conference, the host computer generates a common video screen (e.g., Figure 9, reproduced above) displayed at each of the local computers, and the parties send information, such as drawings, to be displayed on the common screen. *Id.* at 1:42–46. The telephones and video cameras allow the parties to see and speak with each other. *Id.* at 1:47–49.

Roseman includes a pseudo code appendix that details how its features are implemented. *Id.* at 12:66–13:2. According to the pseudo code, a participant interacts with the conference table, for example, by dragging an icon onto the table, which causes a data file to be transmitted to the host. *Id.* at 14:53–55. The host then transmits the icon to the table of each participant. *Id.* at 14:56–57. If another participant activates the icon, the host sends the open file to the tables of all participants. *Id.* at 14:58–61. If the participant drags the icon from the table to his own screen and activates the icon on his screen, the data file is presented to the participant. *Id.* at 14:62–66.

Roseman describes additional features, such as a party's ability to "whisper" to another party without being heard by others in the conference room, and the ability to "pass notes" by dragging a note to the picture of another party, while the other parties are unaware of the note. *Id.* at 9:16–31. Each room may also have "doors" to committee rooms or child-rooms. A child-room is created in the same way as a parent room and is dependent upon the parent room for access and existence. *Id.* at 10:18–23.

A meeting requester creates a conference by selecting the participants, the attributes of the virtual conference room (e.g., virtual equipment and room décor), and the rules of the conference (e.g., whether the requester has absolute control over voice and message interaction of the parties). *Id.* at 3:22–56. According to Roseman, "[t]he conference room itself is actually a combination of stored data and computer programs," the stored data can include conference proceedings, and "both the conference room and the proceedings of the conference have persistence in time." *Id.* at 12:16–25.

The meeting requester specifies a level for each invitation and compiles an invitation list. *Id.* at 9:34–36. Invitations include "keys" specifying the level, e.g., whether the invitation is for the invitee only or can be passed to a delegate or to anyone. *Id.* at 9:35–48. For example, "Level 1 keys may not be passed to any other person and may not be copied" while "Level 2 keys may be passed to exactly one other person and may not be copied." *Id.* at 9:42–45. According to Roseman, "[t]he meeting room 'knows' about each key and its invitation level. Persons with improper keys are not admitted to the room." *Id.* at 9:49–51. A key is distributed electronically as an object attached to the invitation. *Id.* at 9:54–55. To attend a meeting, a party walks a virtual "hallway" to the meeting room and opens the meeting room door by dropping the key onto a virtual "door lock." *Id.* at 10:30–32, 10:61–65. Moreover, the host "can automatically prevent filibustering" by "monitor[ing] the speech of each person, and plac[ing] a limit on the total time allowed to each person." *Id.* at 12:29–38.

b. Overview of Rissanen

Rissanen describes a system and method for validation of spoken passwords. Ex. 1004, 2:17–21. Rissanen's Background of the Invention discusses systems in which "business computer systems are arranged to initially record and store passwords assigned to users," a user is prompted for entry of a password, and "the system compares the keyboard entered password with the stored passwords and enables the user to access the system when the entered password matches the previously stored password." *Id.* at 1:21–28. In Rissanen's proposed solution, "[u]sers are initially entered into a password database stored in the computer system by assigning each

user an account code and a password, such as consisting of a number of numerical digits." *Id.* at 2:26–29.

Petitioner makes clear that "[a]lthough Rissanen also describes using spoken voice passwords, this Petition cites it for its more pedestrian teachings relating to database storage of passwords of any form." Pet. 12.

c. Overview of Vetter

Vetter is an IEEE Computer Society Magazine article discussing available tools for conducting teleconferencing over the Internet. According to Vetter, "[v]ideoconferences are becoming increasingly frequent on the Internet and are generating much research interest." Ex. 1005, 77. Vetter states that "the emerging multicast backbone (or MBone) can efficiently send traffic from a single source over the network to multiple recipients," and, "[a]t the same time, many workstations attached to the Internet are being equipped with video capture and sound cards to send and receive video and audio data streams." *Id.* Vetter concludes that "[t]he price/ performance of these hardware devices has finally reached a level that makes wide-scale deployment possible, which is perhaps the most important factor in the recent growth of videoconferencing applications." *Id.*

Vetter also describes challenges that faced implementation of audio, graphic, and video tools on the Internet, including "disturbing feedback when the microphones at multiple sites were left 'open' during a discussion," taking too much time to broadcast a simple graphic image to multiple participants when using "Whiteboard tools" (collaborative software tools that support a shared desktop whiteboard among a group of distributed users on the Internet), and use of video during a classroom presentation that

caused the workstations in the classroom lab to lock up. *Id.* at 78–79. Vetter also notes that the physical distance between two points on the Internet can be different from the electronic distance between those points. *Id.* at 79.

Vetter discusses in particular a CU-SeeMe platform from Cornell University that supported video and audio conferencing over the Internet, and a CU-SeeMe Reflector that allowed multiparty conferencing with CU-SeeMe. *Id.* at 78.

d. Overview of Pike

Pike is a reference and guide book for using the Web browser Mosaic. Ex. 1006, 2. Petitioner cites to Pike's discussion of URLs and hyperlinks. According to Pike, URLs were developed as a standard way of referencing items on the World Wide Web. *Id.* at 38. "A *URL* is a complete description of an item, containing the location of the item that you want to retrieve. The location of the item can range from a file on your local disk to a file on an Internet site halfway around the world." *Id.*

Pike also describes adding auxiliary software to Mosaic to allow Mosaic to handle documents it otherwise would not be able to handle. *Id.* at 55. For example, a user "may want to obtain additional software to allow Mosaic to handle things such as pictures, sounds, and animations (movies)" and could find such additional software at an anonymous FTP site identified in Pike. *Id.* at 55–56. According to Pike, "[a]fter you have a viewer installed and Mosaic knows where to find it and what type of files it displays, you can load files of that type and Mosaic automatically starts the viewer to display them." *Id.* at 96.

e. Overview of Westaway

Westaway is directed to "methods and apparatus for automatically loading missing system software without terminating current processing operations being executed by the data processing device in a data processing system." Ex. 1007, 1:10–16. Specifically, Westaway describes a system including "a plurality of data processing devices ('agents')" coupled to a network. *Id.* at 1:18–20. "System software resources," such as a disk drive or optical storage device coupled to the network, provide system software to agents on the network. *Id*. at 1:20–24. "In the event an agent requires certain software for execution, and the software is not available on the agent's local hard disk drive or internal memory, then it [is] accessed from one of the system software resources such as a disk drive, tape drive or the like." *Id.* at 1:24–29.

f. Overview of Lichty

Lichty is a book intended as a "tour guide" of America Online ("AOL"), an online email service, Internet gateway, and community. Ex. 1008, 1–3. Petitioner (Pet. 58–59) focuses on Lichty's description of AOL's real-time interactive "People Connection" feature. Ex. 1007, 251–78. People Connection includes chat rooms in which a user communicates with others by posting text messages to the other participants in a chat room. *Id.* at 252–55. Lichty describes, in particular, that a People Connection interface includes an "Ignore" button. *Id.* at 268–69. According to Lichty, "[i]f you wish to exclude a member's comments (or those of all the members in a conversation in which you're not interested), select the member's name in the People in this Room window and click the Ignore button. From then

on, that member's text will not appear on your screen." *Id.* at 269; *see also id.* at 510 (glossary definition of "Ignore—(1) Chat blinders; a way of blocking a member's chat from your view in a chat/conference room window. Ignore is most useful when the chat of another member becomes disruptive in the chat room.").

3. Claim 1, Differences Between the Claimed Subject Matter and the Prior Art, and Reasons to Modify or Combine

For the reasons given below, we conclude that Petitioner has not shown that claim 1 would have been obvious over Roseman, Rissanen, Vetter, Pike, and Westaway.

Petitioner contends that Roseman teaches the majority of the limitations of claim 1, but cites the remaining references for the following, should we determine that Roseman lacks such a teaching:

Rissanen for a teaching that tokens could have been stored in a database;

Vetter for a teaching that Roseman's communications could have been over the Internet;

Pike for a teaching of URLs; and

Pike and Westaway teachings of external software applications used to view certain types of content.

Pet. 7–8.

Claim 1 recites "a controller computer system," including a "controller computer," that communicates with "each of a plurality of participator computers." Petitioner contends (Pet. 17) that Roseman describes a "host computer" that communicates with "local computers" that

are used by the parties to a videoconference, the host computer overseeing the conference. Ex. 1003, 1:42–52; 3:14–19. With respect to the "Internet network" limitations, the Petition relies on combining the teachings of Roseman with Vetter. Pet. 17–19, 24. As Petitioner notes (*id.*), Vetter indicates explicitly that "[v]ideoconferences are becoming increasingly frequent on the Internet," and describes software that supports "video and audio conferencing over the Internet," including "multiparty conferencing." Ex. 1005, 77–78. Further, relying on Dr. Lavian's testimony, Petitioner asserts that a person of ordinary skill would have recognized Roseman's reference to connections via commercially available WANs to implicate the Internet. Pet. 17–18 (citing Ex. 1002 ¶ 51). According to Dr. Lavian, a person of ordinary skill in the art would have been motivated to combine the teachings of Roseman and Vetter, such that the videoconference communications described in Roseman occur over the Internet, based on the above disclosures of Vetter and Roseman, as well as the artisan's background knowledge regarding the Internet. Ex. 1002 ¶ 54.

As to "a respective authenticated user identity corresponding respectively to each of a plurality of participator computers," the Petition relies on Roseman's discussion of "keys" provided to invitees to a videoconference—for example, a "Level 1 key" that is restricted to a specific user only—which are used by the invitees to access the conference and enable communications among the users and the host computer. Pet. 21–23 (citing Ex. 1003, 9:34–55, 10:61–65, 11:10–17).

With respect to "a database which serves as a repository of tokens for other programs to access," as recited in claim 1, Petitioner cites to the combination of Roseman and Rissanen. Pet. 26–33. Petitioner contends that

Roseman's "keys" are blocks of data that are associated with users' identities and, thus, are tokens. *Id.* at 26–27. As explained above, Roseman describes that an invitor, in setting up a meeting, creates an invitation that includes a key that conforms to an invitation level. Ex. 1003, 9:34–48. A key "is an electronic object attached to the invitation." *Id.* at 9:54–55. The "level" of a key determines who can use it. For example, "Level 1 keys may not be passed to any other person and may not be copied." *Id.* at 9:42–44. According to Roseman, "[t]o open a door with a key, the user drops the key onto the door lock. If the key is valid and the user has the authority to use the key, the door opens and the user is admitted to the room." *Id.* at 10:61–64.

As to "a database which serves as a repository of tokens for other programs to access," as recited in claim 1, Petitioner argues that Roseman explains that each conference room "knows" about each key to that room, reasoning that Roseman, thus, teaches the host computer storing each key so users' keys can be recognized. Pet. 27–28 (citing Ex. 1003, 9:49–51; Ex. 1002 ¶ 68). Once a key is recognized and a user is granted access to a room, each of the participants in the room are notified of the user's entry, and data (e.g., the video signal of the user) is communicated to the participants. Ex. 1003, 10:61–65, 11:11–17. According to Petitioner, Roseman indicates that each virtual conference room provided by the host computer "is actually a combination of stored data and computer programs." Pet. 30 (quoting Ex. 1003, 12:16–18). Therefore, Petitioner asserts that Roseman teaches "other programs" (i.e., the conference rooms) accessing a central repository of tokens (i.e., keys), thereby affording information to

each of the participator computers (i.e., communicating data to each participant in a conference).

Petitioner additionally argues that Rissanen teaches storing user authentication information, such as user identity information and passwords, in a database, and that such teaching would have been applicable to the keys of Roseman. Pet. 28–29. Petitioner argues that Roseman's keys are analogous to user identity and passwords. *Id.* Petitioner further argues that storing keys in a database is one of a finite number of known solutions for verifying whether a previously issued key matches to a key later presented by a user to access a conference room. Pet. 30 (citing Ex. 1002 ¶¶ 71–72).

As to "affording information to each of the participator computers," as recited in claim 1, Petitioner argues that Roseman describes allowing a user to communicate with others in the conference (e.g., by audio and video links, and by placing documents on a virtual table), upon that user being admitted via acceptance of a key. Pet. 31–32 (citing Ex. 1003, 8:1–4, 11:11–22).

Regarding participator computers that are "otherwise independent of each other," Petitioner argues that each of Roseman's local computers is independent of the others because the computers are located at different geographic locations and only become part of a virtual conference when connected to the host computer. Pet. 32–33 (citing Ex. 1003, 3:14–19).

The Petition identifies Roseman's description of conference participants placing a document or file onto the virtual conference table as an example of "communicat[ing] a pointer-triggered private message from a first of said participator computers to said controller computer and from said controller computer to a second of said participator computers," as recited in

claim 1. Pet. 24–26, 34. Roseman describes a procedure where a participant in a conference can "drag-and-drop" a file from the participant's computer onto the table in the virtual conference room. Ex. 1003, 8:1–13, Figs. 10, 11. According to Roseman, the file may be "of any suitable kind: data, text, or graphic." *Id.* at 8:1–4. Roseman indicates that the participant may do this by dragging an icon "represent[ing]" the file. Ex. 1003, 8:1–13. When any participant "activates" the icon on the table, the file associated with the icon is "presented" on the table by the host computer and sent to all participants. *Id.* at 14:58–61. Petitioner contends that this icon is a "pointer-triggered message" because the icon contains information that points to and is used to present an underlying document. Pet. 35.

Petitioner further argues that, to the extent that a "pointer" requires an Internet URL or the like, a skilled artisan would have consulted Pike for a teaching of basic Internet concepts, such as URLs. Pet. 36–39. According to Petitioner, "[t]his would have predictably resulted in the virtual conferencing system of Roseman in which the clickable icons used to access content (such as a document placed on the table) included a URL that identified the location of the document on the host computer." *Id.* at 36–37. Petitioner argues that Pike's URL would "identify content stored on the host computer of Roseman which, upon activation, would fetch the requested content and transmit it to second meeting participant computer over the Internet." *Id.* at 37. Petitioner argues that this would have saved bandwidth "because the file content need not be communicated from the host computer to the participant (thus consuming network bandwidth) unless the participant requests to view the content by invoking the URL." *Id.* at 38. Thus, Petitioner argues that Roseman's icon causes the second participator

computer to fetch and receive the underlying content by virtue of the host fetching and receiving the content and forwarding it to the second participator computer. *Id.* at 41.

> The parties dispute whether the prior art teaches
>
> such that the second of said participator computers internally determines whether or not the second of the participator computers can present the communication, if it is determined that the second of the participator computers can not present the communication then obtaining an agent with an ability to present the communication,

as recited in claim 1. PO Resp. 36–38; Reply 22–23. Petitioner concedes that "Roseman does not appear to contemplate the scenario in which the second participant computer ***internally determines that it cannot present the communication***." Pet. 43. According to Petitioner, however the combination of Roseman, Pike, and Westaway teaches these limitations. *Id.* at 42–50.

Specifically, Petitioner contends that Pike "discloses the '**determining**' and '**obtaining**' steps" of claim 1. *Id.* at 44. Petitioner argues that Pike "explains that there may be occasions when a user receives information over the Internet but his or her computer lacks the software needed to view it." *Id.* at 43 (citing Ex. 1006, 55–56). Here, Pike notes that, while the Mosaic Web browser displays normal Web documents, it might not handle things like pictures, sounds, and movies. Ex. 1006, 55. In those instances, Pike explains, a user could obtain additional software to handle such things at an anonymous FTP site, using an address Pike specifies. *Id.* at 55–56. As Petitioner notes, Pike explains that once a user has installed an external viewer in Mosaic, Mosaic knows where to find the viewer and automatically invokes it to display files supported by the viewer. Pet. 44

(citing Ex. 1006, 96). According to Petitioner, this functionality teaches that a computer with Mosaic must internally determine that it cannot display a file because "if it cannot read the file using Mosaic, and it cannot locate an appropriate viewer application, it cannot present the communication." *Id.* Here, Petitioner assumes that the claim language does not require the "obtaining" limitation to be performed automatically without user involvement—in other words, Petitioner argues that the "obtaining" limitation is satisfied by a user manually obtaining and installing an agent with an ability to present a communication after a participator computer internally determines that it cannot present the communication. *Id.* at 45.

Alternatively, if we determine that the claim language requires the "obtaining" limitation to be performed automatically, Petitioner contends that this is taught by Westaway. *Id*. Westaway explains in its Background of the Invention, that, in the event that a software data processing agent lacked certain software necessary to execute a file, the agent would attempt to access that software from a disk drive, tape drive, or the like. Ex. 1007, 1:24–29. Petitioner contends that this shows an agent automatically obtaining requisite software if there has been a determination that the system cannot execute a certain process. Pet. 47. Westaway's Background further explains that, when an executing process would attempt to use software that had not yet been loaded onto the system's software resources, the system would generate a "file not found" message instead of finding and loading the required programs without causing a termination of the executing process. Ex. 1007, 1:47–51, 1:64–2:2. Petitioner argues that this evidences an agent that internally determines whether or not it can present the file. Pet. 46. Petitioner notes that "[a]lthough Westaway does not expressly disclose that

the software determined to be missing and then obtained can include software for 'present[ing] [] communication,' that was already disclosed by Pike, as explained previously, which expressly contemplates that additional software may be required to present certain types of communications." *Id.* at 47.

Petitioner contends that it would have been predictable to combine Roseman, Pike, and Westaway. *Id.* at 47–48. Petitioner argues that "it was routine that a user could receive a document from someone else but be unable to open or access it because the user lacked the correct software" and that this would have been particularly applicable to Roseman because its system allowed a participant to drag and drop an icon of a document onto a table of a virtual conference room. *Id.* at 48. Petitioner contends that the teachings of Pike and Westaway would have been applied because of the possibility that a meeting participant would place a document on the table that other participants would not have the correct software to view. *Id.* at 49. In those instances, Petitioner argues, the skilled artisan would have followed the teachings of Pike and Westaway to obtain an external viewer software to handle files not supported by the participant's already-installed software. *Id.*

In response, Patent Owner argues that the '245 patent only describes these limitations in the context of participator software invoking an external data type viewer on demand of the operator of the participator software. PO Resp. 34–36 (citing Ex. 1001, 7:34–55). This is consistent with the language of claim 1, which recites "the *second of said participator computers* internally determines whether or not the second of the participator computers can present the communication" and "if it is determined that the *second of the participator computers* can not present the

communication then obtaining an agent with an ability to present the communication." Patent Owner argues that "Petitioner does not identify any software on the users' computers that could qualify as participator software" and contends that Roseman actually teaches the contrary and describes "that all graphics are generated on the host computer." *Id.* at 36 (citing Ex. 1003, 1:43–46, 14:48–50).

In the passages cited by Patent Owner, Roseman describes a host receiving communications from participant computers and generating a common video screen, which it sends to all of the participator computers:

> The parties send the information which they want displayed, such as drawings, to the host computer. The host computer generates a common video screen, which it distributes to the parties: they see the drawings at their own local computers.

Ex. 1003, 1:43–46. Other disclosure in Roseman confirms that its system operates in this manner. *Id.* at 7:30–34 ("[T]he host creates the conference room. The host does this by creating a common image, such as that shown in FIG. 9. The common image includes a picture of each invitee, a 'table,' and the room decor.").

The portions of Roseman cited by Petitioner (Pet. 42–43) also support Patent Owner's explanation of Roseman's system. For example, in its description of placing documents on a conference table, Roseman states that "[e]ach Invitee can transmit a file (of any suitable kind: data, text, or graphic) to the host, and the host will place the file onto the table, where all participants can see it." Ex. 1003, 8:1–4. Roseman's pseudo code, which both parties cite (PO Resp. 36; Pet. 42–43), makes clear that documents are received by the host and communicated to all of the participants as a common display:

IF PARTICIPANT DRAGS ICON TO THE TABLE ON HIS SCREEN

ICON (DATA FILE) TRANSMITTED TO HOST

HOST TRANSMITS ICON (DATA FILE) TO TABLE OF EACH PARTICIPANT

IF ANY PARTICIPANT ACTIVATES ICON ON TABLE DATA FILE PRESENTED ON TABLE BY HOST

HOST SENDS OPEN FILE TO ALL PARTICIPANTS TABLES

Ex. 1003, 14:53–62.

The disclosure in Roseman cited by both Petitioner and Patent Owner describes that the software that processes and renders images operates on Roseman's host. Indeed, Petitioner admits that "Roseman does not appear to contemplate the scenario in which the second participant computer ***internally determines that it cannot present the communication***." Pet. 43. Thus, Petitioner must show that this feature is taught elsewhere and that a skilled artisan would have had reason to combine that teaching with Roseman.

We are not persuaded that Pike provides that teaching. Petitioner relies on a description in Pike that a user could manually seek and install software to add to Mosaic. Pet. 43–44. Petitioner, however, does not explain why a skilled artisan would have incorporated this feature into Roseman's local computers (participator computers) in light of Roseman's system, which processes images at the host, not the local computers. The most logical reading of Roseman is that its local computers already have software sufficient to render the common image that the host provides to them. Thus, Petitioner's argument that Pike and Westaway would have been

applied because of the possibility that a meeting participant would place a document on the table that other participants would not have the correct software to view (Pet. 49) is not applicable to Roseman. Petitioner has not explained why, in the case where the *host* is unable to present a communication received from a local computer as part of its common image, a local computer would make an internal determination to that effect, or why users at the local computers would seek out software to present the communication.

Petitioner's arguments with respect to Westaway suffer from the same deficiencies. Although Petitioner cites to Westaway for a teaching of a program determining that it cannot present a communication and obtaining software that can (Pet. 45–47), Petitioner does not explain persuasively why a skilled artisan would have applied these teachings to Roseman such that Roseman's local computers would have implemented the functionality.

Petitioner simply states, without persuasive reasoning or evidence, that "[i]t would have been obvious to adapt the teachings of Pike and Westaway to Roseman, predictably resulting in the videoconferencing system of Roseman in which participant local computers determine whether or not they can present a particular communication." Pet. 48. Petitioner cites only to Dr. Lavian, who merely repeats Petitioner's argument, nearly verbatim, without citation to the basis for his testimony. *Id.* (citing Ex. 1002 ¶ 101). Thus, Dr. Lavian's testimony does not add materially to Petitioner's unpersuasive attorney argument. Moreover, Petitioner's position on this limitation is inconsistent with its arguments as to the "pointer-triggered private message" limitation, in which Petitioner argues for a system in which "a person of ordinary skill in the art [would] use the ubiquitous Internet URL

to identify content stored on the host computer of Roseman which, upon activation, would fetch the requested content and transmit it to [a] second meeting participant computer over the Internet" (i.e., Petitioner concedes it is the host in Roseman that fetches the requested content, not the local computers). *Id.* at 37.

At most, Petitioner's contentions establish that a skilled artisan applying Pike's and Westaway's teachings to Roseman's system would have modified Roseman's host to seek out appropriate software to process communications it otherwise could not present. Petitioner has not shown that a skilled artisan would have further modified Roseman's system to move this processing from the host to each individual local computer and has not provided any persuasive reason to make such a modification.

Therefore, we find that Petitioner has not shown that Roseman, Pike, and Westaway teach

> such that the second of said participator computers internally determines whether or not the second of the participator computers can present the communication, if it is determined that the second of the participator computers can not present the communication then obtaining an agent with an ability to present the communication,

as recited in claim 1. Accordingly, Petitioner has not shown, by a preponderance of the evidence, that claim 1 would have been obvious over Roseman, Rissanen, Vetter, Pike, and Westaway.

4. Claims 7 and 19

Independent claims 7 and 19 are apparatus claims similar in most respects to claim 1. In particular, claim 7 recites

> the second of the participator computers determines internally whether or not the second of the participator computers can present the communication, if it is determined that the second of the participator computers can not present the communication then obtaining an agent with an ability to present the communication;

and claim 19 recites

> the second participator computer internally determines whether or not the second participator computer can present the pre-stored data, if it is determined that the second participator computer can not present the pre-stored data then obtaining an agent with an ability to present the pre-stored data.

Petitioner contends that these limitations are taught by Roseman, Pike, and Westaway for the same reasons, detailed above, Petitioner gives for the corresponding limitation of claim 1,

> such that the second of said participator computers internally determines whether or not the second of the participator computers can present the communication, if it is determined that the second of the participator computers can not present the communication then obtaining an agent with an ability to present the communication.

Pet. 55; '709 Pet. 48–55 (substantially copying Pet. 42–49).

For the reasons given above, Petitioner has not shown that Roseman, Pike, and Westaway teach this limitation of claim 1. For the same reasons, Petitioner has not shown that Roseman, Pike and Westaway teach the corresponding limitations of claims 7 and 19. Accordingly, Petitioner has not shown, by a preponderance of the evidence, that claims 7 and 19 would have been obvious over Roseman, Rissanen, Vetter, Pike, and Westaway.

5. Claims 6 and 8

Claims 6 and 8 depend from claims 1 and 7, respectively, and add "wherein the computer system further determines that the message is not censored."

Petitioner argues that this limitation would have been obvious over Roseman and Lichty. Pet. 57–60. Nevertheless, Petitioner's evidence and argument for this limitation do not overcome the deficiencies noted above for claims 1 and 7. Thus, Petitioner has not demonstrated, by a preponderance of the evidence, that claims 6 and 8 would have been obvious over Roseman, Rissanen, Vetter, Pike, Westaway, and Lichty.

6. Remaining Challenged Dependent Claims

We have analyzed Petitioner's evidence and argument for claims 2–5, 9–15, 17, 18, 22–25. Pet. 50, 55–57, 61–63; '709 Pet. 56–58. Petitioner's evidence and argument for the additional limitations of these dependent claims do not overcome the deficiencies noted above for claims 1, 7, and 19. Thus, Petitioner has not demonstrated, by a preponderance of the evidence, that claims 2–5, 9–14, and 22–25 would have been obvious over Roseman, Rissanen, Vetter, Pike, and Westaway, or that claims 15, 17, and 18 would have been obvious over Roseman, Rissanen, Vetter, Pike, Westaway, and Lichty.

III. PATENT OWNER'S MOTION TO EXCLUDE

Patent Owner filed a paper styled "Motion to Exclude Evidence," seeking to exclude certain portions of the 2nd Lavian Declaration that it argues exceeds the proper scope of a reply. Paper 38, 1. In particular,

Patent Owner seeks to exclude portions of paragraphs 54 and 74 of the 2nd Lavian Declaration. *Id.* at 2–4. Petitioner opposes this motion on the ground that it is not directed to the admissibility of evidence and, therefore, is procedurally improper. Paper 41, 2. We do not consider paragraphs 54 and 74. Moreover, even if we were to consider the evidence Patent Owner seeks to exclude, Petitioner still has not shown, by a preponderance of the evidence, that any claim of the '245 patent is unpatentable. Accordingly, we dismiss Patent Owner's Motion to Exclude as moot.

III. CONCLUSION

Petitioner has not proved by a preponderance of the evidence that claims 1–15, 17–19, and 22–25 are unpatentable.

IV. ORDER

For the reasons given, it is:

ORDERED, that Petitioner has not shown, by a preponderance of the evidence, that claims 1–15, 17–19, and 22–25 are unpatentable;

FURTHER ORDERED, that Patent Owner's Motion to Exclude is dismissed as moot; and

FURTHER ORDERED, because this is a final written decision, the parties to this proceeding seeking judicial review of our Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2016-01156
Patent 8,458,245 B1

PETITIONER:

Heidi Keefe
Phillip E. Morton
Andrew C. Mace
COOLEY LLP
hkeefe@cooley.com
pmorton@cooley.com
amace@cooley.com

PATENT OWNER:

Peter Lambrianakos
Vincent Rubino
BROWN RUDNICK LLP
plambrianakos@brownrudnick.com
vrubino@brownrudnick.com

Trials@uspto.gov
Tel: 571-272-7822

Paper 47
Entered: December 6, 2017

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FACEBOOK, INC.,
Petitioner,

v.

WINDY CITY INNOVATIONS, LLC,
Patent Owner.

Case IPR2016-01157
Patent 8,407,356 B1

Before KARL D. EASTHOM, DAVID C. McKONE, and MELISSA A. HAAPALA, *Administrative Patent Judges*.

McKONE, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

A. Background

Facebook, Inc. ("Petitioner") filed a Petition (Paper 1, "Pet.") to institute an *inter partes* review of claims 1–9, 12, 14–28, 31, and 33–37 ("the challenged claims") of U.S. Patent No. 8,407,356 B1 (Ex. 1001, "the '356 Patent"). Windy City Innovations, LLC ("Patent Owner") filed a Preliminary Response (Paper 6, "Prelim. Resp.").

Pursuant to 35 U.S.C. § 314, in our Institution Decision (Paper 7, "Dec."), we instituted this proceeding as to claims 1–9, 12, 14–28, 31, and 33–37.

Patent Owner filed a Patent Owner's Response (Paper 22, "PO Resp."), and Petitioner filed a Reply to the Patent Owner's Response (Paper 31, "Reply").

Petitioner relies on the Declarations of Tal Lavian, Ph.D. (Ex. 1002, "Lavian Decl."; Ex. 1021, "2nd Lavian Decl."). Patent Owner relies on the Declaration of Jaime G. Carbonell, Ph.D. (Ex. 2005, "Carbonell Decl.").

An oral argument was held on October 19, 2017 (Paper 46, "Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Decision is a final written decision under 35 U.S.C. § 318(a) as to the patentability of claims 1–9, 12, 14–28, 31, and 33–37. Based on the record before us, Petitioner has proved, by a preponderance of the evidence, that claims 1–9, 12, 15–28, 31, and 34–37 of the '356 patent are unpatentable, but has not proved that claims 14 and 33 are unpatentable.

B. Related Matters

The parties indicate that the '356 patent has been asserted in *Windy City Innovations, LLC v. Microsoft Corp.*, Civ. A. No. 15-cv-00103-GM (W.D.N.C.) (transferred to 16-cv-1729 (N.D. Cal.)), and *Windy City Innovations, LLC v. Facebook, Inc.*, Civ. A. No. 15-cv-00102-GM (W.D.N.C.) (transferred to 16-cv-1730 (N.D. Cal.)). Pet. 1; Paper 4, 1. The '356 patent was the subject of *inter partes* review petitions in IPR2016–01067. Paper 4, 1. The '356 patent also was the subject of IPR2017-00624, which Microsoft Corp. filed and sought to join with this proceeding prior to settling with Patent Owner. Patents related to the '356 patent are subjects of additional *inter partes* review petitions.

C. Asserted Prior Art References

Petitioner relies on the following prior art:

U.S. Patent No. 6,608,636 B1, issued Aug. 19, 2003, filed May 13, 1992 (Ex. 1003, "Roseman");

Published European Pat. App. No. 0 621 532 A1, published Oct. 26, 1994 (Ex. 1004, "Rissanen");

Ronald J. Vetter, *Videoconferencing on the Internet*, IEEE COMPUTER SOCIETY 77–79 (Jan. 1995) (Ex. 1005, "Vetter");

MARY ANN PIKE ET AL., USING MOSAIC (1994) (Ex. 1006, "Pike"); and

James Gosling, *Java Intermediate Bytecodes,* ACM SIGPLAN WORKSHOP ON INTERMEDIATE REPRESENTATIONS (IR '95), VOL. 30, NO. 3 ACM SIGPLAN NOTICES 111–18 (Mar. 1995) (Ex. 1007, "Gosling").

D. The Instituted Grounds

We instituted a trial on the following grounds of unpatentability (Dec. 27):

References	Basis	Claims Challenged
Roseman, Rissanen, and Vetter	§ 103(a)	1–5, 8, 9, 12, 14–16, 19–24, 27, 28, 31, 33–35, and 37
Roseman, Rissanen, Vetter, and Pike	§ 103(a)	6, 7, 17, 26, and 36
Roseman, Rissanen, Vetter, and Gosling	§ 103(a)	18 and 25

E. The '356 Patent

The '356 patent describes an Internet "chat room." According to the '356 patent, it was known to link computers together to form chat rooms in which users communicated by text, graphics, and multimedia, giving the example of the Internet service provider "America On Line." Ex. 1001, 1:46–52. The '356 patent acknowledges that chat rooms have been implemented on the Internet, albeit with "limited chat capability," but contends that the complex chat room communications capable with Internet service providers had not been developed on the Internet "at least in part because [the] Internet was structured for one-way communications analogous to electronic mail, rather than for real time group chat room communications" and because "there is no particular control over the platform that would be encountered on the Internet." *Id.* at 1:54–56, 1:60–62.

Figure 1, reproduced below, illustrates an embodiment of the invention:

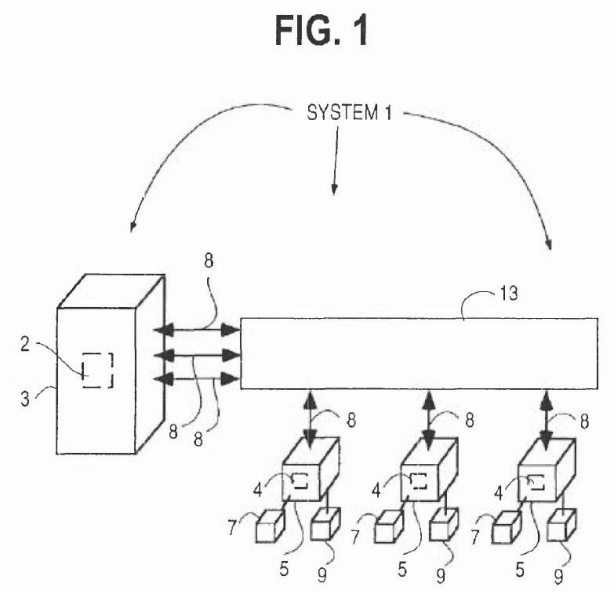

Figure 1 is a block diagram showing the components and data flow of a computerized human communication arbitrating and distributing system. *Id.* at 4:62–66. The system includes controller computer 3 in communication with several participator computers 5 (e.g., IBM-compatible personal computers) over connection 13 (e.g., an Internet connection or a World Wide Web connection). *Id.* at 4:67–5:20.

Controller computer 3 runs under the control of controller software 2, and the software arbitrates, in accordance with predefined rules (including user identities), which participator computers 5 can interact in a group through the controller computer, and directs real-time data to the members of the group. *Id.* at 5:21–27. The software uses "identity tokens," or pieces of information associated with user identity, in the arbitration. *Id.* at 8:9–12.

The tokens are stored in a memory in a control computer database along with personal information about the users. *Id.* at 8:12–17.

The arbitration can be used to control a user's ability to join or leave a group of participator computers, to moderate communications involving the group, and to see other users in the group. *Id.* at 8:24–37. Arbitration using tokens also can be used to perform censorship:

> Censorship, which broadly encompasses control of what is said in a group, is also arbitrated by means of the tokens. Censorship can control of access [sic] to system 1 by identity of the user, which is associated with the user's tokens. By checking the tokens, a user's access can be controlled per group, as well as in giving group priority, moderation privileges, etc.
>
> Censorship also can use the tokens for real time control of data (ascii, text, video, audio) from and to users, as well as control over multimedia URLs—quantity, type, and subject.

Id. at 8:39–47.

According to the specification, "[t]he present invention comprehends communicating all electrically communicable multimedia information as Message 8, by such means as pointers, for example, URLs. URLs can point to pre-stored audio and video communications, which the Controller Computer 3 can fetch and communicate to the Participator Computers 5." *Id.* at 5:38–43.

Figure 2, reproduced below, represents an overview of the communications described in the '356 patent.

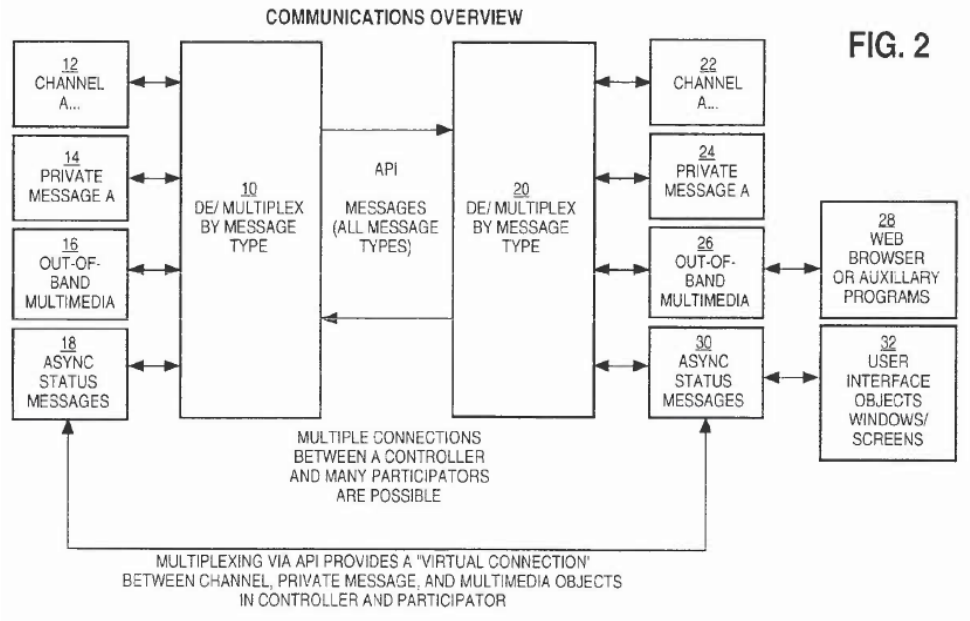

Figure 2 is a block diagram that provides a communications overview. *Id.* at 2:63–64. Blocks 10, 12, 14, 16, and 18 in Figure 2 illustrate operations under controller software 2, and Blocks 20, 22, 24, 26, and 30 illustrate operations under participator software 4. *Id.* at 5:45–54, 5:58–6:2. For example, Block 14 represents the handling of a private message. *Id.* at 5:50–51.

Block 10 and Block 20 illustrate software multiplexing and demultiplexing of API messages by message type on the controller computer and a participator computer, respectively. *Id.* at 5:46–48, 5:59–61.[1] Multiplexing and demultiplexing the API messages, according to the '356

[1] The '356 patent does not specifically state what the acronym "API" represents, but the parties essentially agree that API messages represent messages of different types as discussed further below. Ex. 1002 ¶ 33; Ex. 1010 ¶ 8 (Patent Owner's declarant asserting during prosecution that the '356 patent "specification . . . never uses the term 'application program interface'").

patent, creates a "virtual connection" between different functions on the controller computer (e.g., a private message) and participator computer such that each function does not need to handle its own connection separately. *See id.* at 6:3–9.

In particular, the '356 patent states "[d]e/multiplexing via API provides a 'virtual connection' between Channel, Private message, and Multimedia objects in the controller computer 3 and each participator computer 5." *Id.* at 6:3–5. In essence, the API multiplexing system routes messages together, and a demultiplexor at the participator computer separates them according to message type in accordance with a particular function associated with that message type. *See id.* at Fig. 2, 5:44–54, 6:3–5. As background prior art, the '356 patent states "corporations may link remote offices to have a conference by computer . . . . [with a] central computer . . . control[ling] the multiplexing of what appears as an electronic equivalent to a discussion involving many individuals," but "[m]ultiplexing in multimedia is more complex." *Id.* at 1:42–45.

Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. A method of communicating content among users using of [sic] a computer system including a controller computer and a database which serves as a repository of tokens for other programs to access, thereby affording information to each of a plurality of participator computers which are otherwise independent of each other, the method comprising:
>
> authenticating a first user identity and a second user identity according to permissions retrieved from the repository of tokens of the database;

affording some of the information to a first of the participator computers via the Internet network, responsive to an authenticated first user identity;

affording some of the information to a second of the participator computers via the Internet network, responsive to an authenticated second user identity;

running controller software on the controller computer, in accordance with predefined rules, to direct arbitration of which ones of the participator computers interactively connect within a group of the participator computers;

providing an API on the controller computer, the API multiplexing and demultiplexing API messages by type, creating a virtual connection and providing the virtual connection between channels, private messages, and multimedia objects in the controller computer and the participator computers; and

communicating real-time messages within the group of the interactively connected said participator computers.

II. ANALYSIS

A. Claim Construction

We interpret claim terms in an unexpired patent using the broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–45 (2016). In applying a broadest reasonable construction, claim terms generally carry their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

1. Constructions in the Institution Decision

In the Institution Decision, we preliminarily construed the following terms (Dec. 7–9):

Claim Term	**Preliminary Construction**
"token"	"piece of information associated with user identity"
"channel"	"group of participator computers in active communication"
"censorship"	"control of what is said in a group"

Neither party challenges our construction of "channel," and we maintain that construction on the complete record. Patent Owner adopts our construction of "token" (which Petitioner initially proposed), PO Resp. 8, and challenges our construction of "censoring," *id.* at 13. Petitioner accepts our construction of "censoring" and presents arguments in favor of that construction. Reply 3. We maintain our construction of "token" on the complete record. We address the construction "censoring" below. The parties further dispute the meaning of "database," PO Resp. 8–12; Reply 3–7, and we construe that term below. We also construe "multiplexing and demultiplexing API messages by type" to resolve the parties' dispute with respect to this term.

2. "censorship"

Dependent claims 14 and 33 recite "censorship of the content"; dependent claims 15 and 34 recite "determines censorship." As noted above, we preliminarily construed "censorship" to mean "control of what is said in a group." Dec. 9–10. We further explained that Patent Owner had

not shown that "censorship" should be construed to exclude controlling user access rights or censorship of users. *Id.* at 10. We based our construction on the description of that term in the specification. *Id.* Specifically, the specification of the '356 patent describes censorship as follows:

> Censorship, which *broadly encompasses control of what is said in a group*, is also arbitrated by means of the tokens. Censorship can control of access [sic] to system 1 by identity of the user, which is associated with the user's tokens. By checking the tokens, a user's access can be controlled per group, as well as in giving group priority, moderation privileges, etc.
>
> Censorship also can use the tokens for real time control of data (ascii, text, video, audio) from and to users, as well as control over multimedia URLs—quantity, type, and subject.

Ex. 1001, 8:39–47 (emphasis added). Here, the specification describes "censorship" as "broadly encompass[ing] control of what is said in a group" and includes an example in which an action is taken on a user, rather than the data itself.

Patent Owner argues that censorship should be construed to mean "examine in order to suppress or delete anything considered objectionable." PO Resp. 13. According to Patent Owner, "[i]n order to control what is said in a group, it is necessary to first know what is said (or proposed to be said)." *Id.* Patent Owner argues that this is consistent with the meaning given to "censor" and "censorship" in dictionaries, including "to examine in order to suppress or delete anything considered objectionable" (Webster's Collegiate Dictionary (Ex. 2002)) and "[t]he action of preventing material that a party considers objectionable from circulating within a system of communication over which that party has some power" (Microsoft Press Computer Dictionary (Ex. 2003)).

We are not persuaded by Patent Owner's arguments. The claim language itself does not support a construction of "censorship" limited to analysis of the content of data and suppression based on that content. Claim 15, for example, recites only that "the controller computer *determines censorship*," and does not recite that censoring is based on any analysis of the content of the message to determine whether it is objectionable. To the extent Patent Owner's dictionary definitions suggest a narrower meaning, extrinsic evidence such as dictionary definitions "may be used only to help the court come to the proper understanding of the claims; it may not be used to vary or contradict the claim language." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1584 (Fed. Cir. 1996); *accord Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (en banc) ("[W]hile extrinsic evidence can shed useful light on the relevant art, we have explained that it is less significant than the intrinsic record in determining the legally operative meaning of claim language." (internal citations and quotation marks omitted)).

On the complete record, in accordance with the specification's definition, "censorship" means "control of what is said in a group." "Censorship," by itself, is not limited to examining data to determine whether it is objectionable.

As noted above, claims 14 and 33 recite "determin[es/ing] censorship of the content." Here, the broad term "censorship" is modified by the term "of the content." This is consistent with the example in the specification, cited above, that "[c]ensorship also can use the tokens for real time control of data (ascii, text, video, audio) from and to users, as well as control over multimedia URLs—quantity, type, and subject." Ex. 1001, 8:45–47. In this

example, the censorship is based on the characteristics of the data itself, including determining what type of data it is (e.g., text or video) and does not simply involve blocking all communications from or to a particular user. Moreover, claims 2 and 20 depend from claims 1 and 19, respectively, and recite "wherein the communicating content includes communicating at least one of sound, video, pointer and multimedia content." This further shows that content refers to the type of data, so that censorship of content is directed to censoring content based on characteristics such as the type of data. Thus, "determining censorship of the content" is narrower than censorship generally, and means "determining whether to communicate content based on characteristics of the content."

3. "database"

Neither party proposed construing "database" prior to institution. Nevertheless, in related proceedings, for similar claims of related patents, we construed "database" to mean "a collection of logically related data." *See, e.g.*, Case IPR2016-01158, Paper 7, 9–10 (for claims of U.S. Patent No. 8,473,552 B1); Case IPR2016-01159, Paper 7, 9–10 (for claims of U.S. Patent No. 8,694,657 B1). Patent Owner challenges our preliminary construction of "database" in those proceedings and echoes its arguments in this proceeding. Specifically, Patent Owner contends that "a database should be construed as 'a collection of logically related data which is stored with persistence and associated tools for interacting with the data such as a DBMS.'" PO Resp. 12. In essence, Patent Owner urges a construction that differs from our preliminary construction in related matters in two regards: (1) Patent Owner contends that a database is a collection of logically related

data "which is stored with persistence"; and (2) Patent Owner contends that a database includes "associated tools for interacting with the data such as a DBMS." PO Resp. 12.

Patent Owner's primary argument in favor of construing "database" to require these limitations is that it filed, in a related application before the Patent Office, an information disclosure statement (IDS) that supports its construction. *Id.* at 9–10 (citing Ex. 2008). The IDS was submitted to the Patent Office in pending application 14/246,965 on January 1, 2017, after Petitioner filed the Petition and shortly after we instituted this proceeding and preliminarily rejected Patent Owner's claim construction arguments in related proceedings. In the IDS, Patent Owner argued, *inter alia*, that "attention is respectfully drawn to the defendants' contentions[2] of invalidity in view of the database and 'other programs' limitations that are common to all claims" and that "[b]ecause the database affords information to other programs and computers, it must store the data, such as the tokens, with persistence, such that tools can interact with the data such as a DBMS when providing the data to the participator computers of the authenticated users." Ex. 2008, 2. Patent Owner argues that we must accept its construction pursuant to *Verizon Services Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1306 (Fed. Cir. 2007), which held that, in some circumstances, a statement made by a patentee in the prosecution history of a related application can operate as a disclaimer, even if the disclaimer occurred after the patent-in-suit had issued. PO Resp. 10.

[2] This appears to be a reference to invalidity contentions filed in a related district court proceeding.

Although we doubt that the Federal Circuit intended that an IDS in a related application should be a vehicle for overturning a disadvantageous claim construction in an adversarial proceeding,[3] we need not reach that issue. As the Federal Circuit also held, "[t]o operate as a disclaimer, the statement in the prosecution history must be clear and unambiguous, and constitute a clear disavowal of claim scope." *Verizon*, 503 F.3d at 1306. That is not the case here. The statements in Patent Owner's IDS are not in response to any rejection by the Examiner, do not accompany any amendments, and are not directed to any particular claims, other than a general statement that the statements apply to "all claims."[4] Ex. 2008, 2.

[3] *See Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1270 (Fed. Cir. 1986) ("A citation may be made at 'any time' either during prosecution or, as here, after the patent has issued. If made during prosecution, it is clear that the statements may be considered for claim interpretation purposes, just as any other document submitted during prosecution. If submitted after issuance, the answer, again, is it may be considered. To say that it *may* be considered is not to say what *weight* statements in the Citation are to be accorded. For example, a Citation filed during litigation might very well contain merely self-serving statements which likely would be accorded no more weight than testimony of an interested witness or argument of counsel. Issues of evidentiary weight are resolved on the circumstances of each case."); *Phillips*, 415 F.3d at 1317 ("Like the specification, *the prosecution history provides evidence of how the PTO and the inventor understood the patent*. . . . Yet because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes." (emphasis added)).

[4] Adding to the ambiguity, it is not clear whether the IDS's reference to "all claims" refers to the claims in the pending application or the claims discussed in the defendants' contentions of invalidity to which the sentence is directed.

See Phillips, 415 F.3d at 1317 ("Like the specification, *the prosecution history provides evidence of how the PTO and the inventor understood the patent*. . . . Yet because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes." (emphasis added)).

Although Patent Owner argues that the IDS "supports the construction that a database is limited" in the manner that it argues, Patent Owner does not contend that the IDS constitutes a disclaimer of any subject matter. PO Resp. 9–10. We find that the IDS does not contain a "'clear and unmistakable' disclaimer that would have been evident to one skilled in the art." *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1064 (Fed. Cir. 2016). Therefore, we are not persuaded that we should apply prosecution history disclaimer to limit the scope of the term "database."

Patent Owner also cites to the testimony of Dr. Carbonell that "[t]wo hallmarks of a database are (1) persistence of the data, and (2) interactivity with the data via a database management system (DBMS)." *Id.* (citing Ex. 2005 ¶ 33). In support, Patent Owner and Dr. Carbonell cite to the Macmillan Encyclopedia of Computers (Ex. 2004). PO Resp. 10–11; Carbonell Decl. ¶ 33. In the portion included in Exhibit 2004, The Macmillan Encyclopedia states that "[a] database system is a collection of related records stored in a manner that makes the storage and retrieval of the data very efficient. The four well-known data models for databases are the hierarchical, network, relational, and object-oriented models." Ex. 2004, 230. This definition does not require persistence and Patent Owner does not explain why persistence should be inferred from this definition. Dr. Lavian,

in turn, cites to a 1991 textbook, which defines "database" as "a collection of interrelated data," a definition that does not require "persistence." Ex. 1021 ¶ 12 (quoting Ex. 1017 ("Korth"), 5). Moreover, we observe that Patent Owner provides no boundaries for "stored with persistence" to meaningfully limit the term. For example, all data accessed and stored by a program while the program is executing has some level of "persistence."

As to a DBMS, Macmillan explains:

> A database management system (DBMS) is a software package. Its main functions are (1) to provide the facility to set up the database, (2) to retrieve and store source data (actual data in the database), (3) to retrieve and store the data about the structure of the database (data dictionary), (4) to provide the facilities to enforce security rules, (5) to back up the database, and (6) to control the concurrent transactions so that one user's environment is protected from others.

Ex. 2004, 231. Patent Owner characterizes the DBMS as "another criteria of a database" that provides interactive querying capability not present in "[s]tandard storage" in temporary or permanent memory. PO Resp. 11. Dr. Carbonell repeats Patent Owner's arguments without citation to evidence. Ex. 2005 ¶¶ 33–36. Nevertheless, we read Macmillan to describe a DBMS as software that works with a database, rather than a part of a database or a component that necessarily accompanies a database. Dr. Carbonell's testimony, which does not identify its bases, adds little to Macmillan. *See* 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.").

Patent Owner also argues that the disclosure of the '356 patent imposes "persistence" and DBMS limitations on the claimed database

because it describes the database as storing security information such as tokens for other programs to access. PO Resp. 12. Patent Owner does not provide a citation to the '356 patent in support of its argument. Nevertheless, Patent Owner argues, again without citation, that "[o]ne of ordinary skill in the art would have expected that this type of security feature would persist in a location other than in program memory so that other user programs could access the information." *Id.* Finally, Patent Owner argues that the '356 patent describes tokens stored in hierarchies, which, according to Patent Owner, "are typical of database storage organization, and natural schema when storing and managing access to diverse information." *Id.* None of these arguments supports reading persistence or a DBMS into the term "database." We note also that the other claim language, "serves as a repository of tokens for other programs to access," is a requirement we evaluate separately and do not read into the term "database."

The specification describes a database consistently with the Macmillan and Korth definitions, explaining that tokens are "pieces of information associated with user identity," that tokens are "stored in memory 11 in a control computer database, along with personal information about the user," and that "[i]n the database, the storage of tokens can be by user, group, and content." Ex. 1001, 8:9–21. The specification does not require a DBMS (or similar software) or impose a persistence requirement.

On the complete record, we construe database to mean "a collection of logically related data." This is the construction most consistent with both the intrinsic evidence and dictionary definitions. However, we note that Petitioner contends, and we find, that the prior art shows a database with

persistence and associated tools for interacting with the stored data, as explained below.

4. "multiplexing and demultiplexing API messages by type"

Claim 1 recites "providing an API on the controller computer, the API multiplexing and demultiplexing API messages by type." Petitioner contends that the Background of the Invention section of the '356 patent describes "multiplexing" as transporting messages from different messaging technologies (e.g., email, conferencing, and chat messages) using a shared communications pathway. Pet. 8–9 (citing Ex. 1001, 1:34–52). Petitioner further points to Figure 2 (reproduced above) and its corresponding description, as supporting this framework. *Id.* at 11–12 (citing Ex. 1001, 5:45–48). Petitioner further argues that "'demultiplexing' would be understood as the reverse of multiplexing, i.e. separating an individual message from the combined signal carried by the communications pathway to deliver it to the intended recipient." Pet. 9.

Describing Figure 2, as it pertains to the controller computer, the specification explains:

> Beginning with the Controller Computer Software 2, reference is made to Block 10, which illustrates demultiplexing and multiplexing operations carried out by message type on API messages of all types. Block 10 links to Block 12, which is illustrative of channel A . . . . Block 10 also links to Block 14, which illustrates handling private message A. Block 10 also links to Block 16, illustrative of handling out-of-band media. Block 10 additionally links to Block 18, which illustrates asynchronous status messages.

Ex. 1001, 5:45–54 (ellipses in original). As Petitioner points out (Pet. 12), the specification further describes demultiplexing by message type:

> From a message that is demultiplexed by message type, there are six possibilities: ERROR MESSAGE, MESSAGE, STATUS, JOINCHANNEL, LEAVE CHANNEL, AND MODMSG. ERROR MESSAGE is communicated to block 76, where the error message is displayed to the transcript in the transcript area of Block 80. MESSAGE is communicated to Block 78 where the message is immediately added to the transcript in transcript area 78. . . .

Id. at 7:4–24. We agree that the specification describes multiplexing as combining and transporting different types of messages over the same connection and demultiplexing as separating an individual message from the combined signal carried by the communications pathway to deliver it to a recipient based on the type of the message.

From the description in the specification, Petitioner concludes that "'demultiplexing' simply refers to routing a received API message to the correct software functionality based on the type of message." Pet. 14 (citing Ex. 1001, 7:11–12, 7:30–32). As explained above, the specification supports this conclusion, with the understanding that demultiplexing includes separating the received API messages from a combined signal.

As to "multiplexing," however, Petitioner proposes a construction inconsistent with its characterization of the specification, detailed above. Specifically, Petitioner argues that "'multiplexing' simply involves communicating an 'API message' to the appropriate software based on the type of the message." Pet. 13. Despite arguing (correctly) that demultiplexing is essentially the reverse of multiplexing, Petitioner proposes constructions of multiplexing and demultiplexing that are nearly identical in substance, rather than one being the reverse of the other. Although Patent Owner does not propose a construction of this term, Patent Owner does

observe that Petitioner uses the term "multiplexing" in a way that is the same as demultiplexing. PO Resp. 31–32. Under its construction of "multiplexing," Petitioner concludes that "providing an API on the controller computer, the API multiplexing and demultiplexing API messages by type," should be construed to mean "providing software functionality on the controller computer for sending and receiving messages of different types and communicating each message to software functionality based on the message type." *Id.* at 15. Petitioner's combined construction does not account for two operations, with one being the reverse of the other.

Petitioner finds support for its construction of "multiplexing" in the specification's description of Figure 3 (Ex. 1001, 6:12–15, 25–40). Specifically, Petitioner argues that the specification describes Block 10, labeled "MULTIPLEXING OF MESSAGE TYPE," as evaluating a type of message and routing the message to an appropriate software functionality. Pet. 13. Petitioner mischaracterizes Figure 3. Figure 3 is a dependency diagram showing the relationships among various functions in a system, not a flow chart showing the actual flow of data through the system. Ex. 1001, 6:10–12. Thus, Figure 3 does not show a multiplexing block or module splitting data from a common connection and distributing it to multiple other modules according to data type (which would be demultiplexing). As explained above, Figure 2 shows multiplexing as combining multiple messages of different types for transmission rather than splitting a transmission apart and routing individual messages to appropriate software functionality.

In light of the specification, "multiplexing . . . API messages by type" means "combining and transporting different types of messages over the

same connection" and "demultiplexing API messages by type" means "routing received API messages to the correct software functionalities based on the types of messages."

B. Asserted Grounds of Unpatentability

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are "such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." We resolve the question of obviousness on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations.[5] *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

In an obviousness analysis, some reason must be shown as to why a person of ordinary skill would have combined or modified the prior art to achieve the patented invention. *See Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1374 (Fed. Cir. 2008). A reason to combine or modify the prior art may be found explicitly or implicitly in market forces; design incentives; the "interrelated teachings of multiple patents"; "any need or problem known in the field of endeavor at the time of invention and addressed by the patent"; and the background knowledge, creativity, and common sense of

[5] The record does not include arguments or evidence regarding objective indicia of nonobviousness.

the person of ordinary skill. *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1328–29 (Fed. Cir. 2009) (quoting *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418–21 (2007)).

1. Level of Ordinary Skill

Neither party proposes a level of ordinary skill in the art. Nevertheless, both parties' experts testify to similar levels of skill. Specifically, Dr. Lavian testifies that a skilled artisan "would possess at least a bachelor's degree in electrical engineering or computer science (or equivalent degree or experience) with practical experience or coursework in the design or development of systems for network-based communication between computer systems." Ex. 1002 ¶ 13. For his part, Dr. Carbonell testifies that a skilled artisan "would have had a bachelor's degree in computer science (or a related field) and at least one year of work experience in programming in computer communication methods" and notes that his "opinions herein would not change even if the person having ordinary skill in the art were to be found to have the level of skill proposed by Dr. Lavian." Ex. 2005 ¶ 18. We adopt Dr. Lavian's proposal, as it is consistent with the level of skill reflected in the prior art of record. Nevertheless, we discern no material difference between his proposal and that of Dr. Carbonell. Thus, our findings and conclusions would be the same under either proposal.

2. Scope and Content of the Prior Art

Petitioner contends that the challenged claims would have been obvious over Roseman, alone or in combination with Rissanen, Vetter, Pike, and Gosling. Pet. 16.

a. Overview of Roseman

Roseman describes a system for multimedia conferencing, in which parties are linked by both video and audio media. Ex. 1003, Abstract. In Roseman, a conference is represented visually as a common virtual conference table, in which each participant can place a document onto the table electronically, manipulate and write on the document, write on a virtual notepad, and move a pointer to draw other users' attention. *Id.* at 2:38–45, 7:55–8:37. Participants can see the events as they occur. *Id.* at 2:46–47. Figure 9, reproduced below, illustrates an example conference room:

FIG. 9

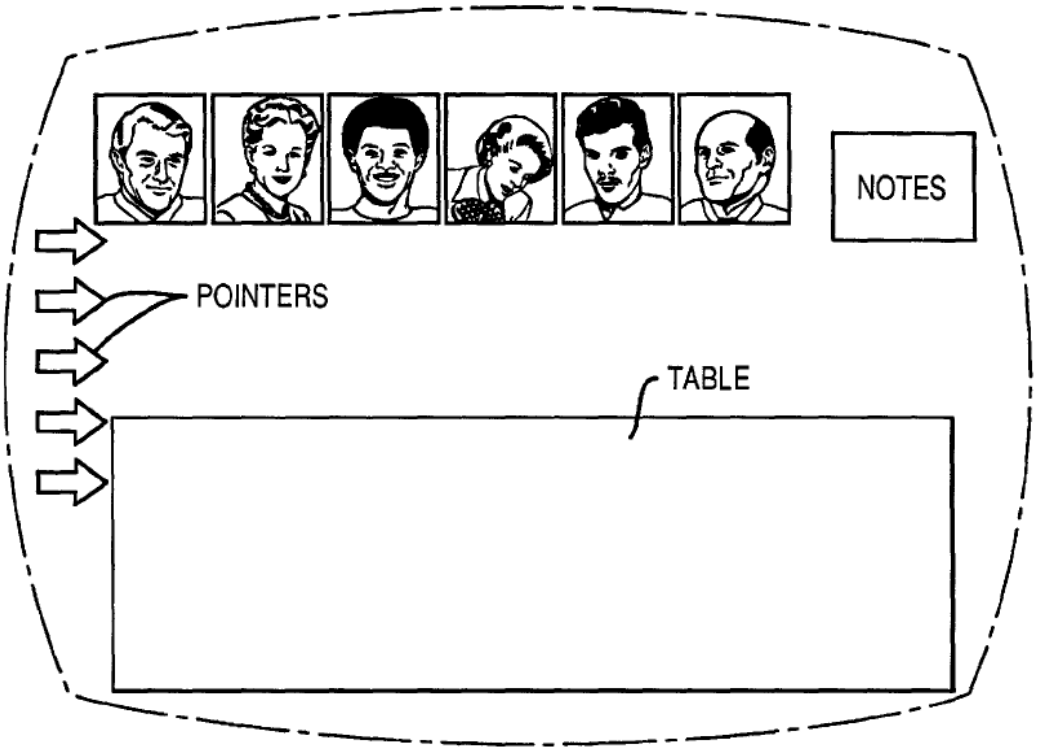

Figure 9 is a picture of a video screen that is generated by a host computer and distributed to all participants in a conference. *Id.* at 2:16–18.

The parties operate their own local computers (which include video cameras and speaker-type telephones) and, when a conference is established, connect to a host computer via commercially available local area networks ("LANs") and wide area networks ("WANs"). *Id.* at 1:34–41. In the conference, the host computer generates a common video screen (e.g., Figure 9, reproduced above) displayed at each of the local computers, and the parties send information, such as drawings, to be displayed on the common screen. *Id.* at 1:42–46. The telephones and video cameras allow the parties to see and speak with each other. *Id.* at 1:47–49.

Roseman includes a pseudo code appendix that details how its features are implemented. *Id.* at 12:66–13:2. According to the pseudo code, a participant interacts with the conference table, for example, by dragging an icon onto the table, which causes a data file to be transmitted to the host. *Id.* at 14:53–55. The host then transmits the icon to the table of each participant. *Id.* at 14:56–57. If another participant activates the icon, the host sends the open file to the tables of all participants. *Id.* at 14:58–61. If the participant drags the icon from the table to his own screen and activates the icon on his screen, the data file is presented to the participant. *Id.* at 14:62–66.

Roseman describes additional features, such as a party's ability to "whisper" to another party without being heard by others in the conference room, and the ability to "pass notes" by dragging a note to the picture of another party, while the other parties are unaware of the note. *Id.* at 9:16–31. Each room may also have "doors" to committee rooms or child-rooms. A child-room is created in the same way as a parent room and is dependent upon the parent room for access and existence. *Id.* at 10:18–23.

A meeting requester creates a conference by selecting the participants, the attributes of the virtual conference room (e.g., virtual equipment and room décor), and the rules of the conference (e.g., whether the requester has absolute control over voice and message interaction of the parties). *Id.* at 3:22–56. According to Roseman, "[t]he conference room itself is actually a combination of stored data and computer programs," the stored data can include conference proceedings, and "both the conference room and the proceedings of the conference have persistence in time." *Id.* at 12:16–25.

The meeting requester specifies a level for each invitation and compiles an invitation list. *Id.* at 9:34–36. Invitations include "keys" specifying the level, e.g., whether the invitation is for the invitee only or can be passed to a delegate or to anyone. *Id.* at 9:35–48. For example, "Level 1 keys may not be passed to any other person and may not be copied" while "Level 2 keys may be passed to exactly one other person and may not be copied." *Id.* at 9:42–45. According to Roseman, "[t]he meeting room 'knows' about each key and its invitation level. Persons with improper keys are not admitted to the room." *Id.* at 9:49–51. A key is distributed electronically as an object attached to the invitation. *Id.* at 9:54–55. To attend a meeting, a party walks a virtual "hallway" to the meeting room and opens the meeting room door by dropping the key onto a virtual "door lock." *Id.* at 10:30–32, 10:61–65. Moreover, the host "can automatically prevent filibustering" by "monitor[ing] the speech of each person, and plac[ing] a limit on the total time allowed to each person." *Id.* at 12:29–38.

b. Overview of Rissanen

Rissanen describes a system and method for validation of spoken passwords. Ex. 1004, 2:17–21. Rissanen's Background of the Invention discusses systems in which "business computer systems are arranged to initially record and store passwords assigned to users," a user is prompted for entry of a password, and "the system compares the keyboard entered password with the stored passwords and enables the user to access the system when the entered password matches the previously stored password." *Id.* at 1:21–28. In Rissanen's proposed solution, "[u]sers are initially entered into a password database stored in the computer system by assigning each

user an account code and a password, such as consisting of a number of numerical digits." *Id.* at 2:26–29.

Petitioner makes clear that "[a]lthough Rissanen also describes using spoken voice passwords, this Petition cites it for its more pedestrian teachings relating to database storage of passwords of any form." Pet. 20.

c. Overview of Vetter

Vetter is an IEEE Computer Society Magazine article discussing available tools for conducting teleconferencing over the Internet. According to Vetter, "[v]ideoconferences are becoming increasingly frequent on the Internet and are generating much research interest." Ex. 1005, 77. Vetter states that "the emerging multicast backbone (or MBone) can efficiently send traffic from a single source over the network to multiple recipients," and, "[a]t the same time, many workstations attached to the Internet are being equipped with video capture and sound cards to send and receive video and audio data streams." *Id.* Vetter concludes that "[t]he price/ performance of these hardware devices has finally reached a level that makes wide-scale deployment possible, which is perhaps the most important factor in the recent growth of videoconferencing applications." *Id.*

Vetter also describes challenges that faced implementation of audio, graphic, and video tools on the Internet, including "disturbing feedback when the microphones at multiple sites were left 'open' during a discussion," taking too much time to broadcast a simple graphic image to multiple participants when using "Whiteboard tools" (collaborative software tools that support a shared desktop whiteboard among a group of distributed users on the Internet), and use of video during a classroom presentation that

caused the workstations in the classroom lab to lock up. *Id.* at 78–79. Vetter also notes that the physical distance between two points on the Internet can be different from the electronic distance between those points. *Id.* at 79.

Vetter discusses in particular a CU-SeeMe platform from Cornell University that supported video and audio conferencing over the Internet, and a CU-SeeMe Reflector that allowed multiparty conferencing with CU-SeeMe. *Id.* at 78.

d. Overview of Pike

Pike is a reference and guide book for using the Web browser Mosaic. Ex. 1006, 2. Petitioner cites to Pike's discussion of URLs and hyperlinks. According to Pike, URLs were developed as a standard way of referencing items on the World Wide Web. *Id.* at 38. "A *URL* is a complete description of an item, containing the location of the item that you want to retrieve. The location of the item can range from a file on your local disk to a file on an Internet site halfway around the world." *Id.*

e. Overview of Gosling

Gosling is a paper describing various aspects of the Java programming language. Ex. 1007, 111. According to Gosling, programming in Java has the benefit of portability such that Java programs "can execute on any kind of CPU." *Id.* at 115.

3. Claim 1, Differences Between the Claimed Subject Matter and the Prior Art, and Reasons to Modify or Combine

Petitioner contends that Roseman teaches each limitation of claim 1, but cites the remaining references for the following, should we determine that Roseman lacks such a teaching:

Rissanen for a teaching that tokens could have been stored in a database;

Vetter for a teaching that Roseman's communications could have been over the Internet;

Pike for a teaching of URLs; and

Gosling for a teaching of a JAVA application.

Pet. 19–23.

a. "A method of communicating content among users using of [sic] a computer system including a controller computer and a database which serves as a repository of tokens for other programs to access, thereby affording information to each of a plurality of participator computers which are otherwise independent of each other"

Petitioner contends that Roseman's host computer is a controller computer. Pet. 24–25. Petitioner identifies Roseman's local computers as independent participator computers and argues that Roseman's various ways of communicating information (placing documents on a virtual table, shared notes, whisper conversations) are examples of affording information to those participator computers. Pet. 31–33. As detailed above, Roseman describes a system in which individual computers are connected to a central host computer via a combination of LANs and WANs. Ex. 1003, 3:14–19.

According to Roseman, "[t]he host controls many of the events occurring during the conference, as well as those occurring both during initiation of the conference and after termination of the proceedings." *Id.* at 1:50–52. We find that Roseman's host computer is a "controller computer," that Roseman's local computers are "participator computers," and that Roseman's various ways of communicating information from the host to the local computers are examples of "affording information to each of a plurality of participator computers which are otherwise independent of each other," as recited in claim 1.[6]

The parties dispute whether Roseman describes "a database which serves as a repository of tokens for other programs to access." First, Petitioner contends that Roseman's "keys" are tokens. Pet. 25–26. As explained above, the parties agree that a "token" is "a piece of information associated with user identity." As also explained above, Roseman describes that an invitor, in setting up a meeting, creates an invitation that includes a key that conforms to an invitation level. Ex. 1003, 9:34–48. A key "is an electronic object attached to the invitation." *Id.* at 9:54–55. The "level" of a key determines who can use it. *Id.* at 9:34–41. For example, "Level 1 keys may not be passed to any other person and may not be copied." *Id.* at 9:42–44. According to Roseman, "[t]o open a door with a key, the user drops the key onto the door lock. If the key is valid and the user has the authority to use the key, the door opens and the user is admitted to the room." *Id.* at

[6] Patent Owner argues that "Petitioner does not address the issue that the **database** affords information to each of a plurality of computers." PO Resp. 21. Claim 1, however, does not recite that the database affords information to the plurality of computers.

10:61–64. Petitioner argues that this evidence shows that Roseman's keys are "pieces of information associated with a user identity," and thus, are "tokens." Pet. 26.

Patent Owner argues that Roseman's keys are not tokens because they are associated only with conference rooms, rather than user identities. PO Resp. 17. Patent Owner points to Roseman's Figure 8, which shows a key associated with "CONFERENCE ROOM 17L (DATE, TIME)." *Id.* In describing Figure 8, however, Roseman explains "the key is, essentially, a block of data, or a code," that can be used if the Invitee may send a delegate to give the Absentee-Invitee a "key," which enables access to the meeting. Ex. 1003, 6:54–61. "The Requester can leave the key in his local computer, in the form of an icon residing on the display, as shown in FIG. 8. Anyone entering the office can use the key." Ex. 1003, 6:60–63. In this example, the key can be used only with a particular user's computer. Figure 8 also shows the "key" icon contained within a "vault" icon. *Id.* at 6:64–65. In this example,

> a user must use a "combination" to the "vault" to obtain the "key." In this latter example, the [] "combination" (ie, a pass-code) is obtained from the Absentee-Invitee in some appropriate way. At conference time, the Delegate opens the "vault," obtains the "key," and enters the conference room, by using the key.

Id. at 6:65–7:3. Patent Owner argues that Roseman's keys are "transferable to anyone—like a key to a door lock." PO Resp. 17. Patent Owner contends that Roseman teaches away from keys being associated with a specific user through its description that "***[k]eys may be copied and redistributed, if permitted***, or sent to another individual, if permitted." *Id.* at 17–18 (quoting Ex. 1003, 9:55–57) (emphasis by Patent Owner).

Patent Owner's arguments are not persuasive. Roseman describes keys that are transferable (Level 2 and 3 keys) and keys that are not transferable (Level 1 keys). Ex. 1003, 9:42–48. Petitioner's contentions (Pet. 26) are directed to Level 1 keys, which "may not be passed to any other person and may not be copied." *Id.* at 9:43–44. We find that keys that may not be passed to any other person are keys associated with that person. Figure 8 of Roseman is consistent with this because it describes passing a key to an "Absentee-Invitee" when the Invitee sends a delegate, i.e., a Level 2 key.

As to Level 1 keys, Patent Owner argues that a key is merely an attachment to an invitation, which "offers the only suggestion of an association with specific invitee." PO Resp. 18. Dr. Carbonell testifies (without identifying a basis) that Roseman's system could prevent the transfer of a key using a "no-transfer or no-duplication policy of such a key to insure that [it] always stays in the possession of the first user," by making transferability an attribute of the key and having the system simply assume, without recording transfers, that a user in possession of a key is authorized to use it. Ex. 2005 ¶ 31. As Petitioner argues, however, the claim construction to which Patent Owner agreed does not require an association between a key and a user to be implemented in a certain way. Reply 15–16. Even if Dr. Carbonell is correct as to how Roseman's keys would be implemented, such a non-transferable key would still be associated with the person who is prevented from transferring it.

Petitioner further argues that Roseman discloses storing keys in "a database which serves as a repository of tokens," as recited in claim 1, because a meeting room that is accessed by a key "'knows' about each key

and its invitation level." Pet. 27 (quoting Ex. 1003, 9:49–51). According to Petitioner, a copy of each key must be stored on the host computer for the meeting room to "know" about each key. *Id.* at 27. Petitioner argues that a skilled artisan would have understood the claimed database to be a stored collection of tokens. *Id.* at 27–28. Roseman does not expressly describe storing tokens in a database. Thus, we understand Petitioner to argue that tokens necessarily are stored in a database in light of Petitioner's cited disclosure—in other words, that a database is inherent in Roseman.

Patent Owner, relying on Dr. Carbonell's testimony, argues that a meeting room's knowledge of a key could be implemented using a hash function, which would not have required storage of the key in a database. PO Resp. 20–21 (citing Ex. 2005 ¶ 40). Petitioner characterizes Patent Owner's argument as "based on pure speculation and conjecture" and inconsistent with Roseman's disclosure. Reply 11–12. Nevertheless, we view both parties' respective theories of Roseman's implementation as speculation. Because Petitioner's position is speculative, it is insufficient to show that a database is inherent in Roseman.[7]

In the alternative, Petitioner argues that Rissanen teaches storing user authentication information, such as user identity information and passwords,

[7] Patent Owner also argues that Roseman does not suggest storing keys in a manner that is persistent and does not disclose tools such as a DBMS. PO Resp. 21–22. Roseman does teach that the data associated with its conference rooms are stored in a manner that is persistent, Ex. 1003, 12:16–28, and this at least suggests that keys also would be stored in such a manner. As to a DBMS, we explain above that the construction of "database" does not require this feature. Nevertheless, as explained below, Rissanen teaches a database even under Patent Owner's proposed construction.

in a database, and that such teaching would have been applicable to the keys of Roseman. Pet. 28–29. Petitioner argues that Roseman's keys are analogous to user identity and passwords. *Id.* According to Petitioner and its expert, Roseman's key verification step might not function properly if the keys are not stored in a database. *Id.* at 29 (citing Ex. 1002 ¶ 67). Petitioner further argues that storing keys in a database is one of a finite number of known solutions for verifying whether a previously issued key matches to a key later presented by a user to access a conference room. *Id.* at 29–30 (citing Ex. 1002 ¶¶ 67–68).

Patent Owner admits that "[Rissanen] does disclose a database," but argues that its database is used in a different type of system. PO Resp. 22. Thus, Patent Owner does not contest that Rissanen's database stores user identities and passwords in a persistent manner and is used in conjunction with tools such as a DBMS. For Petitioner, Dr. Lavian testifies that "Rissanen clearly discloses a relational database whose data is stored persistently and includes tools for interacting with the data such as a DBMS." Ex. 1021 ¶ 37. We find that Rissanen teaches a database that stores data with persistence and tools for interacting with the database.

Nevertheless, Patent Owner argues "[i]f one were going to combine Roseman and Rissenan in order to authenticate an individual (and not merely authenticate a key for a room) the necessary logic would be significantly more complicated." PO Resp. 23. Petitioner does not argue, however, that Rissanen's database would be bodily incorporated into Roseman's system. Rather, Petitioner argues that Rissanen teaches storing data "analogous to and serv[ing] the same purpose as" the keys in Roseman in a database. Pet. 28. *See In re Mouttet*, 686 F.3d 1322, 1332–32 (Fed. Cir. 2012) ("It is

well-established that a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements. . . . Rather, the test for obviousness is what the combined teachings of the references would have suggested to those having ordinary skill in the art."). Given that Roseman describes using keys to access conference rooms that have persistence, we agree with Petitioner that a database, described in Rissanen as storing similar information for a similar purpose, would be a straightforward and predictable choice for storing Roseman's keys.

The parties also dispute whether Roseman and Rissanen teach that the database "serves as a repository of tokens *for other programs to access*, thereby affording information to each of a plurality of participator computers," as recited in claim 1. Petitioner argues that other programs access the stored collection of tokens, including the various meeting or conference rooms maintained on the host computer. Pet. 30. Petitioner relies on disclosure in Roseman that a meeting room is accessible from a virtual hallway with doors to other meeting rooms. *Id.* (citing Ex. 1003, 9:63–65). According to Petitioner, "[e]ach meeting room . . . contains a number of computer programs, and each meeting room itself can be thought of as a program. These programs access the repository of keys when a user presents a key to obtain access to a conference room." *Id.*

Patent Owner argues that "Petitioner does not identify any programs that could access a database of tokens and receive information, other than the singular conference calling software running on the host computer of Roseman." PO Resp. 24–25. According to Patent Owner, "to the extent that there are multiple conference rooms in existence, that is because the

Roseman system has instantiated the same conference room program with different parameters as there is no suggestion that there is different software associated with each conference room." *Id.* Patent Owner does not explain why "other programs" require different software rather than different instantiations of the same software, or point to evidence supporting this view. We are not persuaded that the claims should be limited in this way. Nevertheless, as Petitioner points out (Reply 17–18), Roseman characterizes its conference rooms as collections of different programs (Ex. 1003, 12:16–18) and makes clear that different conference rooms will have different attributes (different virtual equipment, different tools, different appearances, etc.) (*id.* at 3:42–50, 10:9–12). We find that Roseman at least suggests different conference rooms with different programs, even under Patent Owner's view. These programs determine whether a participant can join a meeting room based on evaluations of keys that, in light of Rissanen, would have been stored in a database. Thus, we find that Roseman and Rissanen teach "a database which serves as a repository of tokens for other programs to access," as recited in claim 1.

b. "authenticating a first user identity and a second user identity according to permissions retrieved from the repository of tokens of the database"

As explained above, Roseman discusses a user validation system based on "keys" provided to invitees to a virtual conference—for example, a "Level 1 key" that is restricted to a specific user only—which are used by the invitees to access the conference and enable communications between and among the users and the host computer. *Id*. at 9:34–55, 10:61–65,

11:10–17. We find that this teaches authenticating users according to permissions retrieved from the repository of tokens.

c. "affording some of the information to a first of the participator computers via the Internet network, responsive to an authenticated first user identity"

"affording some of the information to a second of the participator computers via the Internet network, responsive to an authenticated second user identity"

As explained above, Roseman describes admitting participants into a conference room when the participants present keys. Ex. 1003, 10:61–65. We find that this teaches "an authenticated first user identity" and "an authenticated second user identity." Additionally, Roseman describes various ways of affording information to local computers of users admitted to the conference room, including as follows:

> Objects (documents) can be shared in the conference room by placing them on the table. This might be done by dragging an icon of the object from the outside (users non-"meeting room" windows) onto the table. Ownership of the object is still maintained. If the object owner wishes, the object may be copied, borrowed by other users, or given to other users. The object may be altered (changed, annotated) by anyone with permission to do so.

Id. at 11:18–26. *See also* Pet. 36–37. We find that these examples in Roseman teach "affording some of the information to a [first/second] of the participator computers . . ., responsive to an authenticated [first/second] user identity," as recited in claim 1.

The parties dispute whether the prior art teaches affording information "via the Internet Network," as recited in claim 1. As explained above, Roseman describes communicating between a host and local computers via

commercially available LANs and WANs. Ex. 1003, 1:37–41, 3:14–19. Petitioner contends that a skilled artisan would have understood the Internet to be an example of the commercially available WAN described in Roseman. Pet. 37; Ex. 1002 ¶ 83. According to Dr. Lavian, "a person of ordinary skill in the art would have recognized the Internet as one of the largest networks for connecting remote computers (if not the largest), making it the obvious Wide Area Network (WAN) for use with Roseman to connect the host and participant computers." Ex. 1002 ¶ 86; *see also* Ex. 2006 (Lavian Dep.), 104:12–105:23 ("Q So Roseman could have been implemented in that 1994 to '96 time frame with ATM technology? A If I'm looking at the specification of Roseman and what specifically Roseman disclose, it disclose as using a -- local computers become connected to host computer via commercially available Local Area Networks and Wide Area Networks. When you're talking about Local Area Networks and Wide Area Networks, this is the Internet. That's different name to Internet. Q So you're saying that Roseman by itself teaches the Internet? A Roseman by itself reference to remote computers commercially available, commercially available that said Internet. Local Area Networks, definitely part of the Internet. Wide Area Networks, different name to the Internet. It's actually the Internet itself. . . .").

Petitioner further argues that Vetter teaches using the Internet to facilitate the same types of computer-based conferencing functions as described in Roseman. Pet. 37–38. Petitioner contends that Vetter itself identifies a reason to combine the teachings of Roseman and Vetter, namely "[v]ideoconferences are becoming increasingly frequent on the Internet" and

the CU-SeeMe videoconferencing tool described in Vetter "is also becoming very popular." *Id.* at 39 (quoting Ex. 1005, 77 (emphases by Petitioner)).

Patent Owner argues that Vetter does not state that Internet videoconferencing would have been ubiquitous at the time of the invention; rather, Patent Owner argues, the Internet was beginning to support video conferencing. PO Resp. 26. According to Patent Owner, "while communication over the Internet maybe obvious today, the mid-1990's were still the early formative years of the Internet, and one of ordinary skill in the art would not necessarily have looked to the Internet to improve systems such as Roseman." *Id.* at 27. Patent Owner further argues that Vetter describes a system for point-to-point and point-to-mulitpoint communications without the use of a centralized server structure, database, or tokens. *Id.*

We are persuaded by Petitioner. Roseman expressly states that its local computers and host communicate via a commercially available WAN. We credit Dr. Lavian's testimony that, to the extent that this is not an express reference to the Internet, the most suitable and obvious commercially available WAN would have been the Internet. We also find that Vetter suggests using the Internet for purposes similar to those of Roseman. Vetter describes an example in which features such as audio, video, and virtual whiteboard tools are used to conference over the Internet. Ex. 1005, 77–78. Thus, to the extent Roseman does not expressly suggest using the Internet, Vetter includes an express suggestion to update a system such as Roseman using modern electronic components, such as the Internet, to gain the commonly understood benefits of such adaptation. *See Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007);

cf., Muniauction, Inc. v. Thomson Corp., 532 F.3d 1318, 1326–27 (Fed. Cir. 2008) ("The record in this case demonstrates that adapting existing electronic processes to incorporate modern internet and web browser technology was similarly commonplace at the time the '099 patent application was filed."). Vetter reinforces our finding that the Internet would have been the most suitable commercially available WAN for use in Roseman's system. Patent Owner's argument that Vetter does not describe a system with a controller computer, database, or tokens is unpersuasive as it merely attacks Vetter individually without considering the combination proposed by Petitioner. *See In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) ("Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references.").

In sum, we find that Roseman and Vetter teach affording information to first and second participator computers "via the Internet network," as recited in claim 1.

d. "running controller software on the controller computer, in accordance with predefined rules, to direct arbitration of which ones of the participator computers interactively connect within a group of the participator computers"

With regard to the limitation, "controller software . . . to direct arbitration of which ones of the participator computers interactively connect within a group of the participator computers," the Petition relies on teachings in Roseman about the functions of the host software on the host computer. Pet. 40–44. For example, Roseman describes applying rules to

govern which conference participants can communicate interactively, and how the participants may communicate, such as a "talking queue" permitting only one participant to speak at a time, permitting only one participant at a time to utilize the pencil tool, and private communication features where only select participants may exchange private communications. Ex. 1003, 3:52–56, 9:16–31, 11:38–46, Fig. 19.

As to "in accordance with predefined rules," Petitioner (Pet. 41) argues that Roseman discloses that a person setting up a conference can determine aspects of the meeting, such as: "What rules govern the conduct of the meeting? Does the Requester have absolute control of the voice and message interaction among the participants? Or Is the meeting a brainstorming free-for-all, where numerous people can speak at once?" Ex. 1003, 3:52–54. As to a specific example, Petitioner points to Roseman's "pencil" tool, through which a participant can write a message in a conference room using the pencil tool, and other participants are disabled from doing so while the first participant has the pencil. Pet. 42 (citing Ex. 1003, Fig. 19). Petitioner also cites to Roseman's "Whisper Mode" for private voice conversations and "note-passing" for private textual conversations as examples of predefined rules that govern how users conduct real-time communications. *Id.* at 42–43 (citing Ex. 1003, 9:16–31, 15:12–15, Fig. 17C). We agree with Petitioner that these are examples of "predefined rules" that "direct arbitration of which ones of the participator computers interactively connect within a group of the participator computers." Thus, we find that Roseman teaches this limitation. We note that Patent Owner does not contest that Roseman teaches this limitation.

e. "providing an API on the controller computer, the API multiplexing and demultiplexing API messages by type, creating a virtual connection and providing the virtual connection between channels, private messages, and multimedia objects in the controller computer and the participator computers"

Claim 1 recites "providing an API on the controller computer, the API multiplexing and demultiplexing API messages by type." For the recited "API," Petitioner identifies a series of software functions for which Roseman provides pseudo-code, including transmitting data files to conference participants, transmitting private notes between participants, and enabling (and disabling) the pencil tool. Pet. 44–47 (citing Ex. 1003, 12:66–13:2, Figs. 16A, 17C, 19). According to Petitioner, this API multiplexes and demultiplexes API messages by type, as recited in claim 1, because "the host computer receives a type of message and routes the message to the appropriate software functionality to handle that message type." *Id.* at 45–47. According to Petitioner,

> Roseman discloses software functionality that transmits and processes particular types of messages, such as placing a document on the table (*causing the document to be sent to each participant*), using the pencil (*causing the participant's actions to be sent to each participant*), sending a private message (*causing the message to be sent only to the intended recipient*), and other messaging functions. Messages corresponding to these commands are multiplexed because the host computer processes each message using the software functionality described above – using the message type to determine the appropriate software.

Id. at 46–47 (emphasis added). Petitioner argues that '356 patent's "description mirrors what the 'host computer' in Roseman does." *Id.* at 47.

In response, Patent Owner argues that "none of Petitioner's evidence indicates the presence of both multiplexing and demultiplexing *on the*

controller computer." PO Resp. 31. According to Patent Owner, any multiplexing identified by Petitioner would occur only in the context of the participator software. *Id.* As to Petitioner's contention that messages corresponding to Roseman's, icon, note, and pencil features "are multiplexed because the host computer processes each message using the software functionality described above – using the message type to determine the appropriate software," Pet. 45–47, Patent Owner argues that "using the message type to determine the appropriate software is actually demultiplexing," PO Resp. 31–32.

In reply, Petitioner notes that Patent Owner, in a related proceeding (IPR2016-01067), proposed construing "multiplexing" to mean "collecting messages from different objects/code and sending the messages over a common channel to the participators," a construction similar to our construction in Section II.A.4 above ("combining and transporting different types of messages over the same connection"). Pet. 22–23 (citing IPR2016-02067, Paper 26, 31). Petitioner contends that it showed, in the Petition, multiplexing in Roseman under Patent Owner's construction. *Id.* at 23. We agree with Petitioner. As explained above, Roseman describes a host receiving icon, note, and pencil messages from the local computers over the Internet (a common communication channel), routing those messages to the appropriate software to handle the messages (demultiplexing), and further sending those messages to each of the participants (in the case of icons and pencil messages) or to only an identified participant (in the case of notes) over the Internet. Ex. 1003, 8:1–5, 9:26–31, 14:53–67, 15:10–13, 15:20–27. We find that, to send these messages of different types to the participants over the same Internet connection (in the combination that includes Vetter's

teachings), the messages would be combined. Therefore, we find Roseman teaches multiplexing as construed ("combining and transporting different types of messages over the same connection").

Patent Owner further argues that Roseman's description of a "whisper mode" teaches away from multiplexing because a whisper mode audio communication is invoked in a separate voice connection that is not shared with the data connection. PO Resp. 32. Even if this is the case, Patent Owner does not explain how it undermines the other examples cited by Petitioner, including icons, notes, and pencil messages, which we find are multiplexed and carried over the same connection.

Claim 1 also recites "creating a virtual connection and providing the virtual connection between channels, private messages, and multimedia objects in the controller computer and the participator computers." Petitioner asserts that Roseman's description of the virtual conference room provided by the host computer, within which the various software functions are made available, teaches the recited "virtual connection." Pet. 47. Petitioner contends that the host software providing a virtual conference room that connects a group of participants is an example of creating a virtual connection between channels in the controller computer and the participator computers. *Id.* at 48. As explained in Section II.A.1 above, "channel" means "a group of participator computers in active communication." Petitioner further argues that Roseman's child rooms are additional examples of channels. Pet. 48 (citing Ex. 1003, 10:18–25).

As discussed above, Roseman also describes private communications features within the virtual conference rooms, including note-passing, which Petitioner maps to the recited "private messages." *Id.* at 48 (citing Ex. 1003,

2:49–50). Petitioner contends that this teaches providing a virtual connection between private messages in the controller computer and the participator computers. *Id.* Finally, Roseman describes "multi-media conferencing" where audio and video are exchanged between participants in a virtual conference room, as well as the sharing of documents and files (including text and graphics). *Id.* at 48–49 (citing Ex. 1003, Abstract, 2:38–45, 7:65–67, 8:1–4, 11:11–13). Petitioner argues that this teaches providing a virtual connection between multimedia objects in the controller computer and the participator computers. *Id.* at 49.

Patent Owner argues that claim 1 "explicitly requires a connection to be established between corresponding objects in the controller and participator computers, necessitating the existence of the claimed objects within the participator computers," and that "Roseman does not disclose any software on the users' computers that could qualify as corresponding participator software that includes the claimed channel objects, private messaging objects, or multimedia objects." PO Resp. 29. Patent Owner argues that Roseman describes generating images on the host computer and sending that same display to each of the local computers, rather than opening files on the local computers. *Id.* at 29–30 (citing Ex. 1003, 8:1–4, 8:11–13).

Petitioner argues that "[t]he claims do not under their broadest reasonable construction exclude a communications system in which the controller computer provides information to participator computers in the form of graphical representations." Reply 21. According to Petitioner, Patent Owner's expert admitted that an "object" in the context of the challenged claims is simply an item of information. *Id.* (citing Ex. 1016,

111:20–112:14).[8] Consistent with Petitioner's argument, Dr. Carbonell testified that "objects" means "items of information," for example, "[i]t can be a figure, it can be a video clip, it can be audio." Ex. 1016, 111:20–112:3. Petitioner argues that Roseman's rendering of a conference room constitutes an "object." Reply 21.

We agree with Petitioner that the claims do not require corresponding software at a participator computer for demultiplexing messages such that an object (item of information) multiplexed at the host and sent to the participator computer is demultiplexed to separate out that object, which is how Patent Owner construes this claim limitation. On one hand, the '356 patent Specification describes demultiplexing and multiplexing on both participator and controller computers to create the disclosed virtual connection between channel, message, and multimedia objects: "De/multiplexing via API provides a 'virtual connection' between Channel, Private Message, and Multimedia objects in the controller computer 3 and each participator computer 5." Ex. 1001, 6:3–5. On the other hand, the caption at the bottom of Figure 2 implies that merely multiplexing API messages creates a "virtual" connection. *See id.* at Fig. 2 ("MULTIPLEXING VIA API PROVIDES A 'VIRTUAL CONNECTION BETWEEN CHANNEL, PRIVATE MESSAGE, AND MULTIMEDIA OBJECTS IN CONTROLLER AND PARTICIPATOR.").

The claims, however, in essence define a "virtual" connection as one created by multiplexing and demultiplexing messages by type on the

[8] Petitioner cites to Exhibit 1014, which we assume is a typographical error. Dr. Carbonell's deposition is Exhibit 1016.

controller computer. For example, claim 1 recites "providing an API *on the controller computer*, the API multiplexing and demultiplexing API messages by type, *creating a virtual connection and providing the virtual connection between channels, private messages, and multimedia objects in the controller computer and the participator computers*."

Although the '356 patent presents different generic or functional descriptions about what it means by a "virtual" connection, the disclosure reveals that a virtual connection is not "a separate connection between each object," which is "[a]n alternate connection" to a "virtual connection." Ex. 1001, 6:3–9. In view of the '356 patent specification, a "virtual" connection "between channels" means that the controller computer connects participators to the same "channel" via the controller computer—meaning that users in a group on that "channel" can chat or teleconference. Roseman's description of placing documents on a virtual conference table, causing the document to be sent to each participant as part of a common rendering, teaches a virtual connection between channels. Pet. 48.

In similar fashion, a "virtual" connection for the claimed "private message" and "multimedia object" simply means a connection through the controller computer and between different users exists so that participators on a "channel" each may see a "private message" and a "multimedia object" (e.g., via a download or URL connection) sent by another participator user. *See* Ex. 1001, Fig. 2, 5:38–43 (describing multimedia as sent by URL links), 5:44–6:9 (discussing private messages, channels, multimedia objects, and virtual connections).

By way of example, the specification describes in general terms how participator computer Block 20, which "is illustrative of demultiplexing and

multiplexing operations carried out by message type on API messages of all types," "links to Block 24, which illustrates handling private message A," and "also links to Block 26, illustrative of handling out-of-band media." Ex. 1001, 5:58–68 (emphases added). These illustrations using different "Blocks" simply describe in functional software terms connecting users on "channels" (so that users can chat and/or send messages) and transferring private messages and multimedia objects between users via the controller computer. *Id.* at 5:43–67. Another feature of a "virtual" connection implied by Figures 1 and 2 is that no direct connection between users exists, rather, an indirect connection routed through the controller computer exists. Ex. 1001, Figs. 1, 2.

We find that Roseman's description of sending notes to an identified participant, and no one else, is a teaching of a connection through the host (controller computer) and between different local computers (participator computers) that allows participators on a "channel" to see a "private message."

Patent Owner also argues that Roseman describes initiating separate data and voice connections when the "whisper mode" is used, rather than a shared connection. PO Resp. 30. This is similar to Patent Owner's argument, discussed above, that Roseman's whisper mode teaches away from claim 1. Once again, Patent Owner does not explain why Roseman's description of one particular type of communication (whisper mode) undermines Petitioner's evidence as to Roseman's other examples of communications, such as note passing and multi-media conferencing.

In sum, we find that Roseman and Vetter teach "providing an API on the controller computer, the API multiplexing and demultiplexing API

messages by type, creating a virtual connection and providing the virtual connection between channels, private messages, and multimedia objects in the controller computer and the participator computers," as recited in claim 1.

f. "communicating real-time messages within the group of the interactively connected said participator computers"

Petitioner identifies Roseman's teachings of real-time communications in the form of sharing documents, writing/drawing on shared documents, and using a virtual pointer to indicate parts of shared documents. Pet. 50–51 (citing Ex. 1003, 2:38–47, 7:54–8:5, 8:41–46, 12:26–28). Petitioner contends that communications in one of Roseman's conference rooms, such as placing documents on a table, drawing on a document, and moving a pointer, take place in real time because they are communicated to participants as the underlying events occur. *Id.* For example, Roseman explains:

> In the invention, the participants share a common virtual conference table. Each participant can
>
> (1) place a document onto the table electronically,
>
> (2) write on the document, draw on it, and otherwise manipulate it, and
>
> (3) move a pointer to different positions on the document, to point to specific parts of it.
>
> All other participants see the [] preceding three events as they occur.

Ex. 1003, 2:38–47. We find that these are specific examples in Roseman of real-time communications sent and received by the participator computers in a group.

Thus, we find that Roseman teaches this limitation of claim 1. We note that Patent Owner does not contest that Roseman teaches this limitation.

In sum, we find that Roseman, Rissanen, and Vetter teach each limitation of claim 1.

4. Remaining Challenged Independent Claims

Claim 19 recites an apparatus configured to perform functions that track the steps of claim 1, except that claim 19 does not recite functions corresponding to "affording some of the information to a [first/second] of the participator computers via the Internet network, responsive to an authenticated [first/second] user identity." Claim 37 is substantively the same as claim 19, except that, where claim 19 recites "affording information to each of a plurality of participator computers which are otherwise independent of each other in communication with each of the participator computers," claim 37 recites "affording information to each of a plurality of independent participator computers which are otherwise independent of each other, *via the Internet network* communicating with the participator computers." Petitioner compares the limitations of claims 1 and 19 side-by-side and argues that claim 19 is taught by Roseman, Rissanen, and Vetter for the same reasons as given for claim 1. Pet. 55–57. Petitioner further compares the limitations of claims 19 and 37 side-by-side and argues that claim 37 is unpatentable for the same reasons as given for claims 1 and 19.

Patent Owner argues claims 19 and 37 along with claim 1. For the reasons given for claim 1, Roseman, Rissanen, and Vetter teach each limitation of claims 19 and 37.

1. Claims 2–5, 8, 9, 12, 16, 20–24, 27, 28, 31, 35

Claims 2–5 depend, directly or indirectly, from claim 1, and recite that the communication content includes communicating at least one, two, three, or four of "sound, video, graphic, pointer, and multimedia content." Claims 20–24 depend, directly or indirectly, from claim 19 and include similar limitations. Petitioner points to examples in Roseman of communicating sound and video (Ex. 1003, 11:11–16 ("Audio and video connections")), graphic content (*id.* at 8:1–4 ("[e]ach Invitee can transmit a file (of any suitable kind: data, text or graphic) to the host")), and multi-media (*id.* at Abstract ("'multi-media' conferencing")). Pet. 51–52, 57. Patent Owner does not present separate arguments for these claims. Based on Petitioner's evidence, we find that Roseman teaches the additional limitations of claims 2–5 and 20–24.

Claims 8, 9, and 12 depend from claim 1. Claim 8 recites "wherein the API includes API messages"; claim 9 recites "wherein communications among the controller computer and the participator computers are mediated via API messages"; and claim 12 recites "wherein the controller software includes multiplexing and de-multiplexing operations carried out as a message type on API messages." Claims 27, 28, and 31 depend from claim 19 and recite similar limitations. Petitioner contends that these claims do not add materially to claim 1 and are unpatentable for the same reasons as given for the limitation of claim 1, "providing an API on the controller computer,

the API multiplexing and demultiplexing API messages by type, creating a virtual connection and providing the virtual connection between channels, private messages, and multimedia objects in the controller computer and the participator computers." Pet. 53, 57–58. Patent Owner does not present separate argument for these claims. We agree with Petitioner that Roseman and Vetter teach the additional limitations for the same reasons as given for claim 1, "providing an API on the controller computer, the API multiplexing and demultiplexing API messages by type, creating a virtual connection and providing the virtual connection between channels, private messages, and multimedia objects in the controller computer and the participator computers."

Claim 16 depends from claim 1 and adds "wherein the communicating is conducted over the network, including the Internet." Claim 35 depends from claim 19 and recites a similar limitation. We find that this limitation is taught by Roseman and Vetter for the same reasons given above for claim 1, the limitation "affording some of the information to a first of the participator computers *via the Internet network*."

2. Claims 14, 15, 33, 34 ("censorship" claims)

Claims 15 and 34 depend from claims 1 and 19, respectively, and add "the controller computer determines censorship." Claims 14 and 33 also depend from claims 1 and 19, respectively, and add a more narrow "determining censorship of the content" and "the computer system determines censorship of the content," respectively. Petitioner presents the same arguments and evidence for both of these sets of claims, without distinguishing between them. Pet. 54, 58.

Petitioner points to Roseman's description of measures that can be taken to prevent participants from speaking. *Id.* at 54 (citing Ex. 1003, 11:40–46, 12:29–45). For example, Roseman's host can act as a moderator, such that

> While one participant is speaking, the host can monitor the audio input of the other participants. The host looks for instances when the speaker refuses to stop talking when the other participants speak. When the host finds such instances, the host issues a message to all participants stating that a filibuster appears to be occurring, and requests a vote as to whether to allow the filibuster to continue.

Ex. 1003, 12:39–45. Petitioner argues that this "mirror[s] the examples of 'censorship' in the written description of the '356 patent." Pet. 54 (citing Ex. 1001, 8:41–46)

As to claims 15 and 34, we agree with Petitioner. These claims simply recite that the controller computer "determines censorship." As explained in Section II.A.2 above, censorship is "control of what is said in a group." Roseman's host preventing participants from speaking is a form of control over what is said in a group. This is similar to the '356 patent's example in which "[c]ensorship can control . . . access to system 1 by identity of the user." Ex. 1001, 8:41–42. Thus, we find that Roseman teaches the additional limitations of claims 15 and 34.

As to claims 14 and 33, however, Petitioner has not explained persuasively why preventing a user from speaking constitutes "censorship of the *content*." As explained in Section II.A.2 above, censorship of the content means "determining whether to communicate content based on characteristics of the content." This aligns with the '356 patent's example in which "[c]ensorship also can use the tokens for real time control of data

(asci, text, video, audio) from and to users, as well as control over multimedia URLs—quantity, type, and subject." Ex. 1001, 8:45–47. When Roseman's host acts as a moderator, it prevents a user from speaking without regard to characteristics of the content. Accordingly, Petitioner has not shown, by a preponderance of the evidence, that claims 14 and 33 would have been obvious over Roseman, Rissanen, and Vetter.

3. Claims 6, 7, 17, 26, 36 ("pointer" claims)

As noted above, claim 2 recites "wherein the communicating content includes communicating at least one of sound, video, graphic, pointer, and multimedia content." Claim 6 depends from claim 2 and recites "wherein said at least one comprises at least five." In our analysis of claim 5, above, we find that Roseman teaches examples of four of these, sound video, graphic, and multimedia, leaving "pointer" unaccounted for. Claim 7 depends from claim 1 and recites "wherein the communicating content includes communicating a pointer that allows the content to be produced on demand." Claim 26 depends from claim 19 and adds a similar limitation. Petitioner cites Roseman and Pike for examples of pointers. Pet. 60–64.

For example, as noted above, Roseman describes a user placing an icon onto the table of a virtual conference room and the host sending the icon to the table of each conference participant. If the icon is clicked by a participant, the host presents the file to all of the participants. Ex. 1003, 14:53–62. Petitioner contends that the icon is a pointer because it points to, or references, an underlying document. Pet. 60–61. We agree, and find that Roseman teaches communicating content by communicating a pointer that allows content to be produced on demand.

Petitioner further cites to Pike "in the event it is later argued or determined that 'pointer' requires an Internet URL or something functionally similar." *Id.* at 61. Although we do not determine that claims 6, 7, and 26 require a URL, claim 17 depends from claim 1 and recites "wherein the communicating content includes communicating content invoked with a URL." Claim 36 depends from claim 19 and includes a similar recitation. Thus, we evaluate whether Roseman, Vetter, and Pike teach communicating content invoked with a URL.

As Petitioner argues (Pet. 61–62), Pike explains that a URL "is a complete description of an item, including the location of the item that you want to retrieve," and can be used to locate and retrieve documents from another computer. Ex. 1006, 36–39. Dr. Lavian testifies that incorporating Pike's URLs into Roseman's system (communicating via the Internet, per Vetter's teaching) "would have predictably resulted in the virtual conferencing system of Roseman in which the clickable icons used to access content (such as documents and notes) included a URL that identified the location of content on the host computer." Ex. 1002 ¶ 121. On this evidence, we find that Roseman, Vetter, and Pike teach communicating content invoked with a URL.

We note that Patent Owner does not present separate arguments for these claims. On the complete record, we find that Roseman, Vetter, and Pike teach the additional limitations of claims 6, 7, 17, 26, and 36.

4. Claims 18, 25 ("JAVA" claims)

Claim 18 depends from claim 1 and recites "wherein the controller software comprises a JAVA™ application." Claim 25 depends from claim

19 and adds a similar limitation. Petitioner cites to Gosling as providing evidence that Java was a known programming language that could be used to build application software. Pet. 64 (citing Lavian Decl. ¶ 131). Petitioner argues that Gosling provides a reason to use Java in Roseman's application, namely, "[o]ne of the obvious benefits of using a bytecode like Java's is that compiled programs are portable: so long as the interpreter is present, programs can execute on any kind of CPU." *Id.* (citing Ex. 1007, 115). Dr. Lavian testifies that "[b]y using Java for the host computer software in Roseman, the developer would be freed from the burden of having to rewrite or change the application in the event of a change in the type of CPU or computer architecture for the server computer." Lavian Decl. ¶ 132. On the complete record, we find that a skilled artisan would have had reason to implement Roseman's system using Java, namely, to create programs that are portable and that can be executed on many kinds of computers without having to be rewritten. Thus, Roseman and Gosling teach the additional limitations of claims 18 and 25.

5. Conclusion of Obviousness

As explained above, Roseman, Rissanen, and Vetter teach each limitation of claims 1–5, 8, 9, 12, 15, 16, 19–24, 27, 28, 31, 34, 35, and 37; Roseman, Rissanen, Vetter, and Pike teach each limitation of claims 6, 7, 17, 26, and 36; and Roseman, Rissanen, Vetter, and Gosling teach each limitation of claims 18 and 25. Petitioner has introduced persuasive evidence that a skilled artisan would have had reasons to combine the teachings of Roseman, Rissanen, Vetter, Pike, and Gosling. Patent Owner does not argue or introduce evidence of objective indicia of nonobviousness.

In sum, upon consideration of all the evidence, we conclude that Petitioner has proved by a preponderance of the evidence, that claims 1–5, 8, 9, 12, 15, 16, 19–24, 27, 28, 31, 34, 35, and 37 would have been obvious over Roseman, Rissanen, and Vetter; that claims 6, 7, 17, 26, and 36 would have been obvious over Roseman, Rissanen, Vetter, and Pike; and that claims 18 and 25 would have been obvious over Roseman, Rissanen, Vetter, and Gosling.

As explained above, Petitioner has not proved by a preponderance of the evidence that claims 14 and 33 would have been obvious over Roseman, Rissanen, and Vetter.

III. PATENT OWNER'S MOTION TO EXCLUDE

Patent Owner filed a paper styled a "Motion to Exclude Evidence," seeking to exclude certain portions of the 2nd Lavian Declaration that it argues exceeds the proper scope of a reply. Paper 37, 1. Specifically, Patent Owner moves to exclude portions of paragraphs 54, 74, and 75 of the 2nd Lavian Declaration. *Id.* at 2–4.

Petitioner opposes this motion on the ground that it is not directed to the admissibility of evidence and, therefore, is procedurally improper. Paper 39, 2. Patent Owner contends that arguments that exceed the scope of a reply are irrelevant, prejudicial, confusing, or misleading under Federal Rules of Evidence 401, 402, and 403. Paper 41, 1–2. As Petitioner points out, however, the Board repeatedly has denied, as improper, motions to exclude that merely argue that evidence is outside the proper scope of a reply. Paper 39, 2–3. Despite its invocation of Rules 401, 402, and 403, we agree that Patent Owner's Motion to Exclude is nothing more than an

argument that Petitioner's Reply exceeds its proper scope. Accordingly, we deny Patent Owner's Motion.

Nevertheless, we have considered Patent Owner's argument with respect to those portions of Petitioner's Reply that are relied upon, and determine they do not belatedly raise new issues or present evidence that should have been presented in the Petition. In any case, we do not rely on paragraphs 54, 74, and 75 of the 2nd Lavian Declaration.

III. CONCLUSION

Petitioner has established by a preponderance of the evidence that claims 1–9, 12, 15–28, 31, and 34–37 are unpatentable, but has not proved that claims 14 and 33 are unpatentable.

IV. ORDER

For the reasons given, it is:

ORDERED, based on a preponderance of the evidence, that claims 1–9, 12, 15–28, 31, and 34–37 are unpatentable; and

FURTHER ORDERED, because this is a final written decision, the parties to this proceeding seeking judicial review of our Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2016-01157
Patent 8,407,356 B1

PETITIONER:

Heidi Keefe
hkeefe@cooley.com

Phillip Morton
pmorton@cooley.com

Andrew Mace
amace@cooley.com

PATENT OWNER:

Peter Lambrianakos
plambrianakos@brownrudnick.com

Vincent Rubino
vrubino@brownrudnick.com

Trials@uspto.gov
571-272-7822

Paper No. 47
Entered: December 6, 2017

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FACEBOOK, INC.,
Petitioner,

v.

WINDY CITY INNOVATIONS, LLC,
Patent Owner.

Case IPR2016-01158
Patent 8,473,552 B1

Before KARL D. EASTHOM, DAVID C. MCKONE, and MELISSA A. HAAPALA, *Administrative Patent Judges*.

MCKONE, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

A. Background

Facebook, Inc. ("Petitioner") filed a Petition (Paper 1, "Pet.") to institute an *inter partes* review of claims 1–61 and 64 of U.S. Patent No. 8,473,552 B1 (Ex. 1001, "the '552 patent"). Windy City Innovations, LLC ("Patent Owner") filed a Preliminary Response (Paper 6, "Prelim. Resp.").

Pursuant to 35 U.S.C. § 314, in our Institution Decision (Paper 7, "Dec."), we instituted this proceeding as to claims 1–59 and 64, but not claims 60 and 61.

Patent Owner filed a Patent Owner's Response (Paper 22, "PO Resp."), and Petitioner filed a Reply to the Patent Owner's Response (Paper 31, "Reply").

Petitioner relies on the Declarations of Tal Lavian, Ph.D. (Ex. 1002, "Lavian Decl."; Ex. 1021, "2nd Lavian Decl."). Patent Owner relies on the Declaration of Jaime G. Carbonell, Ph.D. (Ex. 2005, "Carbonell Decl.").

An oral argument was held on October 19, 2017 (Paper 46, "Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Decision is a final written decision under 35 U.S.C. § 318(a) as to the patentability of claims 1–59 and 64. Based on the record before us, Petitioner has proved, by a preponderance of the evidence, that claims 2, 3, 5, 7, 10–17, 59, and 64 of the '552 patent are unpatentable, but has not proved that claims 1, 4, 6, 8, 9, and 18–58 are unpatentable.

B. Related Matters

The parties indicate that the '552 patent has been asserted in *Windy City Innovations, LLC v. Microsoft Corp.*, Civ. A. No. 15-cv-00103-GM

(W.D.N.C.) (transferred to 16-cv-1729 (N.D. Cal.)), and *Windy City Innovations, LLC v. Facebook, Inc.*, Civ. A. No. 15-cv-00102-GM (W.D.N.C.) (transferred to 16-cv-1730 (N.D. Cal.)). Pet. 1; Paper 4, 1. The '552 patent was the subject of *inter partes* review petitions in IPR2016-01138, IPR2016-01137, IPR2016-01146, and IPR2016-01147. Paper 4, 1–2. The '552 patent also was the subject of IPR2017-00603, which Microsoft Corp. filed and sought to join with this proceeding prior to settling with Patent Owner. Patents related to the '552 patent are subjects of additional *inter partes* review petitions.

C. Asserted Prior Art References

Petitioner relies on the following prior art:

U.S. Patent No. 6,608,636 B1, issued Aug. 19, 2003, filed May 13, 1992 (Ex. 1003, "Roseman");

Published European Pat. App. No. 0 621 532 A1, published Oct. 26, 1994 (Ex. 1004, "Rissanen");

Ronald J. Vetter, *Videoconferencing on the Internet*, IEEE COMPUTER SOCIETY 77–79 (Jan. 1995) (Ex. 1005, "Vetter");

MARY ANN PIKE ET AL., USING MOSAIC (1994) (Ex. 1006, "Pike");

TOM LICHTY, THE OFFICIAL AMERICA ONLINE FOR MACINTOSH MEMBERSHIP KIT & TOUR GUIDE (2nd ed. 1994) (Ex. 1007, "Lichty").

D. The Instituted Ground

We instituted a trial on the ground of unpatentability of claims 1–59 and 64 as obvious, under 35 U.S.C. § 103(a), over Roseman, Rissanen, Vetter, Pike, and Lichty. Dec. 37.

E. The '552 Patent

The '552 patent describes an Internet "chat room." According to the '552 patent, it was known to link computers together to form chat rooms in which users communicated by text, graphics, and multimedia, giving the example of the Internet service provider "America On Line." Ex. 1001, 1:40–46. The '552 patent acknowledges that chat rooms have been implemented on the Internet, albeit with "limited chat capability," but contends that the complex chat room communications capable with Internet service providers had not been developed on the Internet "at least in part because [the] Internet was structured for one-way communications analogous to electronic mail, rather than for real time group chat room communications" and because "there is no particular control over the platform that would be encountered on the Internet." *Id.* at 1:47–54, 1:60–62.

Figure 1, reproduced below, illustrates an embodiment of the invention:

FIG. 1

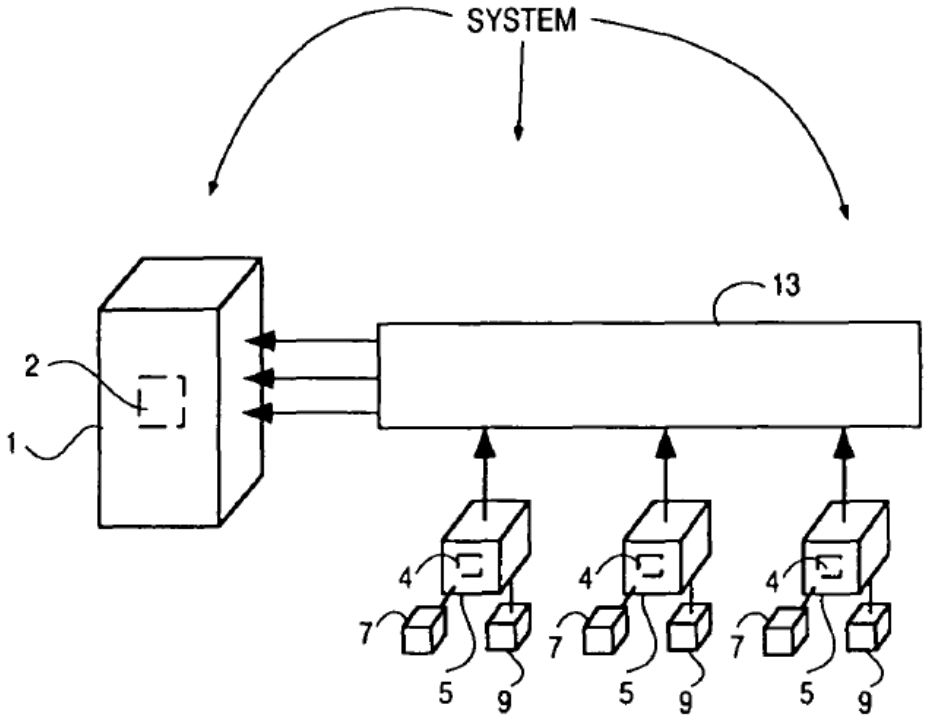

Figure 1 is a block diagram showing the components and data flow of a computerized human communication arbitrating and distributing system. *Id.* at 4:50–54. The system includes a controller computer (shown as 1 in Figure 1 but described as 3 in the written description) in communication with several participator computers 5 (e.g., IBM-compatible personal computers) over connection 13 (e.g., an Internet connection or a World Wide Web connection). *Id.* at 4:55–5:7.

The controller computer runs under the control of controller software 2, and the software arbitrates, in accordance with predefined rules (including

user identities), which participator computers 5 can interact in a group through the controller computer, and directs real-time data to the members of the group. *Id.* at 5:8–14. The software uses "identity tokens," or pieces of information associated with user identity, in the arbitration. *Id.* at 7:61–64. The tokens are stored in memory 11 in a control computer database along with personal information about the users. *Id.* at 7:64–8:2.

The arbitration can be used to control a user's ability to join or leave a group of participator computers, to moderate communications involving the group, and to see other users in the group. *Id.* at 8:8–20. Arbitration using tokens also can be used to perform censorship:

> Censorship, which broadly encompasses control of what is said in a group, is also arbitrated by means of the tokens. Censorship can control of access [sic] to system 1 by identity of the user, which is associated with the user's tokens. By checking the tokens, a user's access can be controlled per group, as well as in giving group priority, moderation privileges, etc.
>
> Censorship also can use the tokens for real time control of data (ascii, text, video, audio) from and to users, as well as control over multimedia URLs [Uniform Resource Locators]—quantity, type, and subject.

Id. at 8:24–32.

According to the specification, "[t]he present invention comprehends communicating all electrically communicable multimedia information as Message 8, by such means as pointers, for example, URLs. URLs can point to pre-stored audio and video communications, which the Controller Computer 3 can fetch and communicate to the Participator Computers 5." *Id.* at 5:25–30.

Claim 2, reproduced below (disputed terms in italics), is illustrative of the claimed subject matter:

> 2. A method of communicating *via an Internet network* by using a computer system including a controller computer and a *database which serves as a repository of tokens for other programs to access*, thereby affording information to each of a plurality of participator computers which are otherwise independent of each other, wherein the controller computer system is programmed to *provide access to the controller computer system via any of two client software alternatives*, wherein both of the two client software alternatives allow the respective user identities to be recognized by the controller computer system and allow at least some of the participator computers to form at least one group in which members can send communications and receive communications from another of the members, wherein at least some of the communications are received in real time via the Internet network, and wherein the at least one of client software alternatives *allows the controller computer system to determine whether at least one of the user identities, individually, is censored from data* representing at least one of a pointer, video, audio, graphic, and multimedia such that the data that is censored is not presented by the corresponding participator computer, the method including:
>
> affording some of the information to a first of the participator computers via the Internet network, responsive to an authenticated first user identity;
>
> affording some of the information to a second of the participator computers via the Internet network, responsive to an authenticated second user identity;
>
> permitting at least the first user identity and the second user identity to form a group; and
>
> permitting sending communications in real time, via the Internet network, among the participator computers corresponding to the user identities in the group, wherein at least some of the communications include messages comprising more than one data

> type, and at least some other of the communications include *a pointer that produces a pointer-triggered message on demand*.

II. ANALYSIS

A. Claim Construction

1. Constructions in the Institution Decision

We interpret claims of an unexpired patent using the broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–45 (2016). In applying a broadest reasonable construction, claim terms generally are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

In the Institution Decision, we preliminarily construed the following terms (Dec. 7–15):

Claim Term	**Preliminary Construction**
"token"	"piece of information associated with user identity"
"database"	"a collection of logically related data"
"censor"	"control what is said in a group"
"at least one of the user identities, individually, is censored from data"	refers to control of data received by the at least one of the user identities, individually, and is not limited to data suppressed based on the content of those data or by a moderator
"pointer"	"a link or reference to a file, data, or service"

Claim Term	Preliminary Construction
"a pointer-triggered message on demand"	"a message, where the content of the message is specified by a pointer and found on demand of the operator of the participator software"

Patent Owner adopts our construction of "token" (which Petitioner initially proposed) PO Resp. 8, and challenges our constructions of "database" and "censor," *id.* at 8–13. Petitioner accepts our constructions of "database" and "censor" and presents arguments in favor of those constructions. Reply 1–7. We maintain our construction of "token" on the complete record. We address the constructions of "database" and "censor," below, as well as the construction of the related term "at least one of the user identities, individually, is censored from data." Neither party challenges our constructions of "pointer" and "a pointer-triggered message on demand," and we maintain those constructions on the complete record.

2. "database"

In the Petition, relying on Dr. Lavian's testimony, Petitioner argues that "[a] person of ordinary skill in the art would have understood the claimed 'database' under its broadest reasonable construction to simply refer to a stored collection of tokens. The patent does not require that the database be any particular type, such as relational." Pet. 19 (citing Ex. 1002 ¶ 56). Dr. Lavian, in turn, relies on the specification's description of tokens being "stored in memory 11 in a control computer database, along with personal information about the user, such as the user's age." Ex. 1002 ¶ 56 (citing Ex. 1001, 7:64–66).

Patent Owner urges a construction that is narrower in two regards: (1) Patent Owner contends that a database is a collection of logically-related data "which is stored with persistence"; and (2) Patent Owner contends that a database includes "associated tools for interacting with the data such as a DBMS." PO Resp. 12.

Patent Owner's primary argument in favor of construing "database" to require these limitations is that it filed, in a related application before the Patent Office, an information disclosure statement (IDS) that supports its construction. *Id.* at 9–10 (citing Ex. 2008). The IDS was submitted to the Patent Office in pending application 14/246,965 on January 1, 2017, after Petitioner filed the Petition and shortly after we instituted this proceeding and preliminarily rejected Patent Owner's claim construction arguments. In the IDS, Patent Owner argued, *inter alia*, that "attention is respectfully drawn to the defendants' contentions[1] of invalidity in view of the database and 'other programs' limitations that are common to all claims" and that "[b]ecause the database affords information to other programs and computers, it must store the data, such as the tokens, with persistence, such that tools can interact with the data such as a DBMS when providing the data to the participator computers of the authenticated users." Ex. 2008, 2. Patent Owner argues that we must accept its construction pursuant to *Verizon Services Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1306 (Fed. Cir. 2007), which held that, in some circumstances, a statement made by a patentee in the prosecution history of a related application can operate

[1] This appears to be a reference to invalidity contentions filed in a related district court proceeding.

as a disclaimer, even if the disclaimer occurred after the patent-in-suit had issued. PO Resp. 10.

Although we doubt that the Federal Circuit intended that an IDS in a related application should be a vehicle for overturning a disadvantageous claim construction in an adversarial proceeding,[2] we need not reach that issue. As the Federal Circuit also held, "[t]o operate as a disclaimer, the statement in the prosecution history must be clear and unambiguous, and constitute a clear disavowal of claim scope." *Verizon*, 503 F.3d at 1306. That is not the case here. The statements in Patent Owner's IDS are not in response to any rejection by the Examiner, do not accompany any

[2] *See Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1270 (Fed. Cir. 1986) ("A citation may be made at 'any time' either during prosecution or, as here, after the patent has issued. If made during prosecution, it is clear that the statements may be considered for claim interpretation purposes, just as any other document submitted during prosecution. If submitted after issuance, the answer, again, is it may be considered. To say that it *may* be considered is not to say what *weight* statements in the Citation are to be accorded. For example, a Citation filed during litigation might very well contain merely self-serving statements which likely would be accorded no more weight than testimony of an interested witness or argument of counsel. Issues of evidentiary weight are resolved on the circumstances of each case."); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (en banc) ("Like the specification, *the prosecution history provides evidence of how the PTO and the inventor understood the patent*. . . . Yet because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes." (emphasis added)).

amendments, and are not directed to any particular claims, other than a general statement that the statements apply to "all claims."[3] Ex. 2008, 2.

Although Patent Owner argues that the IDS "supports the construction that a database is limited" in the manner that it argues, Patent Owner does not contend that the IDS constitutes a disclaimer of any subject matter. PO Resp. 10. We find that the IDS does not contain a "'clear and unmistakable' disclaimer that would have been evident to one skilled in the art." *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1064 (Fed. Cir. 2016). Therefore, we are not persuaded that we should apply prosecution history disclaimer to limit the scope of the term "database."

Patent Owner also cites to the testimony of Dr. Carbonell that "[t]wo hallmarks of a database are (1) persistence of the data, and (2) interactivity with the data via a database management system (DBMS)." *Id.* (quoting Ex. 2005 ¶ 33). As Petitioner points out (Reply 1–2), Dr. Carbonell's testimony on this point appears to be a copy of the testimony of Dr. Bajaj, who submitted a declaration in support of Patent Owner's Preliminary Response (*compare* Ex. 2005 ¶ 33, *with* Ex. 2001 ¶ 20), although Dr. Carbonell testified that he was unaware of Dr. Bajaj's declaration (Ex. 1016, 132:2–12). In any case, as Petitioner points out, Dr. Carbonell marshals the same evidence that did not persuade us at the institution stage without adding any additional evidence or even acknowledging our concerns with Dr. Bajaj's evidence. Reply 2 n.1.

[3] Adding to the ambiguity, it is not clear whether the IDS's reference to "all claims" refers to the claims in the pending application or the claims discussed in the defendants' contentions of invalidity to which the sentence is directed.

In particular, Patent Owner and Dr. Carbonell cite to the Macmillan Encyclopedia of Computers (Ex. 2004). PO Resp. 10–11; Carbonell Decl. ¶ 33. In the portion included in Exhibit 2004, The Macmillan Encyclopedia states that "[a] database system is a collection of related records stored in a manner that makes the storage and retrieval of the data very efficient. The four well-known data models for databases are the hierarchical, network, relational, and object-oriented models." Ex. 2004, 230. This definition does not require persistence and Patent Owner does not explain why persistence should be inferred from this definition. Moreover, as we observed in the Institution Decision, the Macmillan definition is consistent with the definition of "database" given by the IEEE Dictionary of Standards Terms. *See* IEEE 100 THE AUTHORITATIVE DICTIONARY OF IEEE STANDARDS TERMS 268 (7th ed. 2000) ("**database (DB)** . . . A collection of logically related data stored together in one or more computerized files.") (Ex. 3001). This definition also does not require persistence. Although this dictionary was published several years after the filing date of the '552 patent, Dr. Lavian testifies that the plain and ordinary meaning of "database" did not change during this time. Ex. 1021 ¶ 11. In support of this testimony, Dr. Lavian cites to a 1991 textbook, which defines "database" as "a collection of interrelated data," yet another definition that does not require "persistence." *See* Ex. 1017, 5. Moreover, we observe that Patent Owner provides no boundaries for "stored with persistence" to meaningfully limit the term. For example, all data accessed and stored by a program while the program is executing has some level of "persistence."

As to a DBMS, Macmillan explains:

> A database management system (DBMS) is a software package. Its main functions are (1) to provide the facility to set up the database, (2) to retrieve and store source data (actual data in the database), (3) to retrieve and store the data about the structure of the database (data dictionary), (4) to provide the facilities to enforce security rules, (5) to back up the database, and (6) to control the concurrent transactions so that one user's environment is protected from others.

Ex. 2004, 231. Patent Owner characterizes the DBMS as "another criteria of a database" that provides interactive querying capability not present in "[s]tandard storage" in temporary or permanent memory. PO Resp. 11. Dr. Carbonell repeats Patent Owner's arguments without citation to evidence and in testimony that largely copies that of Dr. Bajaj. Ex. 2005 ¶¶ 33–36; *see also* Ex. 2001 ¶¶ 20–23. Nevertheless, we read Macmillan to describe a DBMS as software that works with a database, rather than a part of a database or a component that necessarily accompanies a database. Dr. Carbonell's testimony, which does not identify its bases, adds little to Macmillan. *See* 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.").

Patent Owner also argues that the disclosure of the '552 patent imposes "persistence" and DBMS limitations on the claimed database because it describes the database as storing security information such as tokens for other programs to access. PO Resp. 12. Patent Owner does not provide a citation to the '552 patent in support of its argument. Nevertheless, Patent Owner argues, again without citation, that "[o]ne of ordinary skill in the art would have expected that this type of security feature

would persist in a location other than in program memory so that other user programs could access the information." *Id.* Finally, Patent Owner argues that the '552 patent describes tokens stored in hierarchies, which, according to Patent Owner, "are typical of database storage organization, and natural schema when storing and managing access to diverse information." *Id.* None of these arguments supports reading persistence or a DBMS into the term "database." We note also that the other claim language, "serves as a repository of tokens for other programs to access," is a requirement we evaluate separately and do not read into the term "database."

As noted in the Institution Decision (at 10), the specification describes a database consistently with the Macmillan and IEEE definitions, explaining that tokens are "pieces of information associated with user identity," that tokens are "stored in memory 11 in a control computer database, along with personal information about the user," and that "[i]n the database, the storage of tokens can be by user, group, and content." Ex. 1001, 7:61–8:5. The specification does not require a DBMS (or similar software) or impose a persistence requirement.

On the complete record, we maintain our construction of database, namely, "a collection of logically related data." This is the construction most consistent with both the intrinsic evidence and dictionary definitions. However, we note that Petitioner contends, and we find, that the prior art shows a database with persistence and associated tools for interacting with the stored data, as explained below.

3. "censor" / "at least one of the user identities, individually, is censored from data"

Claim 2 recites "the at least one of client software alternatives allows the controller computer system to determine whether at least one of *the user identities, individually, is censored* from data representing at least one of a pointer, video, audio, graphic, and multimedia such that the data that is *censored* is not presented by the corresponding participator computer." The other challenged independent claims include similar recitations. As noted above, we preliminarily construed "censor" to mean "control what is said in a group" and explained that "at least one of the user identities, individually, is censored from data" refers to control of data received by the at least one of the user identities, individually, and is not limited to data suppressed based on the content of those data or by a moderator. Dec. 13.

We based our construction on the description of that term in the specification. *Id.* at 12. Specifically, the specification describes censorship as follows:

> Censorship, which broadly encompasses control of what is said in a group, is also arbitrated by means of the tokens. *Censorship can control of access* [sic] *to system 1 by identity of the user*, which is associated with the user's tokens. By checking the tokens, a user's access can be controlled per group, as well as in giving group priority, moderation privileges, etc.
>
> Censorship also can use the tokens for real time control of data (ascii, text, video, audio) from and to users, as well as control over multimedia URLs—quantity, type, and subject.

Ex. 1001, 8:24–32 (emphasis added). Here, the specification describes "censorship" as "broadly encompass[ing] control of what is said in a group" and includes an example in which an action is taken on a user, rather than the data itself.

Patent Owner argues that "censorship should be construed to be 'examine in order to suppress or delete anything considered objectionable.'" PO Resp. 13. According to Patent Owner, "[i]n order to control what is said in a group, it is necessary to first know what is said (or proposed to be said)." *Id.* Patent Owner argues that this is consistent with the meaning given to "censor" and "censorship" in dictionaries, including "to examine in order to suppress or delete anything considered objectionable" (Webster's Collegiate Dictionary (Ex. 2002)) and "[t]he action of preventing material that a party considers objectionable from circulating within a system of communication over which that party has some power" (Microsoft Press Computer Dictionary (Ex. 2003)).

We are not persuaded by Patent Owner's arguments, which essentially track those presented in the Preliminary Response (at 6–7). The claim language itself does not support a construction of "censor" limited to analysis of the content of data and suppression based on that content. Claim 2 recites "at least one of *the user identities, individually, is censored* from data." The claim language focuses on censoring a user identity and does not specify that such censoring is based on the content of the data. As explained above, the specification describes censorship as an action taken on a user, rather than the data itself. As explained in the Institution Decision (at 12–13), extrinsic evidence such as dictionary definitions "may be used only to help the court come to the proper understanding of the claims; it may not be used to vary or contradict the claim language." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1584 (Fed. Cir. 1996); *accord Phillips*, 415 F.3d at 1317 ("[W]hile extrinsic evidence can shed useful light on the relevant art, we have explained that it is less significant than the intrinsic

record in determining the legally operative meaning of claim language.") (internal citations and quotation marks omitted).

On the complete record, in accordance with the specification's definition, "censor" means "control what is said in a group." In the context of claim 2, for example, "at least one of the user identities, individually, is censored from data" refers to control of data received by the at least one of the user identities, individually, and is not limited to data suppressed based on the content of those data or by a moderator. We apply the same definition of "censor" in interpreting similar language in the remaining challenged independent claims.

B. Asserted Grounds of Unpatentability

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are "such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." We resolve the question of obviousness on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations.[4] *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

[4] The record does not include arguments or evidence regarding objective indicia of nonobviousness.

In an obviousness analysis, some reason must be shown as to why a person of ordinary skill would have combined or modified the prior art to achieve the patented invention. *See Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1374 (Fed. Cir. 2008). A reason to combine or modify the prior art may be found explicitly or implicitly in market forces; design incentives; the "interrelated teachings of multiple patents"; "any need or problem known in the field of endeavor at the time of invention and addressed by the patent"; and the background knowledge, creativity, and common sense of the person of ordinary skill. *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1328–29 (Fed. Cir. 2009) (quoting *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418–21 (2007)).

1. Level of Ordinary Skill

Relying on Dr. Lavian's testimony, Petitioner contends that a person of ordinary skill in the art "would have had at least a bachelor's degree in electrical engineering or computer science (or equivalent degree or experience) with practical experience or coursework in the design or development of systems for network-based communication between computer systems." Pet. 7–8 n.1 (citing Ex. 1002 ¶ 14). Patent Owner does not contest this statement in its Response. In his testimony, Dr. Carbonell proposes a similar level of skill, namely "a bachelor's degree in computer science (or a related field) and at least one year of work experience in programming in computer communication methods." Ex. 2005 ¶ 18. Dr. Carbonell states that his opinions would not change under a determination that Dr. Lavian's opinion regarding the level of ordinary skill is correct. *Id.* On the complete record, we adopt Petitioner's statement of

the level of ordinary skill, although we note that Dr. Carbonell's statement of the level of skill is not materially different.

2. Scope and Content of the Prior Art

Petitioner contends that the challenged claims would have been obvious over Roseman, alone or in combination with Rissanen, Vetter, Pike, and Lichty. Pet. 7–8.

a. Overview of Roseman

Roseman describes a system for multimedia conferencing, in which parties are linked by both video and audio media. Ex. 1003, Abstract. In Roseman, a conference is represented visually as a common virtual conference table, in which each participant can place a document onto the table electronically, manipulate and write on the document, write on a virtual notepad, and move a pointer to draw other users' attention. *Id.* at 2:38–45, 7:55–8:37. Participants can see the events as they occur. *Id.* at 2:46–47. Figure 9, reproduced below, illustrates an example conference room:

FIG. 9

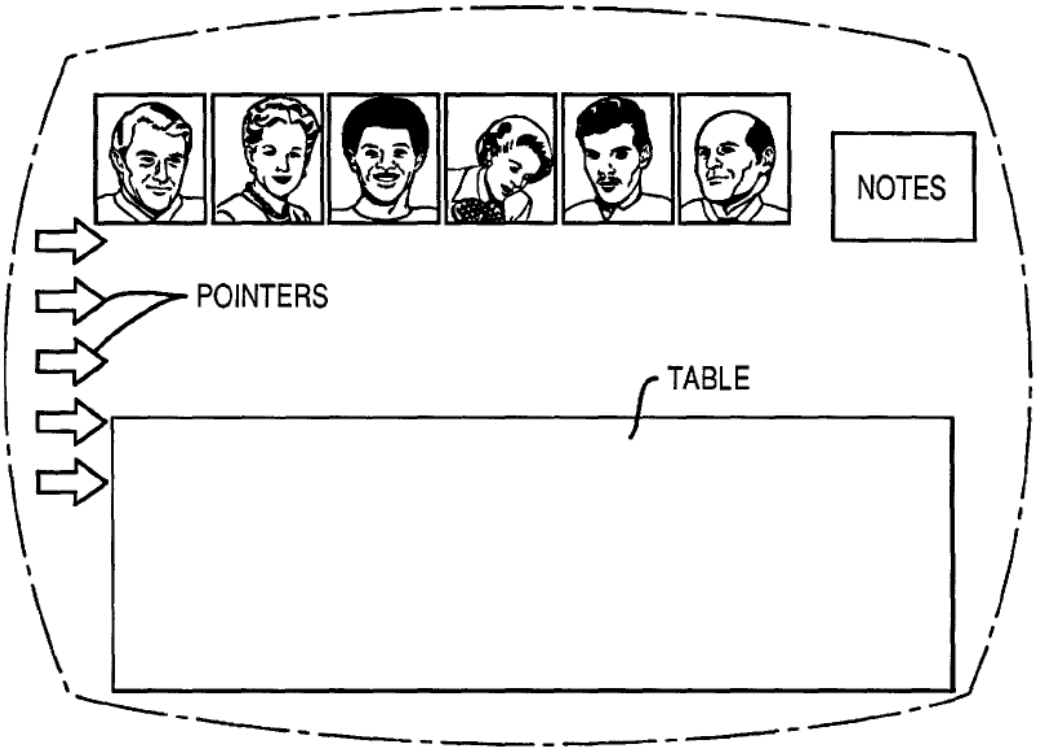

Figure 9 is a picture of a video screen that is generated by a host computer and distributed to all participants in a conference. *Id.* at 2:16–18.

The parties operate their own local computers (which include video cameras and speaker-type telephones) and, when a conference is established, connect to a host computer via commercially available local area networks ("LANs") and wide area networks ("WANs"). *Id.* at 1:34–41. In the conference, the host computer generates a common video screen (e.g., Figure 9, reproduced above) displayed at each of the local computers, and the parties send information, such as drawings, to be displayed on the common screen. *Id.* at 1:42–46. The telephones and video cameras allow the parties to see and speak with each other. *Id.* at 1:47–49.

Roseman includes a pseudo code appendix that details how its features are implemented. *Id.* at 12:66–13:2. According to the pseudo code, a participant interacts with the conference table, for example, by dragging an icon onto the table, which causes a data file to be transmitted to the host. *Id.* at 14:53–55. The host then transmits the icon to the table of each participant. *Id.* at 14:56–57. If another participant activates the icon, the host sends the open file to the tables of all participants. *Id.* at 14:58–61. If the participant drags the icon from the table to his own screen and activates the icon on his screen, the data file is presented to the participant. *Id.* at 14:62–66.

Roseman describes additional features, such as a party's ability to "whisper" to another party without being heard by others in the conference room, and the ability to "pass notes" by dragging a note to the picture of another party, while the other parties are unaware of the note. *Id.* at 9:16–31. Each room may also have "doors" to committee rooms or child-rooms. A child-room is created in the same way as a parent room and is dependent upon the parent room for access and existence. *Id.* at 10:18–23.

A meeting requester creates a conference by selecting the participants, the attributes of the virtual conference room (e.g., virtual equipment and room décor), and the rules of the conference (e.g., whether the requester has absolute control over voice and message interaction of the parties). *Id.* at 3:22–56. According to Roseman, "[t]he conference room itself is actually a combination of stored data and computer programs," the stored data can include conference proceedings, and "both the conference room and the proceedings of the conference have persistence in time." *Id.* at 12:16–25.

The meeting requester specifies a level for each invitation and compiles an invitation list. *Id.* at 9:34–36. Invitations include "keys" specifying the level, e.g., whether the invitation is for the invitee only or can be passed to a delegate or to anyone. *Id.* at 9:35–48. For example, "Level 1 keys may not be passed to any other person and may not be copied" while "Level 2 keys may be passed to exactly one other person and may not be copied." *Id.* at 9:42–45. According to Roseman, "[t]he meeting room 'knows' about each key and its invitation level. Persons with improper keys are not admitted to the room." *Id.* at 9:49–51. A key is distributed electronically as an object attached to the invitation. *Id.* at 9:54–55. To attend a meeting, a party walks a virtual "hallway" to the meeting room and opens the meeting room door by dropping the key onto a virtual "door lock." *Id.* at 10:30–32, 10:61–65. Moreover, the host "can automatically prevent filibustering" by "monitor[ing] the speech of each person, and plac[ing] a limit on the total time allowed to each person." *Id.* at 12:29–38.

b. Overview of Rissanen

Rissanen describes a system and method for validation of spoken passwords. Ex. 1004, 2:17–21. Rissanen's Background of the Invention discusses systems in which "business computer systems are arranged to initially record and store passwords assigned to users," a user is prompted for entry of a password, and "the system compares the keyboard entered password with the stored passwords and enables the user to access the system when the entered password matches the previously stored password." *Id.* at 1:21–28. In Rissanen's proposed solution, "[u]sers are initially entered into a password database stored in the computer system by assigning each

user an account code and a password, such as consisting of a number of numerical digits." *Id.* at 2:26–29.

Petitioner makes clear that "[a]lthough Rissanen also describes using spoken voice passwords, this Petition cites it for its more pedestrian teachings relating to database storage of passwords of any form." Pet. 12.

c. Overview of Vetter

Vetter is an IEEE Computer Society Magazine article discussing available tools for conducting teleconferencing over the Internet. According to Vetter, "[v]ideoconferences are becoming increasingly frequent on the Internet and are generating much research interest." Ex. 1005, 77. Vetter states that "the emerging multicast backbone (or MBone) can efficiently send traffic from a single source over the network to multiple recipients," and, "[a]t the same time, many workstations attached to the Internet are being equipped with video capture and sound cards to send and receive video and audio data streams." *Id.* Vetter concludes that "[t]he price/ performance of these hardware devices has finally reached a level that makes wide-scale deployment possible, which is perhaps the most important factor in the recent growth of videoconferencing applications." *Id.*

Vetter also describes challenges that faced implementation of audio, graphic, and video tools on the Internet, including "disturbing feedback when the microphones at multiple sites were left 'open' during a discussion," taking too much time to broadcast a simple graphic image to multiple participants when using "Whiteboard tools" (collaborative software tools that support a shared desktop whiteboard among a group of distributed users on the Internet), and use of video during a classroom presentation that

caused the workstations in the classroom lab to lock up. *Id.* at 78–79. Vetter also notes that the physical distance between two points on the Internet can be different from the electronic distance between those points. *Id.* at 79.

Vetter discusses in particular a CU-SeeMe platform from Cornell University that supported video and audio conferencing over the Internet, and a CU-SeeMe Reflector that allowed multiparty conferencing with CU-SeeMe. *Id.* at 78.

d. Overview of Pike

Pike is a reference and guide book for using the Web browser Mosaic. Ex. 1006, 2. Petitioner cites to Pike's discussion of URLs and hyperlinks. According to Pike, URLs were developed as a standard way of referencing items on the World Wide Web. *Id.* at 38. "A *URL* is a complete description of an item, containing the location of the item that you want to retrieve. The location of the item can range from a file on your local disk to a file on an Internet site halfway around the world." *Id.*

e. Overview of Lichty

Lichty is a book intended as a "tour guide" of America Online ("AOL"), an online email service, Internet gateway, and community. Ex. 1007, 1–3. Petitioner (Pet. 34) focuses on Lichty's description of AOL's real-time interactive "People Connection" feature. Ex. 1007, 251–78. People Connection includes chat rooms in which a user communicates with others by posting text messages to the other participants in a chat room. *Id.* at 252–55. Lichty describes, in particular, that a People Connection

interface includes an "Ignore" button. *Id.* at 268–69. According to Lichty, "[i]f you wish to exclude a member's comments (or those of all the members in a conversation in which you're not interested), select the member's name in the People in this Room window and click the Ignore button. From then on, that member's text will not appear on your screen." *Id.* at 269; *see also id.* at 510 (glossary definition of "Ignore—(1) Chat blinders; a way of blocking a member's chat from your view in a chat/conference room window. Ignore is most useful when the chat of another member becomes disruptive in the chat room.").

3. Claim 2, Differences Between the Claimed Subject Matter and the Prior Art, and Reasons to Modify or Combine

Petitioner contends that Roseman teaches each limitation of claim 2, but cites the remaining references for the following, should we determine that Roseman lacks such a teaching:

Rissanen for a teaching that tokens could have been stored in a database;

Vetter for a teaching that Roseman's communications could have been over the Internet;

Pike for a teaching of URLs; and

Lichty for a teaching of content filtering, in particular an "ignore" feature, which Petitioner equates to "censoring."

Pet. 7–8.

a. *"A method of communicating via an Internet network by using a computer system including a controller computer and a database which serves as a repository of tokens for other programs to access, thereby affording information to each of a plurality of participator computers which are otherwise independent of each other"*

Petitioner contends that Roseman's host computer is a controller computer. Pet. 16. Petitioner identifies Roseman's local computers as independent participator computers and argues that Roseman's various ways of communicating information (placing documents on a virtual table, shared notes, whisper conversations) are examples of affording information to those participator computers. Pet. 26–27. As detailed above, Roseman describes a system in which individual computers are connected to a central host computer via a combination of LANs and WANs. Ex. 1003, 3:14–19. According to Roseman, "[t]he host controls many of the events occurring during the conference, as well as those occurring both during initiation of the conference and after termination of the proceedings." *Id.* at 1:50–52. We find that Roseman's host computer is a "controller computer," that Roseman's local computers are "participator computers," and that Roseman's various ways of communicating information from the host to the local computers are examples of "affording information to each of a plurality of participator computers which are otherwise independent of each other," as recited in claim 2.[5]

[5] Patent Owner argues that "Petitioner does not address the issue that the **database** affords information to each of a plurality of computers." PO Resp. 21. Claim 2, however, does not recite that the database affords information to the plurality of computers.

The parties dispute whether Roseman describes "a database which serves as a repository of tokens for other programs to access." First, Petitioner contends that Roseman's "keys" are tokens. Pet. 17–18. As explained above, the parties agree that a "token" is "a piece of information associated with user identity." As also explained above, Roseman describes that an invitor, in setting up a meeting, creates an invitation that includes a key that conforms to an invitation level. Ex. 1003, 9:34–48. A key "is an electronic object attached to the invitation." *Id.* at 9:54–55. The "level" of a key determines who can use it. For example, "Level 1 keys may not be passed to any other person and may not be copied." *Id.* at 9:42–44. According to Roseman, "[t]o open a door with a key, the user drops the key onto the door lock. If the key is valid and the user has the authority to use the key, the door opens and the user is admitted to the room." *Id.* at 10:61–64. Petitioner argues that this evidence shows that Roseman's keys are "pieces of information associated with a user identity," and thus, are "tokens." Pet. 18.

Patent Owner argues that Roseman's keys are not tokens because they are associated only with conference rooms, rather than user identities. PO Resp. 19. Patent Owner points to Roseman's Figure 8, which shows a key associated with "CONFERENCE ROOM 17L (DATE, TIME)." *Id.* In describing Figure 8, however, Roseman explains "the key is, essentially, a block of data, or a code," that can be used if the Invitee may send a delegate, to give the Absentee-Invitee a "key," which enables access to the meeting. Ex. 1003, 6:54–61. "The Requester can leave the key in his local computer, in the form of an icon residing on the display, as shown in FIG. 8. Anyone entering the office can use the key." Ex. 1003, 6:60–63. In this example,

the key can be used only with a particular user's computer. Figure 8 also shows the "key" icon contained within a "vault" icon. *Id.* at 6:64–65. In this example,

> a user must use a "combination" to the "vault" to obtain the "key." In this latter example, the [] "combination" (ie, a pass-code) is obtained from the Absentee-Invitee in some appropriate way. At conference time, the Delegate opens the "vault," obtains the "key," and enters the conference room, by using the key.

Id. at 6:65–7:3. Patent Owner argues that Roseman's keys are "transferable to anyone—like a key to a door lock." PO Resp. 19. Patent Owner contends that Roseman teaches away from keys being associated with a specific user through its description that "***[k]eys may be copied and redistributed, if permitted***, or sent to another individual, if permitted." PO Resp., 19–20 (quoting Ex. 1003, 9:55–57) (emphasis by Patent Owner).

Patent Owner's arguments are not persuasive. Roseman describes keys that are transferable (Level 2 and 3 keys) and keys that are not transferable (Level 1 keys). Ex. 1003, 9:42–48. Petitioner's contentions (Pet. 18) are directed to Level 1 keys, which "may not be passed to any other person and may not be copied." *Id.* at 9:43–44. We find that keys that may not be passed to any other person are keys associated with that person. Figure 8 of Roseman is consistent with this because it describes passing a key to an "Absentee-Invitee" when the Invitee sends a delegate, i.e., a Level 2 key.

As to Level 1 keys, Patent Owner argues that a key is merely an attachment to an invitation, which "offers the only suggestion of an association with specific invitee." PO Resp. 20. Dr. Carbonell testifies (without identifying a basis) that Roseman's system could prevent the

transfer of a key using a "no-transfer or no-duplication policy of such a key to insure that [it] always stays in the possession of the first user," by making transferability an attribute of the key and having the system simply assume, without recording transfers, that a user in possession of a key is authorized to use it. Ex. 2005 ¶ 31. As Petitioner argues, however, the claim construction to which Patent Owner agreed does not require an association between a key and a user to be implemented in a certain way. Reply 15–16. Even if Dr. Carbonell is correct as to how Roseman's keys would be implemented, such a non-transferable key would still be associated with the person who is prevented from transferring it.

Petitioner further argues that Roseman discloses storing keys in "a database which serves as a repository of tokens," as recited in claim 2, because a meeting room that is accessed by a key "'knows' about each key and its invitation level." Pet. 18–19 (quoting Ex. 1003, 9:49–51). According to Petitioner, a copy of each key must be stored on the host computer for the meeting room to "know" about each key. *Id.* at 19. Petitioner argues that a skilled artisan would have understood a database to be a stored collection of tokens. *Id.* Roseman does not expressly describe storing tokens in a database. Thus, we understand Petitioner to argue that tokens necessarily are stored in a database in light of Petitioner's cited disclosure—in other words, that a database is inherent in Roseman.

Patent Owner, relying on Dr. Carbonell's testimony, argues that a meeting room's knowledge of a key could be implemented using a hash function, which would not have required storage of the key in a database. PO Resp. 21–22 (citing Ex. 2005 ¶ 40). Petitioner characterizes Patent Owner's argument as "based on pure speculation and conjecture" and

inconsistent with Roseman's disclosure. Reply 10–12. Nevertheless, we view both parties' respective theories of Roseman's implementation as speculation. Because Petitioner's position is speculative, it is insufficient to show that a database is inherent in Roseman.[6]

In the alternative, Petitioner argues that Rissanen teaches storing user authentication information, such as user identity information and passwords, in a database, and that such teaching would have been applicable to the keys of Roseman. Pet. 20–21. Petitioner argues that Roseman's keys are analogous to user identity and passwords. *Id.* at 20. According to Petitioner and its expert, Roseman's key verification step might not function properly if the keys are not stored in a database. *Id.* at 21 (citing Ex. 1002 ¶ 58). Petitioner further argues that storing keys in a database is one of a finite number of known solutions for verifying whether a previously issued key matches to a key later presented by a user to access a conference room. *Id.* at 21–22 (citing Ex. 1002 ¶¶ 58–59).

Patent Owner admits that "[Rissanen] does disclose a database," but argues that its database is used in a different type of system. PO Resp. 23. Thus, Patent Owner does not contest that Rissanen's database stores user identities and passwords in a persistent manner and is used in conjunction

[6] Patent Owner also argues that Roseman does not suggest storing keys in a manner that is persistent and does not disclose tools such as a DBMS. PO Resp. 22–23. Roseman does teach that the data associated with its conference rooms are stored in a manner that is persistent, Ex. 1003, 12:16–28, and this at least suggests that keys also would be stored in such a manner. As to a DBMS, we explain above that the construction of "database" does not require this feature. Nevertheless, as explained below, Rissanen teaches a database even under Patent Owner's proposed construction.

with tools such as a DBMS. For Petitioner, Dr. Lavian testifies that "Rissanen clearly discloses a relational database whose data is stored persistently and includes tools for interacting with the data such as a DBMS." Ex. 1021 ¶ 37. We find that Rissanen teaches a database that stores data with persistence and tools for interacting with the database.

Nevertheless, Patent Owner argues "[i]f one were going to combine Roseman and Rissenan in order to authenticate an individual (and not merely authenticate a key for a room) the necessary logic would be significantly more complicated." PO Resp. 23. Petitioner does not argue, however, that Rissanen's database would be bodily incorporated into Roseman's system. Rather, Petitioner argues that Rissanen teaches storing data "analogous to and serv[ing] the same purpose as" the keys in Roseman in a database. Pet. 20. *See In re Mouttet*, 686 F.3d 1322, 1332–33 (Fed. Cir. 2012) ("It is well-established that a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements. . . . Rather, the test for obviousness is what the combined teachings of the references would have suggested to those having ordinary skill in the art."). Given that Roseman describes using keys to access conference rooms that have persistence, we agree with Petitioner that a database, described in Rissanen as storing similar information for a similar purpose, would be a straightforward and predictable choice for storing Roseman's keys.

The parties also dispute whether Roseman and Rissanen teach that the database "serves as a repository of tokens *for other programs to access*, thereby affording information to each of a plurality of participator computers," as recited in claim 2. Petitioner argues that other programs

access the stored collection of tokens, including the various meeting or conference rooms maintained on the host computer. Pet. 22. Petitioner relies on disclosure in Roseman that a meeting room is accessible from a virtual hallway with doors to other meeting rooms. *Id.* (citing Ex. 1003, 9:63–65). According to Petitioner, "[e]ach meeting room . . . contains a number of computer programs, and each meeting room itself can be thought of as a program. These programs access the repository of keys when a user presents a key to obtain access to a conference room." *Id.*

Patent Owner argues that "Petitioner does not identify any programs that could access a database of tokens and receive information, other than the singular conference calling software running on the host computer of Roseman." PO Resp. 25. According to Patent Owner, "to the extent that there are multiple conference rooms programs [sic] in existence, that is because the Roseman system has instantiated the same conference room program with different parameters as there is no suggestion that there is different software associated with each conference room." *Id.* Patent Owner does not explain why "other programs" require different software rather than different instantiations of the same software, or point to evidence supporting this view. We are not persuaded that the claims should be limited in this way. Nevertheless, as Petitioner points out (Reply 18), Roseman characterizes its conference rooms as collections of different programs (Ex. 1003, 12:16–18) and makes clear that different conference rooms will have different attributes (different virtual equipment, different tools, different appearances, etc.) (*id.* at 3:42–50, 10:9–12). We find that Roseman at least suggests different conference rooms with different programs, even under Patent Owner's view. These programs determine whether a

participant can join a meeting room based on evaluations of keys that, in light of Rissanen, would have been stored in a database. Thus, we find that Roseman and Rissanen teach "a database which serves as a repository of tokens for other programs to access," as recited in claim 2.

The parties also dispute whether Roseman and Vetter teach "communicating via an Internet network," as recited in claim 2. As explained above, Roseman describes communicating between a host and local computers via commercially available LANs and WANs. Ex. 1003, 1:37–41, 3:14–19. Petitioner contends that a skilled artisan would have understood the Internet to be an example of the commercially available WAN described in Roseman. Pet. 23, 25; Ex. 1002 ¶¶ 65–66. According to Dr. Lavian, "a person of ordinary skill in the art would have recognized the Internet as one of the largest networks for connecting remote computers (if not the largest), making it the obvious Wide Area Network (WAN) for use with Roseman to connect the host and participant computers." Ex. 1002 ¶ 65; *see also* Ex. 2006 (Lavian Dep.), 104:12–105:23 ("Q So Roseman could have been implemented in that 1994 to '96 time frame with ATM technology? A If I'm looking at the specification of Roseman and what specifically Roseman disclose, it disclose as using a -- local computers become connected to host computer via commercially available Local Area Networks and Wide Area Networks. When you're talking about Local Area Networks and Wide Area Networks, this is the Internet. That's different name to Internet. Q So you're saying that Roseman by itself teaches the Internet? A Roseman by itself reference to remote computers commercially available, commercially available that said Internet. Local Area Networks,

definitely part of the Internet. Wide Area Networks, different name to the Internet. It's actually the Internet itself. . . .").

Petitioner further argues that Vetter teaches using the Internet to facilitate the same types of computer-based conferencing functions as described in Roseman. Pet. 23–24. Petitioner contends that Vetter itself identifies a reason to combine the teachings of Roseman and Vetter, namely "[v]ideoconferences are becoming increasingly frequent on the Internet" and the CU-SeeMe videoconferencing tool described in Vetter "is also becoming very popular." *Id.* at 25 (quoting Ex. 1005, 77 (emphases by Petitioner)).

Patent Owner argues that Vetter does not state that Internet videoconferencing would have been ubiquitous at the time of the invention; rather, Patent Owner argues, the Internet was beginning to support video conferencing. PO Resp. 26–27. Patent Owner further argues that Vetter discusses difficulties in applying videoconferencing on the Internet, including feedback when participants leave their microphones on, degraded performance when broadcasting simple graphic images, workstations that locked up in a classroom when video streams overwhelmed a network, and counter-intuitive paths that data can take when travelling from one site to another. *Id.* at 27–28 (citing Ex. 1005, 78–79). Dr. Carbonell testifies (without citation) that video traffic on the Internet would experience unpredictable delay that would interfere with re-assembling video streams at the receiving end in real time. Ex. 2005 ¶ 59. Dr. Carbonell testifies (again without citation to evidence) that one would not experience these problems on a private WAN because such a network would be of a more predictable configuration. *Id.* ¶ 61.

Patent Owner also points to a half-page article in a technical magazine by Robert Metcalfe, founder of 3Com, "[p]redicting the Internet's catastrophic collapse" at the end of 1995 due to reasons such as low user measurements, telecom company monopolies, and security and capacity concerns. PO Resp. 28–29 (quoting Ex. 2009). We agree with Petitioner, however, that "the incorrect prediction of a single individual would not have discouraged (and did not discourage) the industry from using the Internet." Reply 8. Patent Owner offers no persuasive evidence that Dr. Metcalfe's views were shared widely, or at all, by skilled artisans in 1995. Indeed, the article itself suggests the contrary. Ex. 2009 ("Almost all of the many predictions now being made about 1996 hinge on the Internet's continuing exponential growth.").

Citing Dr. Metcalfe's article, Dr. Carbonell testifies that other technologies such as Integrated Services Digital Network (ISDN) and Asynchronous Transfer Mode (ATM) would have been better suited than the Internet to handle video conferencing in the mid-1990's. Ex. 2005 ¶ 60. As explained above, Patent Owner has not explained persuasively why Dr. Metcalfe's magazine article is representative of the views of a skilled artisan. The article itself does not state that there were, or identify evidence of, technologies better suited than the Internet to handle videoconferencing. Ex. 2009. Thus, we are not persuaded that the Internet would have been an inferior technology for videoconferencing in 1995. Moreover, claim 2 on its face is not limited to videoconferencing. In any case, the Federal Circuit has explained that "just because better alternatives exist in the prior art does not mean that an inferior combination is inapt for obviousness purposes." *Mouttet*, 686 F.3d at 1334.

Roseman expressly states that its local computers and host communicate via a commercially available WAN. We credit Dr. Lavian's testimony that, to the extent that this is not an express reference to the Internet, the most suitable and obvious commercially available WAN would have been the Internet. We also find that Vetter suggests using the Internet for purposes similar to those of Roseman. Vetter describes an example in which features such as audio, video, and virtual whiteboard tools are used to conference over the Internet. Ex. 1005, 77–78. Thus, to the extent Roseman does not expressly suggest using the Internet, Vetter includes an express suggestion to update a system such as Roseman using modern electronic components, such as the Internet, to gain the commonly understood benefits of such adaptation. *See Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007); *cf., Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1326–27 (Fed. Cir. 2008) ("The record in this case demonstrates that adapting existing electronic processes to incorporate modern internet and web browser technology was similarly commonplace at the time the '099 patent application was filed."). Vetter reinforces our finding that the Internet would have been the most suitable commercially available WAN for use in Roseman's system.

To be sure, Vetter discusses challenges encountered in implementing videoconferencing on the Internet, but Vetter also teaches that existing tools can be tailored to specific applications on the Internet "so that their limitations can be *promptly recognized and corrected*." Ex. 1005, 79 (emphasis added). The Federal Circuit has recognized that "a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine." *Medichem, S.A. v.*

Rolabo, S.L., 437 F.3d 1157, 1165 (Fed. Cir. 2006). We find that addressing the challenges discussed in Vetter would have been well within the skill of an ordinarily skilled artisan, an engineer experienced in computer networking. Thus, we find that Roseman, Rissanen, and Vetter teach "[a] method of communicating via an Internet network" as recited in claim 2.

In sum, we find that the combination of Roseman, Rissanen, and Vetter teaches "a method of communicating via an Internet network by using a computer system including a controller computer and a database which serves as a repository of tokens for other programs to access, thereby affording information to each of a plurality of participator computers which are otherwise independent of each other," as recited in claim 2.

b. "wherein the controller computer system is programmed to provide access to the controller computer system via any of two client software alternatives"

In the Institution Decision, we determined that the claim language "the controller computer system is programmed to provide access to the controller computer system via any of two client software alternatives" refers to separate software platforms implementing user interfaces on two different participator computers, with both providing access to the control computer. Dec. 27. This is the reading most consistent with the '552 patent's description. Ex. 1001, 2:35–41 ("Participator software runs on each of the participator computers to program each of the participator computers to operate a user interface. The user interface permits one of the users to send and/or receive a multimedia information message to the controller computer, which arbitrates which of the participator computers receives the

multimedia information message."), 4:43–49 ("[T]he appendix includes code for two different embodiments: a Tellnet embodiment and a JAVA embodiment. . . . While platform controlled embodiments are within the scope of the invention, it is particularly advantageous to have a platform independent embodiment, i.e., an embodiment that is byte code compiled."), 5:15–19 ("The Participator Computers 5 are each running and under the control of Participator Software 4, which directs each of the Participator Computers 5 to handle a user Interface 6 permitting one said user to send a multimedia information Message 8 to the Controller Computer 3 . . . .").

Petitioner argues that Roseman describes its local computers as using a Windows operating system, but notes that other environments are within the level of skill in the art. Pet. 28 (citing Ex. 1003, 12:1–5, 12:9–10). Dr. Lavian testifies that it was well-known to provide software products for multiple computing platforms, such as Windows and Macintosh because it was more commercially attractive and would increase the number of users who could use the software. Ex. 1002 ¶ 73. Petitioner argues that it would have been obvious to provide alternatives for local computer software that would operate on Windows and Macintosh platforms. Pet. 28.

Patent Owner argues that "Roseman does not indicate how a second alternative would be able to communicate with the host computer to receive the common image or to interact with it" and that "Roseman's disclosure of the 'Windows Context' is not an affirmative teaching of another client software alternative." PO Resp. 35. Petitioner, however, does not argue that Roseman expressly teaches two client software alternatives. Rather, Petitioner argues that Roseman describes one software alternative, for the Windows platform, and expressly teaches that software for other platforms

would have been within the level of skill in the art. Pet. 28; Reply 22 ("The Petition explained that the claimed two client software alternatives were obvious, among other reasons, because it would have been obvious to adapt the participator software in Roseman to run on multiple computing platforms, such as Windows and Macintosh.").

Patent Owner argues that Roseman does not "indicate how any of its client software could be modified so as to make [a] second software alternative." PO Resp. 35. According to Patent Owner, Dr. Lavian admitted in deposition that it is not always possible to make the same software programs for different operating systems. *Id.* at 36 (citing Ex. 2006, 157:6–158:11). Although it might not be possible to adapt every software program to work on every operating system, Roseman itself suggests adapting its software to different environments beyond Windows. Ex. 1003, 12:1–10. Thus, Patent Owner's argument is not persuasive.[7]

Patent Owner also argues that Windows and Macintosh are not client software, but instead are operating systems. PO Resp. 35–36. Petitioner, however, does not argue that Windows and Macintosh are the two software alternatives. Rather, Petitioner argues that Roseman describes a client software alternative that would work with the Windows operating system and suggests that another client software alternative working with the Macintosh operating system would have been within the level of skill in the art. Pet. 28; Reply 22–23 ("But the Petitioner did not point to Windows and

[7] Patent Owner also argues that a Telnet-based solution for Roseman would not work without graphical user interface (GUI) support. PO Resp. 35. This is inapposite, as Petitioner does not argue that Roseman would have been modified to accommodate a Telnet-based solution.

Macintosh *themselves* as the two client software alternatives, but rather, to versions of the participator software in Roseman adapted to run on those platforms."). Thus, Patent Owner's argument is not persuasive.

Patent Owner further contends that a skilled artisan would not have used two separate software alternatives to implement Roseman's client software with Windows and Macintosh platforms because the skilled artisan would have used Java instead. PO Resp. 36–37. According to Patent Owner, "Java and byte-code are cross-platform solutions that can run on both Windows and Macintosh." *Id.* at 36. Dr. Carbonell testifies that "one of ordinary skill in the art who was motivated to provide software that could work across different platforms and operating systems would have been motivated to utilize a single platform independent software implementation, such as a Java implementation and would not have been motivated to provide additional alternatives to that cross-platform software." Ex. 2005 ¶ 74.

Petitioner argues that the claim language does not exclude platform-specific embodiments and that the '552 patent specifically describes such embodiments as within the scope of the invention. Reply 23–24 (citing Ex. 1001, 4:46–49 ("While platform controlled embodiments are within the scope of the invention, it is particularly advantageous to have a platform independent embodiment, i.e., an embodiment that is byte code compiled."). We agree with Petitioner. As noted above, "just because better alternatives exist in the prior art does not mean that an inferior combination is inapt for obviousness purposes." *Mouttet*, 686 F.3d at 1334. Thus, even if Java would have been advantageous in some circumstances, we still find that

platform-specific client software embodiments would have been an apt extension of Roseman's system.

In light of Roseman's description of client software for the Windows environment and its express teaching that the software for other environments is within the level of skill, Ex. 1003, 12:1–10, we are persuaded that Roseman at least suggests client software for other platforms that were common at the time, such as Macintosh. We credit Dr. Lavian's testimony that providing software for use with both Windows and Macintosh would have made Roseman's system more commercially attractive by increasing the number of users who could use the software. Ex. 1002 ¶ 73. *See also KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) ("When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one."). Thus, we find that Roseman suggests "wherein the controller computer system is programmed to provide access to the controller computer system via any of two client software alternatives," as recited in claim 2.

c. "wherein both of the two client software alternatives allow the respective user identities to be recognized by the controller computer system and allow at least some of the participator computers to form at least one group in which members can send communications and receive communications from another of the members" and

"permitting at least the first user identity and the second user identity to form a group"

Petitioner contends that Roseman's software running on a local computer, which (as explained above) can be a software implementation for a Windows platform and a Macintosh platform, allows user identities to be recognized by the host computer. Pet. 30–31. Petitioner argues that a group of local computers is formed when a user of a local computer in Roseman drags other participants into a child-room. *Id.* at 32. In another example, Petitioner argues that Roseman's description of creating a virtual conference room, involving identifying the participants of the conference room and requiring invited users to have appropriate keys, teaches permitting at least a first user identity and a second user identity to form a group. *Id.* at 39–40.

We agree with Petitioner. When Roseman's users, via software running on their respective local computers, access conference rooms using keys, Roseman's host computer recognizes the users and allows them to send and receive communications from each other. Ex. 1003, 3:22–56. Thus, we find that Roseman teaches these limitations of claim 2. We note that Patent Owner does not contest that Roseman teaches these limitations.

d. "wherein at least some of the communications are received in real time via the Internet network" and

"permitting sending communications in real time, via the Internet network, among the participator computers corresponding to the user identities in the group"

Petitioner contends that communications in one of Roseman's conference rooms, such as placing documents on a table, drawing on a document, and moving a pointer, take place in real time because they are communicated to participants as the underlying events occur. Pet. 32, 40. For example, Roseman explains:

> In the invention, the participants share a common virtual conference table. Each participant can
>
> (1) place a document onto the table electronically,
>
> (2) write on the document, draw on it, and otherwise manipulate it, and
>
> (3) move a pointer to different positions on the document, to point to specific parts of it.
>
> All other participants see the [] preceding three events as they occur.

Ex. 1003, 2:38–47. We find that these are specific examples in Roseman of real-time communications sent and received by the participator computers in a group.

As explained in Section II.B.3.a above, Roseman and Vetter teach that such communications can be via an Internet network.

Thus, we find that Roseman and Vetter teach these limitations of claim 2. We note that Patent Owner does not contest that Roseman and Vetter teach these limitations.

> *e. "wherein the at least one of client software alternatives allows the controller computer system to determine whether at least one of the user identities, individually, is censored from data representing at least one of a pointer, video, audio, graphic, and multimedia such that the data that is censored is not presented by the corresponding participator computer"*

Petitioner argues that this limitation would have been obvious over Roseman and Lichty. Pet. 34. In particular, Petitioner points to the "Ignore" button of Lichty's user interface. *Id.* Petitioner notes that Roseman already has a feature in which a host computer limits the amount of information another participant can send in a meeting room (a group). *Id.* at 35 (citing Ex. 1003, 12:29–45). Petitioner argues that both Roseman and Lichty state essentially the same reason for their respective features, namely solving the common problem of dealing with potentially unwanted communications from conference participants. *Id.*; *see also* Ex. 1003, 12:29–33; Ex. 1007, 510. Petitioner argues that Lichty's solution would be equally applicable to Roseman. Pet. 35.

Patent Owner, relying on its proposed claim construction, argues that claim 2 requires that the data itself is censored and that this is not shown in Roseman and Lichty. Specifically, Patent Owner argues that "Roseman's procedures are inconsistent with the meaning of censorship" because "Roseman does not disclose restrictions ***based on data*** or other types of

content as the claim limitation requires." PO Resp. 38.[8] As explained in Section II.A.3 above, this limitation refers to control of data received by the at least one of the user identities, individually, and is not limited to data suppressed based on the content of those data or by a moderator. Thus, Patent Owner's argument is not persuasive.

As to Lichty, Patent Owner argues that it "does not explain how AOL works either at the user interface level or at the server level." PO Resp. 38. Patent Owner further argues that "Petitioner does not explain how Lichty teaches or discloses censoring whereby a determination as to whether to censor the information is made by the ***controller computer***" and that "Petitioner does not even suggest that Lichty teaches a controller computer." PO Resp. 40. According to Dr. Carbonell, "one would have understood that such ignore features were implemented locally on the user's computer as a filter, i.e. as a user-interface or presentation feature" and that "[o]ne of ordinary skill in the art would not have understood such features to be implemented at the server level." Ex. 2005 ¶ 27. In reply, Petitioner argues that where Lichty implemented the ignore feature is irrelevant because "[t]he Petition cited Lichty only for its disclosure of its censoring feature, and relied on the host in Roseman to carry out the features of the claim." Reply 20.

[8] Patent Owner also argues that "the claim limitation 'determines that the ***message*** is not censored' requires that the message itself is censored" and that "[t]here is no disclosure in either Roseman or Lichty of a system where data (*i.e.*, a message) is censored." PO Resp. 40. This language, however, is not part of any challenged claim. Thus, this argument is not persuasive.

We agree with Petitioner. As we explained in the Institution Decision (at 32), Roseman teaches a scheme in which a host (controller computer) determines whether a user identity should be prevented from sending data. Ex. 1003, 12:29–45. Specifically, Roseman describes a "moderator" feature in which a "host can automatically prevent filibustering, in several ways," including "[b]y plac[ing] a limit on the total time allowed to each person." *Id.* at 12:34–37. We find that this is an example of censoring performed at the controller computer. Petitioner cites Lichty to show that it was known to prevent a user identity from receiving data. Lichty explains why this feature is useful, including "[w]hen rooms become full and everyone is talking, it can be difficult to follow what's going on" and that "Ignore is most useful when the chat of another member becomes disruptive in the chat room." Ex. 1007, 269, 510. This closely tracks Roseman's reason for the moderator feature, namely, preserving free discussion that otherwise would be "defeated by an aggressive person who dominates the conference, and, in effect, maintains a 'filibuster.'" Ex. 1003, 12:29–33.

Patent Owner also argues that the '552 patent distinguishes AOL software. PO Resp. 39–40 (citing Ex. 1001, 1:41–44 ("Chat room communications . . . can involve graphics and certain multimedia capability, as exemplified by such Internet service providers as America On Line."), 1:45–56 ("On the Internet, 'chat room' communications analogous to America On Line have not been developed, at least in part because Internet was structured for one-way communications analogous to electronic mail, rather than for real time group chat room communications. Further, unlike the an Internet service provider, which has control over both the hardware platform and the computer program running on the platform to create the

'chat room', there is no particular control over the platform that would be encountered on the Internet. Therefore, development of multiplexing technology for such an environment has been minimal.")). Our focus here is on the disclosure of Lichty, not the '552 patent's characterization of the system disclosed by Lichty. In any case, Petitioner relies on the combination of Lichty and Roseman, rather than Lichty alone, to show censoring a user identity from data. Thus, Patent Owner's argument is not persuasive. *See In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) ("Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references.").

Patent Owner further argues that "Petitioner fails to address how the disclosure of Lichty's text-based user interface could predictably result in the virtual conferencing system of Roseman where at least one participant is censored from receiving audio data" and that "there is no teaching or suggestion provided by the Lichty reference that motivates any changes to a voice and/or video conferencing system." PO Resp. 41. We are not persuaded by this argument. Roseman teaches censoring senders in meetings that involve text, audio, and graphics. Ex. 1003, 12:26–45. Lichty is cited to show censoring from receiving data. In any case, given the level of skill in the art noted above, we are persuaded that the proposed combination would have been within that level of skill, including applying Lichty's teachings to other forms of data besides text, including audio, video, and pointers.

On the complete record, we find that Roseman and Lichty teach "wherein the at least one of client software alternatives allows the controller

computer system to determine whether at least one of the user identities, individually, is censored from data representing at least one of a pointer, video, audio, graphic, and multimedia such that the data that is censored is not presented by the corresponding participator computer," as recited in claim 2.

f. "affording some of the information to a first of the participator computers via the Internet network, responsive to an authenticated first user identity; affording some of the information to a second of the participator computers via the Internet network, responsive to an authenticated second user identity"

As explained above, Roseman describes admitting participants into a conference room when the participants present keys. Ex. 1003, 10:61–65. We find that this teaches "an authenticated first user identity" and "an authenticated second user identity." Additionally, Roseman describes various ways of affording information to local computers of users admitted to the conference room, including as follows:

> Objects (documents) can be shared in the conference room by placing them on the table. This might be done by dragging an icon of the object from the outside (users non-"meeting room" windows) onto the table. Ownership of the object is still maintained. If the object owner wishes, the object may be copied, borrowed by other users, or given to other users. The object may be altered (changed, annotated) by anyone with permission to do so.

Id. at 11:18–26. *See also* Pet. 36–38. As explained in Section II.B.3.a above, Roseman and Vetter teach that such communications can be via an Internet network.

Accordingly, we find that Roseman and Vetter teach these limitations of claim 2. We note that Patent Owner does not contest that Roseman and Vetter teach these limitations.

g. "wherein at least some of the communications include messages comprising more than one data type"

As noted by Petitioner, Roseman describes various forms of multimedia conferencing, including "multiple parties are linked by both video and audio media," Ex. 1003, Abstract, and "[e]ach Invitee can transmit a file (of any suitable kind: data, text, or graphic) to the host, and the host will place the file onto the table, where all participants can see it," *id.* at 8:1–4. Pet. 40–41. On this record, we find that Roseman teaches "wherein at least some of the communications include messages comprising more than one data type." We note that Patent Owner does not contest that Roseman teaches this limitation.

h. "at least some other of the communications include a pointer that produces a pointer-triggered message on demand"

Petitioner refers to Roseman's description of a user placing a document, represented by an icon, onto a virtual conference table. Pet. 41–42. Petitioner contends that Roseman's icon "serves as a 'pointer' because it points to, or references, the underlying document." *Id.* at 42. According to Petitioner, the icon points to a file and, when the icon is invoked, the host computer causes the file to appear on the table of each participant. *Id.* Petitioner argues that this teaches a pointer that produces a pointer-triggered message on demand. *Id.*

Patent Owner argues that Petitioner "conflates what appears on a GUI and the steps performed by [Roseman's] host computer," that "[t]he icon in Roseman is not a message, it is merely an indication that there is accessible information and clicking on the icon is merely a request to the host computer to send the appropriate data file" and, "[a]ccordingly, the icon itself is not a message, nor a pointer-triggered message." PO Resp. 32. This misstates Petitioner's argument. As explained above, Petitioner contends that Roseman's icon is a pointer, not a pointer-triggered message. The pointer-triggered message is the message that is delivered after a user clicks on the icon.

As explained in Section II.A above, a "pointer" is "a link or reference to a file, data, or service" and a "pointer-triggered message" is "a message, where the content of the message is specified by a pointer and found on demand of the operator of the participator software." Under these constructions, Roseman's icon is a pointer, as it is a link to a file. Likewise, the message retrieved when Roseman's icon is selected is a "pointer-triggered message" because its contents are specified by the icon and are found on demand of a user at a remote computer.

Petitioner further argues that, to the extent that a "pointer" requires an Internet URL or the like, a skilled artisan would have consulted Pike for a teaching of basic Internet concepts, such as URLs. Pet. 42–43. Nevertheless, Patent Owner has not argued, and we do not find, that the claimed "pointer" is required to be a URL. Thus, we need not determine whether a skilled artisan would have sought out Pike's teachings of URLs.

On the complete record, we find that Roseman teaches "at least some other of the communications include a pointer that produces a pointer-triggered message on demand," as recited in claim 2.

In sum, we find that Roseman, Rissanen, Vetter, Pike, and Lichty teach each limitation of claim 2.

4. Remaining Challenged Independent Claims

Petitioner also challenges independent claims 1, 10, 18, 50, 54, 58, 59, and 64. The additional independent claims have significant overlap with claim 2. For example, each of the additional independent claims recites a "database which serves as a repository of tokens," an "Internet network" (or "the Internet"), "two client software alternatives," and "at least one of the user identities, individually, is censored from data," discussed in detail above. Petitioner shows in claim charts where each of the additional independent claims overlaps with claim 2 and provides analysis for the portions of those claims that do not overlap with claim 2. Pet. 46–70. We agree with Petitioner's identification of overlap and find that the overlapping limitations of claims 1, 10, 18, 50, 54, 59, and 64 are taught by Roseman, Rissanen, Vetter, and Lichty for the reasons given for claim 2, above. We agree with Petitioner that claim 10 does not add any limitations not covered by our analysis of claim 2. Pet. 51–52

Petitioner essentially addresses claims 1, 18, 50, 54, 58 together, referring back to claims 1 and 2 for its analysis of claims 18, 50, 54, and 58. Pet. 54–57, 59–66. Claim 1 recites "storing each said user identity and a respective authorization to send multimedia data" and "if permitted by the user identity corresponding to one of the participator computers, allowing

the one of the participator computers to send multimedia data to another of the participator computers." Petitioner argues that Roseman describes using stored keys, associated with user identities, for controlling admission to a particular conference. Pet. 48. Petitioner contends that "[e]ach 'key' [] relates to the identity of the participant and provides the permissions allowing access to the conference room." *Id.* (citing Ex. 1003, 9:34–55). The cited passage, however, only describes a key granting a user admission to a virtual conference room. It does not describe keys as determining what a user can do in a conference room once admitted. Ex. 1003, 9:34–55; *see also id.* at 10:61–65. Although Roseman's keys may be associated with a user identity in that a Level 1 key is given to a person and "may not be passed to any other person and may not be copied," Ex. 1003, 9:43–44, it does not follow that the key provides permissions for behavior within a conference room, such as authorization to send multimedia data.

Petitioner concludes, based on its citations to Roseman, that "Roseman discloses these limitations because a user identity that is not authorized to access a room cannot send multimedia data to conference participants." *Id.* at 49. It is true that a user denied access to a conference room would not be permitted to send multimedia data in that conference room, as Petitioner argues. Pet. 49. Petitioner, however, does not argue persuasively that a key that grants admission also includes an authorization to send multimedia data in that conference room. Roseman's key simply grants access to a conference room. We are not persuaded that such a key constitutes stored authorization to engage in certain activities once admitted to the conference room. Furthermore, Petitioner does not provide persuasive analysis that Roseman checks if the user identity is permitted to send

multimedia data before allowing the corresponding participator computer to send such data. Accordingly, Petitioner has not shown, by a preponderance of the evidence, that claim 1 would have been obvious over Roseman, Rissanen, Vetter, Lichty, and Pike.

Claim 18 recites

> the computer system: stores, for a first of the user identities, a respective authorization associated with multimedia data communication, and allows the participator computers to send in real time via the Internet network, and, based on the respective authorization, cause the multimedia data to be presented at one of the participator computers corresponding to a second of the user identities.

As to these limitations, although they differ somewhat from those of claim 1, Petitioner argues that "[t]he analysis for claim 1 as to these limitations accordingly applies to claim 18." As explained above, Petitioner's arguments are not persuasive for claim 1. As to claim 18, Petitioner does not include any additional argument as to why Roseman teaches "the computer system: stores, for a first of the user identities, a respective authorization associated with multimedia data communication." Furthermore, Petitioner does not include any analysis explaining how Roseman teaches "*based* on the respective authorization, cause the multimedia data to be presented" at a participator computer corresponding to a second user identity. Accordingly, Petitioner has not shown, by a preponderance of the evidence, that claim 18 would have been obvious over Roseman, Rissanen, Vetter, Lichty, and Pike.

Claim 50 recites

> wherein the controller computer system controls real-time communications among the participator computers by:

> associating with the user identities a respective authorization to communicate multimedia data; and
>
> sending multimedia data representing at least one of a pointer, video, audio, graphic, and multimedia if permitted by the respective authorization;

Claims 54 and 58 recite similar limitations. Petitioner does not explain how Roseman teaches associating with a user identity a respective authorization to communicate multimedia data. For example, Petitioner does not explain why simply showing that a user has access to a conference room is enough to show a respective authorization to communicate multimedia data associated with a user identity. Accordingly, Petitioner has not shown, by a preponderance of the evidence, that claims 50, 54, and 58 would have been obvious over Roseman, Rissanen, Vetter, Lichty, and Pike.

Claim 59 recites "groups in which members distribute, in accordance with the predefined rules, the user messages in real time to the respective ones of the participator computers." Similarly, claim 64 recites "groups in which members distribute, via predefined rules, the messages in real time to the respective ones of the participator computers."

Petitioner (Pet. 65) argues that Roseman discloses that a person setting up a conference can determine aspects of the meeting, such as: "What rules govern the conduct of the meeting? Does the Requester have absolute control of the voice and message interaction among the participants? Or Is the meeting a brainstorming free-for-all, where numerous people can speak at once?" Ex. 1003, 3:52–54. As to a specific example, Petitioner points to Roseman's "pencil" tool, through which a participant can write a message in a conference room using the pencil tool, and other participants are disabled from doing so while the first participant

has the pencil. Pet. 66 (citing Ex. 1003, Fig. 19). Petitioner also cites to Roseman's "Whisper Mode" for private voice conversations and "note-passing" for private textual conversations as examples of predefined rules that govern how users conduct real-time communications. *Id.* at 66–67 (citing Ex. 1003, 9:16–31, 15:12–15, Fig. 17C). We agree with Petitioner that these are examples of groups in which members distribute, in accordance with predefined rules, the user messages in real time. We find that Roseman teaches these limitations of claims 59 and 64. We note that Patent Owner does not present separate arguments for claims 59 and 64.

5. Challenged Dependent Claims

Claims 19–49 depend, directly or indirectly, from claim 18. Claims 51–53 depend, directly or indirectly, from claim 50. Claims 55–57 depend from claim 54. As explained above, Petitioner has not shown that claims 18, 50, and 54 would have been obvious. Petitioner's analysis of these dependent claims does not cure the deficiencies noted above for claims 18, 50, and 54. Accordingly, Petitioner has not shown, by a preponderance of the evidence, that claims 19–49, 51–53, and 55–57 would have been obvious over Roseman, Rissanen, Vetter, Lichty, and Pike.

Claims 3, 5, and 7 depend from claim 2 and add "wherein at least one of the messages includes data representing" sound, video, and both sound and video, respectively. Claims 11, 13, and 15 depend from claim 10 and recite "wherein at least one of the messages includes data representing" sound, video, and both sound and video, respectively. Petitioner has persuasively shown that the communications in Roseman's meetings can include sound, video, graphic, and multimedia. Pet. 71–72 (citing Ex. 1003,

1:42–46 (drawings), 3:40–41 (graphics), 7:35–38 (pictures of participants), 8:1–4 (graphics), 11:11–16 (audio and video), 12:34–45 (audio)). We find that Roseman teaches the additional limitations of claims 3, 5, 7, 11, 13, and 15.

Claims 4, 6, 8, and 9 depend, directly or indirectly, from claim 2 and recite "storing, for the first user identity, an authorization associated with presentation of multimedia" and "based on the authorization, presenting the multimedia at one of the participator computers corresponding to the second user identity." These limitations are substantially similar to those we found missing from claim 1, discussed above. Petitioner incorporates its analysis of claim 1 for this limitation.[9] For the reasons given for claim 1, Petitioner has not shown, by a preponderance of the evidence, that claims 4, 6, 8, and 9 would have been obvious over Roseman, Rissanen, Vetter, Lichty, and Pike.

Each of claims 12, 14, 16, and 17 depends indirectly from claim 10 and adds "the computer system is further programmed to provide access to a member-associated image." As Petitioner points out (Pet. 73), Roseman describes that "[a] small picture of each user is displayed in a meeting room to indicate presence." Ex. 1003, 11:11–14. We find that these are examples of member-associated images. Thus, we find that Roseman teaches the additional limitation of claims 12, 14, 16, and 17.

As to the challenged dependent claims, Patent Owner refers to its arguments for claim 2. PO Resp. 42. We note that Patent Owner does not present separate arguments for the challenged dependent claims.

[9] Petitioner cites to claim 10, but we read this as a typographical error. Claim 1, not claim 10, includes a recitation similar to that of claims 4, 6, 8, and 9.

6. Conclusion of Obviousness

As explained above, Roseman, Rissanen, Vetter, and Lichty teach each limitation of claims 2, 3, 5, 7, 10–17, 59, and 64. Petitioner has introduced persuasive evidence that a skilled artisan would have had reasons to combine the teachings of Roseman, Rissanen, Vetter, and Lichty. Patent Owner does not argue or introduce evidence of objective indicia of nonobviousness. In sum, upon consideration of all the evidence, we conclude that Petitioner has proved by a preponderance of the evidence, that claims 2, 3, 5, 7, 10–17, 59, and 64 would have been obvious over Roseman, Rissanen, Vetter, and Lichty.

III. PATENT OWNER'S MOTION TO EXCLUDE

Patent Owner filed a paper styled "Motion to Exclude Evidence," seeking to exclude certain portions of the 2nd Lavian Declaration that it argues exceeds the proper scope of a reply. Paper 37, 1. Specifically, Patent Owner moves to exclude portions of paragraphs 54, 74, and 75 of the 2nd Lavian Declaration. *Id.* at 2–5.

Petitioner opposes this motion on the ground that it is not directed to the admissibility of evidence and, therefore, is procedurally improper. Paper 39, 2. Patent Owner contends that arguments that exceed the scope of a reply are irrelevant, prejudicial, confusing, or misleading under Federal Rules of Evidence 401, 402, and 403. Paper 41, 1–2. As Petitioner points out, however, the Board repeatedly has denied, as improper, motions to exclude that merely argue that evidence is outside the proper scope of a reply. Paper 39, 2–3. Despite its invocation of Rules 401, 402, and 403, we agree that Patent Owner's Motion to Exclude is nothing more than an

argument that Petitioner's Reply exceeds its proper scope. Accordingly, we deny Patent Owner's Motion.

Nevertheless, we have considered Patent Owner's argument with respect to those portions of Petitioner's Reply that are relied upon in this decision, and determine they do not belatedly raise new issues or present evidence that should have been presented in the Petition. In any case, we do not rely on paragraphs 54, 74, and 75 of the 2nd Lavian Declaration.

III. CONCLUSION

Petitioner has proved by a preponderance of the evidence that claims 2, 3, 5, 7, 10–17, 59, and 64 are unpatentable, but has not proved claims 1, 4, 6, 8, 9, and 18–58 are unpatentable.

IV. ORDER

For the reasons given, it is:

ORDERED, based on a preponderance of the evidence, that claims 2, 3, 5, 7, 10–17, 59, and 64 are unpatentable; and

FURTHER ORDERED, because this is a final written decision, the parties to this proceeding seeking judicial review of our Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2016-01158
Patent 8,473,552 B1

PETITIONER:

Heidi Keefe
hkeefe@cooley.com

Phillip Morton
pmorton@cooley.com

Andrew Mace
amace@cooley.com

PATENT OWNER:

Peter Lambrianakos
plambrianakos@brownrudnick.com

Vincent Rubino
vrubino@brownrudnick.com

Trials@uspto.gov
571-272-7822

Paper No. 52
Entered: December 6, 2017

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FACEBOOK, INC.,
Petitioner,

v.

WINDY CITY INNOVATIONS, LLC,
Patent Owner.

Case IPR2016-01159[1]
Patent 8,694,657 B1

Before KARL D. EASTHOM, DAVID C. MCKONE, and MELISSA A. HAAPALA, *Administrative Patent Judges*.

MCKONE, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

[1] Case No. IPR2017-00659 has been joined with this proceeding.

I. INTRODUCTION

A. Background

Facebook, Inc. ("Petitioner") filed a Petition (Paper 1, "Pet.") to institute an *inter partes* review of claims 189, 334, 342, 348, 465, 580, 584, and 592 of U.S. Patent No. 8,694,657 B1 (Ex. 1001, "the '657 patent"). Windy City Innovations, LLC ("Patent Owner") filed a Preliminary Response (Paper 6, "Prelim. Resp.").

Pursuant to 35 U.S.C. § 314, in our Institution Decision (Paper 7, "Dec."), we instituted this proceeding as to claims 189, 334, 342, 348, 465, 580, 584, and 592.

Patent Owner filed a Patent Owner's Response (Paper 22, "PO Resp."), and Petitioner filed a Reply to the Patent Owner's Response (Paper 31, "Reply").

Petitioner relies on the Declarations of Tal Lavian, Ph.D. (Ex. 1002, "Lavian Decl."; Ex. 1021, "2nd Lavian Decl."). Patent Owner relies on the Declaration of Jaime G. Carbonell, Ph.D. (Ex. 2005, "Carbonell Decl.").

On January 12, 2017, Petitioner filed a petition seeking *inter partes* review of claims 203, 209, 215, 221, 477, 482, 487, and 492 of the '657 patent and sought to join that proceeding to this proceeding. IPR2017-00659, Paper 2 ("the '659 Pet."), Paper 3 (Mot. for Joinder). We instituted a trial in that proceeding for all challenged claims and joined it to this proceeding. Paper 34 (the "'659 Dec."). Petitioner relies on the Declaration of Dr. Lavian in the '659 proceeding (IPR2017-00659, Ex. 1002 ("Lavian '659 Decl.")).

As to the additional claims challenged in the '659 Petition, Patent Owner filed a Supplemental Patent Owner's Response (Paper 45, "Supp. PO

Resp.") and Petitioner filed a Supplemental Reply (Paper 46, "Supp. Reply").

An oral argument was held on October 19, 2017 (Paper 51, "Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Decision is a final written decision under 35 U.S.C. § 318(a) as to the patentability of claims 189, 203, 209, 215, 221, 334, 342, 348, 465, 477, 482, 487, 492, 580, 584, and 592. Based on the record before us, Petitioner has proved, by a preponderance of the evidence, that claims 189, 334, 342, 348, 465, 477, 482, 487, 492, 580, 584, and 592 are unpatentable, but has not proved that claims 203, 209, 215, and 221 are unpatentable.

B. Related Matters

The parties indicate that the '657 patent has been asserted in *Windy City Innovations, LLC v. Microsoft Corp*., Civ. A. No. 15-cv-00103-GM (W.D.N.C.) (transferred to 16-cv-1729 (N.D. Cal.)), and *Windy City Innovations, LLC v. Facebook, Inc.*, Civ. A. No. 15-cv-00102-GM (W.D.N.C.) (transferred to 16-cv-1730 (N.D. Cal.)). Pet. 1; Paper 4, 1. The '657 patent is the subject of an *inter partes* review petition in IPR2016-01155. Paper 4, 1. IPR2017-00622, also challenging the '657 patent, has been joined to IPR2016-01155. The '657 patent also was the subject of IPR2017-00606 and IPR2017-00656, which Microsoft Corp. filed and sought to join with IPR2016-01155 and this proceeding, respectively, prior to settling with Patent Owner. Patents related to the '657 patent are subjects of additional *inter partes* review petitions.

C. Asserted Prior Art References

Petitioner relies on the following prior art:

U.S. Patent No. 6,608,636 B1, issued Aug. 19, 2003, filed May 13, 1992 (Ex. 1003, "Roseman");

Published European Pat. App. No. 0 621 532 A1, published Oct. 26, 1994 (Ex. 1004, "Rissanen");

Ronald J. Vetter, *Videoconferencing on the Internet*, IEEE COMPUTER SOCIETY 77–79 (Jan. 1995) (Ex. 1005, "Vetter");

MARY ANN PIKE ET AL., USING MOSAIC (1994) (Ex. 1006, "Pike"); and

TOM LICHTY, THE OFFICIAL AMERICA ONLINE FOR MACINTOSH MEMBERSHIP KIT & TOUR GUIDE (2nd ed. 1994) (Ex. 1007, "Lichty").

D. The Instituted Ground

We instituted a trial on the ground of unpatentability of claims 189, 203, 209, 215, 221, 334, 342, 348, 465, 477, 482, 487, 492, 580, 584, and 592 as obvious, under 35 U.S.C. § 103(a), over Roseman, Rissanen, Vetter, Pike, and Lichty. Dec. 36; '659 Dec. 15.

E. The '657 Patent

The '657 patent describes an Internet "chat room." According to the '657 patent, it was known to link computers together to form chat rooms in which users communicated by text, graphics, and multimedia, giving the example of "America On Line." Ex. 1001, 1:33–37. The '657 patent acknowledges that chat rooms have been implemented on the Internet, albeit

with "limited chat capability," but contends that the complex chat room communications capable with Internet service providers had not been developed on the Internet because "[t]he Internet was structured for one-way communications analogous to electronic mail, rather than for real time group chat room communications" and because "there is no particular control over the platform that would be encountered on the Internet." *Id.* at 1:38–44, 1:50–52.

Figure 1, reproduced below, illustrates an embodiment of the invention:

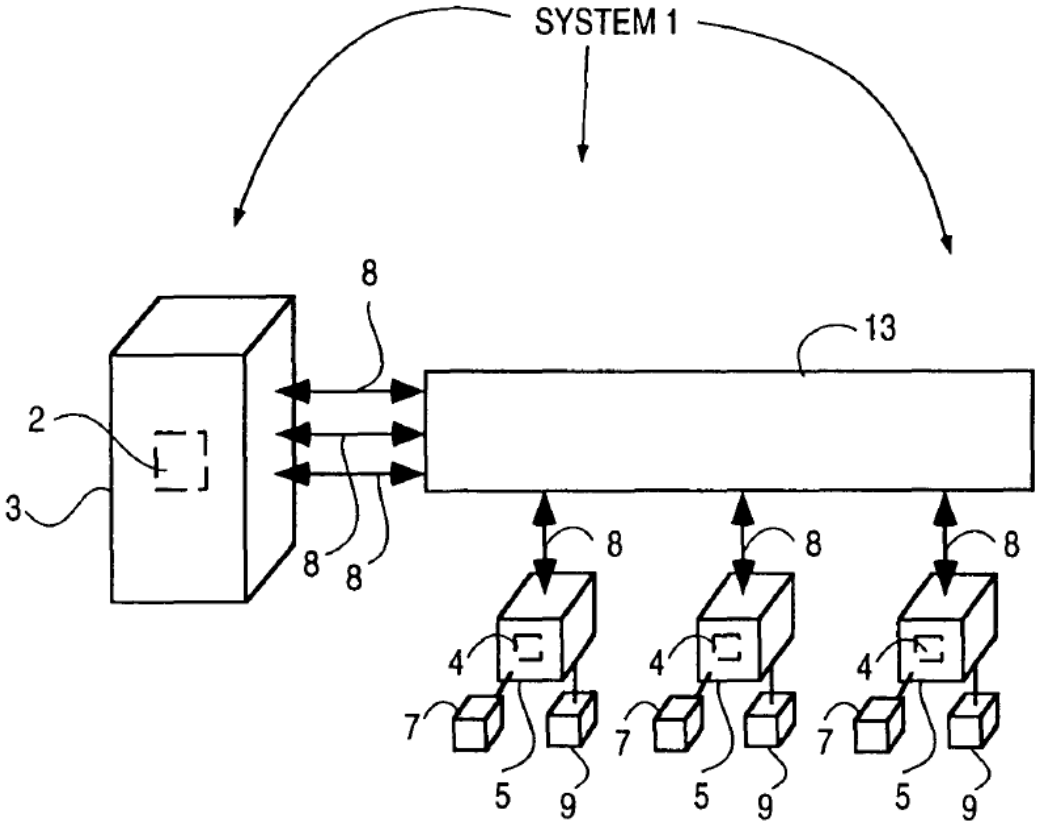

Figure 1 is a block diagram showing the components and data flow of a computerized human communication arbitrating and distributing system.

Id. at 4:36–40. The system includes controller computer 3 in communication with several participator computers 5 (e.g., IBM-compatible personal computers) over connection 13 (e.g., an Internet connection or a World Wide Web connection). *Id.* at 4:41–60.

Controller computer 3 runs under the control of controller software 2, and the software arbitrates, in accordance with predefined rules (including user identities), which participator computers 5 can interact in a group through the controller computer, and directs real-time data to the members of the group. *Id.* at 4:61–67. The software uses "identity tokens," or pieces of information associated with user identity, in the arbitration. *Id.* at 7:49–52. The tokens are stored in a memory in a control computer database along with personal information about the users. *Id.* at 7:52–57.

The arbitration can be used to control a user's ability to join or leave a group of participator computers, to moderate communications involving the group, and to see other users in the group. *Id.* at 7:62–8:6. Arbitration using tokens also can be used to perform censorship:

> Censorship, which broadly encompasses control of what is said in a group, is also arbitrated by means of the tokens. Censorship can control of access [sic] to system 1 by identity of the user, which is associated with the user's tokens. By checking the tokens, a user's access can be controlled per group, as well as in giving group priority, moderation privileges, etc.
>
> Censorship also can use the tokens for real time control of data (ascii, text, video, audio) from and to users, as well as control over multimedia URLs—quantity, type, and subject.

Id. at 8:11–19.

According to the specification, "[t]he present invention comprehends communicating all electrically communicable multimedia information as

Message 8, by such means as pointers, for example, URLs. URLs can point to pre-stored audio and video communications, which the Controller Computer 3 can fetch and communicate to the Participator Computers 5." *Id.* at 5:11–16.

Claims 189 and 465, reproduced below, are the only independent claims challenged in this proceeding:

> 189. A method of communicating via an Internet network by using a computer system including a controller computer and a database which serves as a repository of tokens for other programs to access, thereby affording information to each of a plurality of participator computers which are otherwise independent of each other, the method including:
>
> affording some of the information to a first of the participator computers via the Internet network, responsive to an authenticated first user identity;
>
> affording some of the information to a second of the participator computers via the Internet network, responsive to an authenticated second user identity; and
>
> determining whether the first user identity and the second user identity are able to form a group to send and to receive real-time communications; and
>
> determining whether the first user identity is individually censored from sending data in the communications, the data presenting at least one of a pointer, video, audio, a graphic, and multimedia by determining whether a respective at least one parameter corresponding to the first user identity has been determined by an other of the user identities; and
>
> if the user identities are able to form the group, forming the group and facilitating sending the communications that are not censored from the first participator computer to the second participator

computer, wherein the sending is in real time and via the Internet network, and wherein, for the communications which are received and which present an Internet URL, facilitating handling the Internet URL via the computer system so as to find content specified by the Internet URL and presenting the content at an output device of the second participator computer, and

if the first user identity is censored from the sending of the data, not allowing sending the data that is censored from the first participator computer to the second participator computer.

465. An Internet network communications system, the system including:

a computer system including a controller computer and a database which serves as a repository of tokens for other programs to access, thereby affording information to each of a plurality of participator computers which are otherwise independent of each other, the computer system in communication with a first of the participator computers responsive to a first authenticated user identity and with a second of the participator computers responsive to a second authenticated user identity, wherein the computer system

determines whether the first user identity and the second of the user identity are able to form a group to send and to receive real-time communications; and

determines whether the first user identity, is individually censored from sending data in the communications, the data presenting at least one of a pointer, video, audio, a graphic, and multimedia by determining whether a respective at least one parameter corresponding to the first user identity has been determined by an other of the user identities; and

> if the user identities are determined to be able to form the group, forms the group and facilitates sending the communications that are not censored from the first participator computer to the second participator computer, wherein the sending is in real time and via the Internet network, and wherein the computer system facilitates, for the communications which are received and which present an Internet URL, handling the Internet URL via the computer system so as to find content specified by the Internet URL and facilitates presenting the content at an output device of the second participator computer; and
>
> if the first user identity is censored from sending the data, does not facilitate sending the data that is censored from the first participator computer to the second participator computer.

II. ANALYSIS

A. Claim Construction

We interpret claims of an unexpired patent using the broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–45 (2016). Nevertheless, the '657 patent is expired. "[T]he Board's review of the claims of an expired patent is similar to that of a district court's review." *In re Rambus Inc.*, 694 F.3d 42, 46 (Fed. Cir. 2012) (citations omitted). District courts construe claims in accordance with their ordinary and customary meanings, as would be understood by a person of ordinary skill in the art, in the context of the specification. *See Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

1. Constructions in the Institution Decision

In the Institution Decision, we preliminarily construed the following terms (Dec. 7–13):

Claim Term	**Preliminary Construction**
"token"	"piece of information associated with user identity"
"database"	"a collection of logically related data"
"censor"	"control what is said in a group"
"the first user identity is individually censored from sending data"	refers to control of data sent by the at least one of the user identities, individually, and is not limited to data suppressed based on the content of those data or by a moderator

Patent Owner adopts our construction of "token" (which Petitioner initially proposed) PO Resp. 7–8, and challenges our construction of "database," *id.* at 8–12. Petitioner accepts our construction of "database" and presents arguments in favor of it. Reply 3–7. The parties do not address further our constructions of "censor" and "the first user identity is individually censored from sending data." We maintain our constructions of "token," "censor," and "the first user identity is individually censored from sending data" on the complete record. We address the construction of "database," below.[2]

[2] Although this decision analyzes the claims under the *Phillips* standard, in related proceedings, we reach substantially the same constructions of these claim terms under the broadest reasonable interpretation.

2. "database"

In the Petition, relying on Dr. Lavian's testimony, Petitioner argues that "[a] person of ordinary skill in the art would have understood the claimed 'database' to simply refer to a stored collection of tokens. The '657 patent does not require that the database be any particular type, such as relational." Pet. 18 (citing Ex. 1002 ¶ 50). Dr. Lavian, in turn, relies on the specification's description of tokens being "stored in memory in a control computer database, along with personal information about the user, such as the user's age." Ex. 1002 ¶ 50 (citing Ex. 1001, 7:52–54).

Patent Owner urges a construction that is narrower in two regards: (1) Patent Owner contends that a database is a collection of logically-related data "which is stored with persistence"; and (2) Patent Owner contends that a database includes "associated tools for interacting with the data such as a DBMS." PO Resp. 12.

Patent Owner's primary argument in favor of construing "database" to require these limitations is that it filed, in a related application before the Patent Office, an information disclosure statement (IDS) that supports its construction. *Id.* at 9–10 (citing Ex. 2008). The IDS was submitted to the Patent Office in pending application 14/246,965 on January 1, 2017, after Petitioner filed the Petition and shortly after we instituted this proceeding and preliminarily rejected Patent Owner's claim construction arguments. In the IDS, Patent Owner argued, *inter alia*, that "attention is respectfully drawn to the defendants' contentions[3] of invalidity in view of the database

[3] This appears to be a reference to invalidity contentions filed in a related district court proceeding.

and 'other programs' limitations that are common to all claims" and that "[b]ecause the database affords information to other programs and computers, it must store the data, such as the tokens, with persistence, such that tools can interact with the data such as a DBMS when providing the data to the participator computers of the authenticated users." Ex. 2008, 2. Patent Owner argues that we must accept its construction pursuant to *Verizon Services Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1306 (Fed. Cir. 2007), which held that, in some circumstances, a statement made by a patentee in the prosecution history of a related application can operate as a disclaimer, even if the disclaimer occurred after the patent-in-suit had issued. PO Resp. 9–10.

Although we doubt that the Federal Circuit intended that an IDS in a related application should be a vehicle for overturning a disadvantageous

claim construction in an adversarial proceeding,[4] we need not reach that issue. As the Federal Circuit also held, "[t]o operate as a disclaimer, the statement in the prosecution history must be clear and unambiguous, and constitute a clear disavowal of claim scope." *Verizon*, 503 F.3d at 1306. That is not the case here. The statements in Patent Owner's IDS are not in response to any rejection by the Examiner, do not accompany any amendments, and are not directed to any particular claims, other than a general statement that the statements apply to "all claims."[5] Ex. 2008, 2.

Although Patent Owner argues that the IDS "supports the construction that a database is limited" in the manner that it argues, Patent Owner does

[4] *See Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1270 (Fed. Cir. 1986) ("A citation may be made at 'any time' either during prosecution or, as here, after the patent has issued. If made during prosecution, it is clear that the statements may be considered for claim interpretation purposes, just as any other document submitted during prosecution. If submitted after issuance, the answer, again, is it may be considered. To say that it *may* be considered is not to say what *weight* statements in the Citation are to be accorded. For example, a Citation filed during litigation might very well contain merely self-serving statements which likely would be accorded no more weight than testimony of an interested witness or argument of counsel. Issues of evidentiary weight are resolved on the circumstances of each case."); *Phillips*, 415 F.3d at 1317 ("Like the specification, *the prosecution history provides evidence of how the PTO and the inventor understood the patent*. . . . Yet because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes." (emphasis added)).

[5] Adding to the ambiguity, it is not clear whether the IDS's reference to "all claims" refers to the claims in the pending application or the claims discussed in the defendants' contentions of invalidity to which the sentence is directed.

not contend that the IDS constitutes a disclaimer of any subject matter. PO Resp. 9. We find that the IDS does not contain a "'clear and unmistakable' disclaimer that would have been evident to one skilled in the art." *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1064 (Fed. Cir. 2016). Therefore, we are not persuaded that we should apply prosecution history disclaimer to limit the scope of the term "database."

Patent Owner also cites to the testimony of Dr. Carbonell that "[t]wo hallmarks of a database are (1) persistence of the data, and (2) interactivity with the data via a database management system (DBMS)." *Id.* at 10 (quoting Ex. 2005 ¶ 33). As Petitioner points out (Reply 1–2), Dr. Carbonell's testimony on this point appears to be a copy of the testimony of Dr. Bajaj, who submitted a declaration in support of Patent Owner's Preliminary Response (*compare* Ex. 2005 ¶ 33, *with* Ex. 2001 ¶ 20), although Dr. Carbonell testified that he was unaware of Dr. Bajaj's declaration (Ex. 1016, 132:2–12). In any case, as Petitioner points out, Dr. Carbonell marshals the same evidence that did not persuade us at the institution stage without adding any additional evidence or even acknowledging our concerns with Dr. Bajaj's evidence. Reply 2 n.1.

In particular, Patent Owner and Dr. Carbonell cite to the Macmillan Encyclopedia of Computers (Ex. 2004). PO Resp. 10–11; Carbonell Decl. ¶ 33. In the portion included in Exhibit 2004, The Macmillan Encyclopedia states that "[a] database system is a collection of related records stored in a manner that makes the storage and retrieval of the data very efficient. The four well-known data models for databases are the hierarchical, network, relational, and object-oriented models." Ex. 2004, 230. This definition does not require persistence and Patent Owner does not explain why persistence

should be inferred from this definition. Moreover, as we observed in the Institution Decision, the Macmillan definition is consistent with the definition of "database" given by the IEEE Dictionary of Standards Terms. *See* IEEE 100 THE AUTHORITATIVE DICTIONARY OF IEEE STANDARDS TERMS 268 (7th ed. 2000) ("**database (DB)** . . . A collection of logically related data stored together in one or more computerized files.") (Ex. 3001). This definition also does not require persistence. Although this dictionary was published several years after the filing date of the '657 patent, Dr. Lavian testifies that the plain and ordinary meaning of "database" did not change during this time. Ex. 1021 ¶ 11. In support of this testimony, Dr. Lavian cites to a 1991 textbook, which defines "database" as "a collection of interrelated data," yet another definition that does not require "persistence." *See* Ex. 1017, 5. Moreover, we observe that Patent Owner provides no boundaries for "stored with persistence" to meaningfully limit the term. For example, all data accessed and stored by a program while the program is executing has some level of "persistence."

As to a DBMS, Macmillan explains:

> A database management system (DBMS) is a software package. Its main functions are (1) to provide the facility to set up the database, (2) to retrieve and store source data (actual data in the database), (3) to retrieve and store the data about the structure of the database (data dictionary), (4) to provide the facilities to enforce security rules, (5) to back up the database, and (6) to control the concurrent transactions so that one user's environment is protected from others.

Ex. 2004, 231. Patent Owner characterizes the DBMS as "another criteria of a database" that provides interactive querying capability not present in "[s]tandard storage" in temporary or permanent memory. PO Resp. 10–11.

Dr. Carbonell repeats Patent Owner's arguments without citation to evidence and in testimony that largely copies that of Dr. Bajaj. Ex. 2005 ¶¶ 33–36; *see also* Ex. 2001 ¶¶ 20–23. Nevertheless, we read Macmillan to describe a DBMS as software that works with a database, rather than a part of a database or a component that necessarily accompanies a database. Dr. Carbonell's testimony, which does not identify its bases, adds little to Macmillan. *See* 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.").

Patent Owner also argues that the disclosure of the '657 patent imposes "persistence" and DBMS limitations on the claimed database because it describes the database as storing security information such as tokens for other programs to access. PO Resp. 12. Patent Owner does not provide a citation to the '657 patent in support of its argument. Nevertheless, Patent Owner argues, again without citation, that "[o]ne of ordinary skill in the art would have expected that this type of security feature would persist in a location other than in program memory so that other user programs could access the information." *Id.* Finally, Patent Owner argues that the '657 patent describes tokens stored in hierarchies, which, according to Patent Owner, "are typical of database storage organization, and natural schema when storing and managing access to diverse information." *Id.* None of these arguments supports reading persistence or a DBMS into the term "database." We note also that the other claim language, "serves as a repository of tokens for other programs to access," is a requirement we evaluate separately and do not read into the term "database."

As noted in the Institution Decision (at 10), the specification describes a database consistently with the Macmillan and IEEE definitions, explaining that tokens are "pieces of information associated with user identity," that tokens are "stored in memory in a control computer database, along with personal information about the user," and that "[i]n the database, the storage of tokens can be by user, group, and content." Ex. 1001, 7:52–58. The specification does not require a DBMS (or similar software) or impose a persistence requirement.

On the complete record, we maintain our construction of database, namely, "a collection of logically related data." This is the construction most consistent with both the intrinsic evidence and dictionary definitions. However, we note that Petitioner contends, and we find, that the prior art shows a database with persistence and associated tools for interacting with the stored data, as explained below.

B. Asserted Grounds of Unpatentability

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are "such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." We resolve the question of obviousness on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of

nonobviousness, i.e., secondary considerations.[6] *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

In an obviousness analysis, some reason must be shown as to why a person of ordinary skill would have combined or modified the prior art to achieve the patented invention. *See Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1374 (Fed. Cir. 2008). A reason to combine or modify the prior art may be found explicitly or implicitly in market forces; design incentives; the "interrelated teachings of multiple patents"; "any need or problem known in the field of endeavor at the time of invention and addressed by the patent"; and the background knowledge, creativity, and common sense of the person of ordinary skill. *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1328–29 (Fed. Cir. 2009) (quoting *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418–21 (2007)).

1. Level of Ordinary Skill

Neither party proposes a level of ordinary skill in the art. Nevertheless, both parties' experts testify to similar levels of skill. Specifically, Dr. Lavian testifies that a skilled artisan "would possess at least a bachelor's degree in electrical engineering or computer science (or equivalent degree or experience) with practical experience or coursework in the design or development of systems for network-based communication between computer systems." Ex. 1002 ¶ 13. For his part, Dr. Carbonell testifies that a skilled artisan "would have had a bachelor's degree in

[6] The record does not include arguments or evidence regarding objective indicia of nonobviousness.

computer science (or a related field) and at least one year of work experience in programming in computer communication methods" and notes that his "opinions herein would not change even if the person having ordinary skill in the art were to be found to have the level of skill proposed by Dr. Lavian." Ex. 2005 ¶ 18. We adopt Dr. Lavian's proposal, as it is consistent with the level of skill reflected in the prior art of record. Nevertheless, we discern no material difference between his proposal and that of Dr. Carbonell. Thus, our findings and conclusions would be the same under either proposal.

2. Scope and Content of the Prior Art

Petitioner contends that the challenged claims would have been obvious over Roseman, alone or in combination with Rissanen, Vetter, Pike, and Lichty. Pet. 5–6; '659 Pet. 9–10.

a. Overview of Roseman

Roseman describes a system for multimedia conferencing, in which parties are linked by both video and audio media. Ex. 1003, Abstract. In Roseman, a conference is represented visually as a common virtual conference table, in which each participant can place a document onto the table electronically, manipulate and write on the document, write on a virtual notepad, and move a pointer to draw other users' attention. *Id.* at 2:38–45, 7:55–8:37. Participants can see the events as they occur. *Id.* at 2:46–47. Figure 9, reproduced below, illustrates an example conference room:

FIG. 9

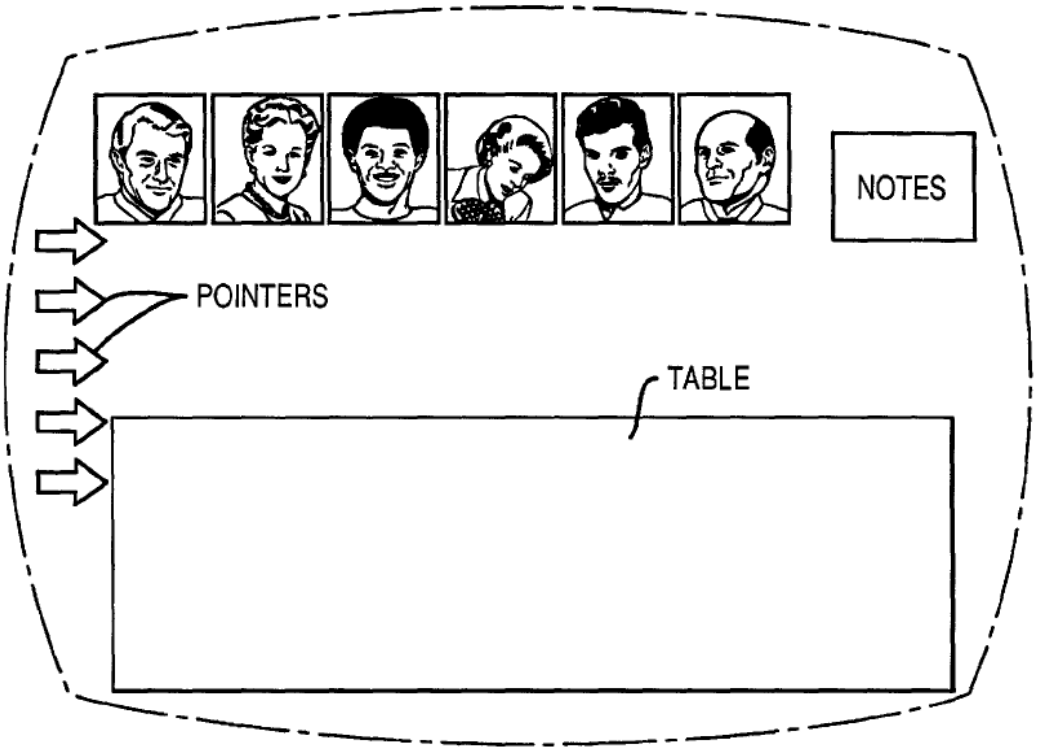

Figure 9 is a picture of a video screen that is generated by a host computer and distributed to all participants in a conference. *Id.* at 2:16–18.

The parties operate their own local computers (which include video cameras and speaker-type telephones) and, when a conference is established, connect to a host computer via commercially available local area networks ("LANs") and wide area networks ("WANs"). *Id.* at 1:34–41. In the conference, the host computer generates a common video screen (e.g., Figure 9, reproduced above) displayed at each of the local computers, and the parties send information, such as drawings, to be displayed on the common screen. *Id.* at 1:42–46. The telephones and video cameras allow the parties to see and speak with each other. *Id.* at 1:47–49.

Roseman includes a pseudo code appendix that details how its features are implemented. *Id.* at 12:66–13:2. According to the pseudo code, a participant interacts with the conference table, for example, by dragging an icon onto the table, which causes a data file to be transmitted to the host. *Id.* at 14:53–55. The host then transmits the icon to the table of each participant. *Id.* at 14:56–57. If another participant activates the icon, the host sends the open file to the tables of all participants. *Id.* at 14:58–61. If the participant drags the icon from the table to his own screen and activates the icon on his screen, the data file is presented to the participant. *Id.* at 14:62–66.

Roseman describes additional features, such as a party's ability to "whisper" to another party without being heard by others in the conference room, and the ability to "pass notes" by dragging a note to the picture of another party, while the other parties are unaware of the note. *Id.* at 9:16–31. Each room may also have "doors" to committee rooms or child-rooms. A child-room is created in the same way as a parent room and is dependent upon the parent room for access and existence. *Id.* at 10:18–23.

A meeting requester creates a conference by selecting the participants, the attributes of the virtual conference room (e.g., virtual equipment and room décor), and the rules of the conference (e.g., whether the requester has absolute control over voice and message interaction of the parties). *Id.* at 3:22–56. According to Roseman, "[t]he conference room itself is actually a combination of stored data and computer programs," the stored data can include conference proceedings, and "both the conference room and the proceedings of the conference have persistence in time." *Id.* at 12:16–25.

The meeting requester specifies a level for each invitation and compiles an invitation list. *Id.* at 9:34–36. Invitations include "keys" specifying the level, e.g., whether the invitation is for the invitee only or can be passed to a delegate or to anyone. *Id.* at 9:35–48. For example, "Level 1 keys may not be passed to any other person and may not be copied" while "Level 2 keys may be passed to exactly one other person and may not be copied." *Id.* at 9:42–45. According to Roseman, "[t]he meeting room 'knows' about each key and its invitation level. Persons with improper keys are not admitted to the room." *Id.* at 9:49–51. A key is distributed electronically as an object attached to the invitation. *Id.* at 9:54–55. To attend a meeting, a party walks a virtual "hallway" to the meeting room and opens the meeting room door by dropping the key onto a virtual "door lock." *Id.* at 10:30–32, 10:61–65. Moreover, the host "can automatically prevent filibustering" by "monitor[ing] the speech of each person, and plac[ing] a limit on the total time allowed to each person." *Id.* at 12:29–38.

b. Overview of Rissanen

Rissanen describes a system and method for validation of spoken passwords. Ex. 1004, 2:17–21. Rissanen's Background of the Invention discusses systems in which "business computer systems are arranged to initially record and store passwords assigned to users," a user is prompted for entry of a password, and "the system compares the keyboard entered password with the stored passwords and enables the user to access the system when the entered password matches the previously stored password." *Id.* at 1:21–28. In Rissanen's proposed solution, "[u]sers are initially entered into a password database stored in the computer system by assigning each

user an account code and a password, such as consisting of a number of numerical digits." *Id.* at 2:26–29.

Petitioner makes clear that "[a]lthough Rissanen also describes using spoken voice passwords, this Petition cites it for its more pedestrian teachings relating to database storage of passwords of any form." Pet. 11.

c. Overview of Vetter

Vetter is an IEEE Computer Society Magazine article discussing available tools for conducting teleconferencing over the Internet. According to Vetter, "[v]ideoconferences are becoming increasingly frequent on the Internet and are generating much research interest." Ex. 1005, 77. Vetter states that "the emerging multicast backbone (or MBone) can efficiently send traffic from a single source over the network to multiple recipients," and, "[a]t the same time, many workstations attached to the Internet are being equipped with video capture and sound cards to send and receive video and audio data streams." *Id.* Vetter concludes that "[t]he price/ performance of these hardware devices has finally reached a level that makes wide-scale deployment possible, which is perhaps the most important factor in the recent growth of videoconferencing applications." *Id.*

Vetter also describes challenges that faced implementation of audio, graphic, and video tools on the Internet, including "disturbing feedback when the microphones at multiple sites were left 'open' during a discussion," taking too much time to broadcast a simple graphic image to multiple participants when using "Whiteboard tools" (collaborative software tools that support a shared desktop whiteboard among a group of distributed users on the Internet), and use of video during a classroom presentation that

caused the workstations in the classroom lab to lock up. *Id.* at 78–79. Vetter also notes that the physical distance between two points on the Internet can be different from the electronic distance between those points. *Id.* at 79.

Vetter discusses in particular a CU-SeeMe platform from Cornell University that supported video and audio conferencing over the Internet, and a CU-SeeMe Reflector that allowed multiparty conferencing with CU-SeeMe. *Id.* at 78.

d. Overview of Pike

Pike is a reference and guide book for using the Web browser Mosaic. Ex. 1006, 2. Petitioner cites to Pike's discussion of URLs and hyperlinks. According to Pike, URLs were developed as a standard way of referencing items on the World Wide Web. *Id.* at 38. "A *URL* is a complete description of an item, containing the location of the item that you want to retrieve. The location of the item can range from a file on your local disk to a file on an Internet site halfway around the world." *Id.*

e. Overview of Lichty

Lichty is a book intended as a "tour guide" of America Online ("AOL"), an online email service, Internet gateway, and community. Ex. 1007, 1–3. Petitioner (Pet. 34) focuses on Lichty's description of AOL's real-time interactive "People Connection" feature. Ex. 1007, 251–78. People Connection includes chat rooms in which a user communicates with others by posting text messages to the other participants in a chat room. *Id.* at 252–55. Lichty describes, in particular, that a People Connection

interface includes an "Ignore" button. *Id.* at 268–69. According to Lichty, "[i]f you wish to exclude a member's comments (or those of all the members in a conversation in which you're not interested), select the member's name in the People in this Room window and click the Ignore button. From then on, that member's text will not appear on your screen." *Id.* at 269; *see also id.* at 510 (glossary definition of "Ignore—(1) Chat blinders; a way of blocking a member's chat from your view in a chat/conference room window. Ignore is most useful when the chat of another member becomes disruptive in the chat room.").

3. Claim 189, Differences Between the Claimed Subject Matter and the Prior Art, and Reasons to Modify or Combine

Petitioner contends that Roseman teaches each limitation of claim 189, but cites the remaining references for the following, should we determine that Roseman lacks such a teaching:

Rissanen for a teaching that tokens could have been stored in a database;

Vetter for a teaching that Roseman's communications could have been over the Internet;

Pike for a teaching of URLs; and

Lichty for a teaching of content filtering, in particular an "ignore" feature, which Petitioner equates to "censoring."

Pet. 6; '659 Pet. 9–10.

> *a. "A method of communicating via an Internet network by using a computer system including a controller computer and a database which serves as a repository of tokens for other programs to access, thereby affording information to each of a plurality of participator computers which are otherwise independent of each other"*

Petitioner contends that Roseman's host computer is a controller computer. Pet. 15. Petitioner identifies Roseman's local computers as independent participator computers and argues that Roseman's various ways of communicating information (placing documents on a virtual table, shared notes, whisper conversations) are examples of affording information to those participator computers. Pet. 14–15, 23–24. As detailed above, Roseman describes a system in which individual computers are connected to a central host computer via a combination of LANs and WANs. Ex. 1003, 3:14–19. According to Roseman, "[t]he host controls many of the events occurring during the conference, as well as those occurring both during initiation of the conference and after termination of the proceedings." *Id.* at 1:50–52. We find that Roseman's host computer is a "controller computer," that Roseman's local computers are "participator computers," and that Roseman's various ways of communicating information from the host to the local computers are examples of "affording information to each of a plurality of participator computers which are otherwise independent of each other," as recited in claim 189.[7]

[7] Patent Owner argues that "Petitioner does not address the issue that the **database** affords information to each of a plurality of computers." PO Resp. 20. Claim 189, however, does not recite that the database affords information to the plurality of computers.

The parties dispute whether Roseman describes "a database which serves as a repository of tokens for other programs to access." First, Petitioner contends that Roseman's "keys" are tokens. Pet. 15–16. As explained above, the parties agree that a "token" is "a piece of information associated with user identity." As also explained above, Roseman describes that an invitor, in setting up a meeting, creates an invitation that includes a key that conforms to an invitation level. Ex. 1003, 9:34–48. A key "is an electronic object attached to the invitation." *Id.* at 9:54–55. The "level" of a key determines who can use it. For example, "Level 1 keys may not be passed to any other person and may not be copied." *Id.* at 9:42–44. According to Roseman, "[t]o open a door with a key, the user drops the key onto the door lock. If the key is valid and the user has the authority to use the key, the door opens and the user is admitted to the room." *Id.* at 10:61–64. Petitioner argues that this evidence shows that Roseman's keys are "pieces of information associated with a user identity," and thus, are "tokens." Pet. 17.

Patent Owner argues that Roseman's keys are not tokens because they are associated only with conference rooms, rather than user identities. PO Resp. 18. Patent Owner points to Roseman's Figure 8, which shows a key associated with "CONFERENCE ROOM 17L (DATE, TIME)." *Id.* In describing Figure 8, however, Roseman explains "the key is, essentially, a block of data, or a code," that can be used if the Invitee may send a delegate, to give the Absentee-Invitee a "key," which enables access to the meeting. Ex. 1003, 6:54–61. "The Requester can leave the key in his local computer, in the form of an icon residing on the display, as shown in FIG. 8. Anyone entering the office can use the key." Ex. 1003, 6:60–63. In this example,

the key can be used only with a particular user's computer. Figure 8 also shows the "key" icon contained within a "vault" icon. *Id.* at 6:64–65. In this example,

> a user must use a "combination" to the "vault" to obtain the "key." In this latter example, the [] "combination" (ie, a pass-code) is obtained from the Absentee-Invitee in some appropriate way. At conference time, the Delegate opens the "vault," obtains the "key," and enters the conference room, by using the key.

Id. at 6:65–7:3. Patent Owner argues that Roseman's keys are "transferable to anyone—like a key to a door lock." PO Resp. 18. Patent Owner contends that Roseman teaches away from keys being associated with a specific user through its description that "***[k]eys may be copied and redistributed, if permitted***, or sent to another individual, if permitted." PO Resp., 18–19 (quoting Ex. 1003, 9:55–57) (emphasis by Patent Owner).

Patent Owner's arguments are not persuasive. Roseman describes keys that are transferable (Level 2 and 3 keys) and keys that are not transferable (Level 1 keys). Ex. 1003, 9:42–48. Petitioner's contentions (Pet. 17) are directed to Level 1 keys, which "may not be passed to any other person and may not be copied." *Id.* at 9:43–44. We find that keys that may not be passed to any other person are keys associated with that person. Figure 8 of Roseman is consistent with this because it describes passing a key to an "Absentee-Invitee" when the Invitee sends a delegate, i.e., a Level 2 key.

As to Level 1 keys, Patent Owner argues that a key is merely an attachment to an invitation, which "offers the only suggestion of an association with specific invitee." PO Resp. 19. Dr. Carbonell testifies (without identifying a basis) that Roseman's system could prevent the

transfer of a key using a "no-transfer or no-duplication policy of such a key to insure that [it] always stays in the possession of the first user," by making transferability an attribute of the key and having the system simply assume, without recording transfers, that a user in possession of a key is authorized to use it. Ex. 2005 ¶ 31. As Petitioner argues, however, the claim construction to which Patent Owner agreed does not require an association between a key and a user to be implemented in a certain way. Reply 16. Even if Dr. Carbonell is correct as to how Roseman's keys would be implemented, such a non-transferable key would still be associated with the person who is prevented from transferring it.

Petitioner further argues that Roseman discloses storing keys in "a database which serves as a repository of tokens," as recited in claim 189, because a meeting room that is accessed by a key "'knows' about each key and its invitation level." Pet. 17–18 (quoting Ex. 1003, 9:49–51). According to Petitioner, a copy of each key must be stored on the host computer for the meeting room to "know" about each key. *Id.* at 18. Petitioner argues that a skilled artisan would have understood a database to be a stored collection of tokens. *Id.* Roseman does not expressly describe storing tokens in a database. Thus, we understand Petitioner to argue that tokens necessarily are stored in a database in light of Petitioner's cited disclosure—in other words, that a database is inherent in Roseman.

Patent Owner, relying on Dr. Carbonell's testimony, argues that a meeting room's knowledge of a key could be implemented using a hash function, which would not have required storage of the key in a database. PO Resp. 20–21 (citing Ex. 2005 ¶ 40). Petitioner characterizes Patent Owner's argument as "based on pure speculation and conjecture" and

inconsistent with Roseman's disclosure. Reply 11–12. Nevertheless, we view both parties' respective theories of Roseman's implementation as speculation. Because Petitioner's position is speculative, it is insufficient to show that a database is inherent in Roseman.[8]

In the alternative, Petitioner argues that Rissanen teaches storing user authentication information, such as user identity information and passwords, in a database, and that such teaching would have been applicable to the keys of Roseman. Pet. 18–20. Petitioner argues that Roseman's keys are analogous to user identity and passwords. *Id.* at 19. Petitioner further argues that storing keys in a database is one of a finite number of known solutions for verifying whether a previously issued key matches to a key later presented by a user to access a conference room. *Id.* at 20 (citing Ex. 1002 ¶¶ 52–53).

Patent Owner admits that "[Rissanen] does disclose a database," but argues that its database is used in a different type of system. PO Resp. 22. Thus, Patent Owner does not contest that Rissanen's database stores user identities and passwords in a persistent manner and is used in conjunction with tools such as a DBMS. For Petitioner, Dr. Lavian testifies that "Rissanen clearly discloses a relational database whose data is stored

[8] Patent Owner also argues that Roseman does not suggest storing keys in a manner that is persistent and does not disclose tools such as a DBMS. PO Resp. 21–22. Roseman does teach that the data associated with its conference rooms is stored in a manner that is persistent, Ex. 1003, 12:16–28, and this at least suggests that keys also would be stored in such a manner. As to a DBMS, we explain above that the construction of "database" does not require this feature. Nevertheless, as explained below, Rissanen teaches a database even under Patent Owner's proposed construction.

persistently and includes tools for interacting with the data such as a DBMS." Ex. 1021 ¶ 37. We find that Rissanen teaches a database that stores data with persistence and tools for interacting with the database.

Nevertheless, Patent Owner argues "[i]f one were going to combine Roseman and Rissenan in order to authenticate an individual (and not merely authenticate a key for a room) the necessary logic would be significantly more complicated." PO Resp. 22. Petitioner does not argue, however, that Rissanen's database would be bodily incorporated into Roseman's system. Rather, Petitioner argues that Rissanen teaches storing data "analogous to and serv[ing] the same purpose as" the keys in Roseman in a database. Pet. 19. *See In re Mouttet*, 686 F.3d 1322, 1332–33 (Fed. Cir. 2012) ("It is well-established that a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements. . . . Rather, the test for obviousness is what the combined teachings of the references would have suggested to those having ordinary skill in the art."). Given that Roseman describes using keys to access conference rooms that have persistence, we agree with Petitioner that a database, described in Rissanen as storing similar information for a similar purpose, would be a straightforward and predictable choice for storing Roseman's keys.

The parties also dispute whether Roseman and Rissanen teach that the database "serves as a repository of tokens *for other programs to access*, thereby affording information to each of a plurality of participator computers," as recited in claim 189. Petitioner argues that other programs access the stored collection of tokens, including the various meeting or conference rooms maintained on the host computer. Pet. 20–21. Petitioner

relies on disclosure in Roseman that a meeting room is accessible from a virtual hallway with doors to other meeting rooms. *Id.* (citing Ex. 1003, 9:63–65). According to Petitioner, "[e]ach meeting room . . . contains a number of computer programs, and each meeting room itself can be thought of as a program. These programs access the repository of keys when a user presents a key to obtain access to a conference room." *Id.* at 21.

Patent Owner argues that "Petitioner does not identify any programs that could access a database of tokens and receive information, other than the singular conference calling software running on the host computer of Roseman." PO Resp. 24. According to Patent Owner, "to the extent that there are multiple conference rooms in existence is because the Roseman system has instantiated the same conference room program with different parameters as there is no suggestion that there is different software associated with each conference room." *Id.* Patent Owner does not explain why "other programs" require different software rather than different instantiations of the same software, or point to evidence supporting this view. We are not persuaded that the claims should be limited in this way. Nevertheless, as Petitioner points out (Reply 18), Roseman characterizes its conference rooms as collections of different programs (Ex. 1003, 12:16–18) and makes clear that different conference rooms will have different attributes (different virtual equipment, different tools, different appearances, etc.) (*id.* at 3:42–50, 10:9–12). We find that Roseman at least suggests different conference rooms with different programs, even under Patent Owner's view. These programs determine whether a participant can join a meeting room based on evaluations of keys that, in light of Rissanen, would have been stored in a database. Thus, we find that Roseman and Rissanen

teach "a database which serves as a repository of tokens for other programs to access," as recited in claim 189.

The parties also dispute whether Roseman and Vetter teach "communicating via an Internet network," as recited in claim 189. As explained above, Roseman describes communicating between a host and local computers via commercially available LANs and WANs. Ex. 1003, 1:37–41, 3:14–19. Petitioner contends that a skilled artisan would have understood the Internet to be an example of the commercially available WAN described in Roseman. Pet. 24, 26; Ex. 1002 ¶¶ 53–64. According to Dr. Lavian, "a person of ordinary skill in the art would have recognized the Internet as one of the largest networks for connecting remote computers (if not the largest), making it the obvious Wide Area Network (WAN) for use with Roseman to connect the host and participant computers." Ex. 1002 ¶ 63; *see also* Ex. 2006 (Lavian Dep.), 104:12–105:23 ("Q So Roseman could have been implemented in that 1994 to '96 time frame with ATM technology? A If I'm looking at the specification of Roseman and what specifically Roseman disclose, it disclose as using a -- local computers become connected to host computer via commercially available Local Area Networks and Wide Area Networks. When you're talking about Local Area Networks and Wide Area Networks, this is the Internet. That's different name to Internet. Q So you're saying that Roseman by itself teaches the Internet? A Roseman by itself reference to remote computers commercially available, commercially available that said Internet. Local Area Networks, definitely part of the Internet. Wide Area Networks, different name to the Internet. It's actually the Internet itself. . . .").

Petitioner further argues that Vetter teaches using the Internet to facilitate the same types of computer-based conferencing functions as described in Roseman. Pet. 24–25. Petitioner contends that Vetter itself identifies a reason to combine the teachings of Roseman and Vetter, namely "[v]ideoconferences are becoming increasingly frequent on the Internet" and the CU-SeeMe videoconferencing tool described in Vetter "is also becoming very popular." *Id.* at 25–26 (quoting Ex. 1005, 77 (emphases by Petitioner)).

Patent Owner argues that Vetter does not state that Internet videoconferencing would have been ubiquitous at the time of the invention; rather, Patent Owner argues, the Internet was beginning to support video conferencing. PO Resp. 26. Patent Owner further argues that Vetter discusses difficulties in applying videoconferencing on the Internet, including feedback when participants leave their microphones on, degraded performance when broadcasting simple graphic images, workstations that locked up in a classroom when video streams overwhelmed a network, and counter-intuitive paths that data can take when travelling from one site to another. *Id.* at 26–27 (citing Ex. 1005, 78–79). Dr. Carbonell testifies (without citation) that video traffic on the Internet would experience unpredictable delay that would interfere with re-assembling video streams at the receiving end in real time. Ex. 2005 ¶ 59. Dr. Carbonell testifies (again without citation to evidence) that one would not experience these problems on a private WAN because such a network would be of a more predictable configuration. *Id.* ¶ 61.

Patent Owner also points to a half-page article in a technical magazine by Robert Metcalfe, founder of 3Com, "[p]redicting the Internet's catastrophic collapse" at the end of 1995 due to reasons such as low user

measurements, telecom company monopolies, and security and capacity concerns. PO Resp. 27–28 (quoting Ex. 2009). We agree with Petitioner, however, that "the incorrect prediction of a single individual would not have discouraged (and did not discourage) the industry from using the Internet." Reply 8. Patent Owner offers no persuasive evidence that Dr. Metcalfe's views were shared widely, or at all, by skilled artisans in 1995. Indeed, the article itself suggests the contrary. Ex. 2009 ("Almost all of the many predictions now being made about 1996 hinge on the Internet's continuing exponential growth.").

Citing Dr. Metcalfe's article, Dr. Carbonell testifies that other technologies such as Integrated Services Digital Network (ISDN) and Asynchronous Transfer Mode (ATM) would have been better suited than the Internet to handle video conferencing in the mid-1990's. Ex. 2005 ¶ 60. As explained above, Patent Owner has not explained persuasively why Dr. Metcalfe's magazine article is representative of the views of a skilled artisan. The article itself does not state that there were, or identify evidence of, technologies better suited than the Internet to handle videoconferencing. Ex. 2009. Thus, we are not persuaded that the Internet would have been an inferior technology for videoconferencing in 1995. Moreover, claim 189 on its face does not require videoconferencing. In any case, the Federal Circuit has explained that "just because better alternatives exist in the prior art does not mean that an inferior combination is inapt for obviousness purposes." *Mouttet*, 686 F.3d at 1334.

Roseman expressly states that its local computers and host communicate via a commercially available WAN. We credit Dr. Lavian's testimony that, to the extent that this is not an express reference to the

Internet, the most suitable and obvious commercially available WAN would have been the Internet. We also find that Vetter suggests using the Internet for purposes similar to those of Roseman. Vetter describes an example in which features such as audio, video, and virtual whiteboard tools are used to conference over the Internet. Ex. 1005, 77–78. Thus, to the extent Roseman does not expressly suggest using the Internet, Vetter includes an express suggestion to update a system such as Roseman using modern electronic components, such as the Internet, to gain the commonly understood benefits of such adaptation. *See Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007); *cf., Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1326–27 (Fed. Cir. 2008) ("The record in this case demonstrates that adapting existing electronic processes to incorporate modern internet and web browser technology was similarly commonplace at the time the '099 patent application was filed."). Vetter reinforces our finding that the Internet would have been the most suitable commercially available WAN for use in Roseman's system.

To be sure, Vetter discusses challenges encountered in implementing videoconferencing on the Internet, but Vetter also teaches that existing tools can be tailored to specific applications on the Internet "so that their limitations can be *promptly recognized and corrected*." Ex. 1005, 79 (emphasis added). The Federal Circuit has recognized that "a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine." *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006). We find that addressing the challenges discussed in Vetter would have been well within the skill of an ordinarily skilled artisan, an engineer experienced in computer

networking. Thus, we find that Roseman, Rissanen, and Vetter teach "[a] method of communicating via an Internet network" as recited in claim 189.

In sum, we find that the combination of Roseman, Rissanen, and Vetter teaches "[a] method of communicating via an Internet network by using a computer system including a controller computer and a database which serves as a repository of tokens for other programs to access, thereby affording information to each of a plurality of participator computers which are otherwise independent of each other," as recited in claim 189.

b. "affording some of the information to a first of the participator computers via the Internet network, responsive to an authenticated first user identity; affording some of the information to a second of the participator computers via the Internet network, responsive to an authenticated second user identity"

As explained above, Roseman describes admitting participants into a conference room when the participants present keys. Ex. 1003, 10:61–65. We find that this teaches "an authenticated first user identity" and "an authenticated second user identity." Additionally, Roseman describes various ways of affording information to local computers of users admitted to the conference room, including as follows:

> Objects (documents) can be shared in the conference room by placing them on the table. This might be done by dragging an icon of the object from the outside (users non-"meeting room" windows) onto the table. Ownership of the object is still maintained. If the object owner wishes, the object may be copied, borrowed by other users, or given to other users. The object may be altered (changed, annotated) by anyone with permission to do so.

Id. at 11:18–26. *See also* Pet. 28–30. As explained in Section II.B.3.a above, Roseman and Vetter teach that such communications can be via an Internet network.

Accordingly, we find that Roseman and Vetter teach these limitations of claim 189. We note that Patent Owner does not contest that Roseman and Vetter teach these limitations.

> *c. "determining whether the first user identity and the second user identity are able to form a group to send and to receive real-time communications" and*
>
> *"if the user identities are able to form the group, forming the group and facilitating sending the communications that are not censored from the first participator computer to the second participator computer, wherein the sending is in real time and via the Internet network"*

Petitioner contends that Roseman describes several examples of determining whether user identities are able to form groups. Pet. 32–33, 44. Petitioner argues that a host computer uses keys to determine whether users can form a group conference in a conference room. *Id.* at 32. Petitioner also argues that a host can form a "child room" in the same manner. *Id.* Petitioner also points to Roseman's "Whisper Mode" and private note passing features as examples of groups. *Id.* at 32–33. We agree with Petitioner that each of these is an example of Roseman's host computer determining whether multiple user identities are able to form a group.

Petitioner contends that communications in one of Roseman's conference rooms, such as placing documents on a table, drawing on a document, and moving a pointer, take place in real time because they are

communicated to participants as the underlying events occur. *Id.* at 33–34, 45–46. For example, Roseman explains:

> In the invention, the participants share a common virtual conference table. Each participant can
>
> (1) place a document onto the table electronically,
>
> (2) write on the document, draw on it, and otherwise manipulate it, and
>
> (3) move a pointer to different positions on the document, to point to specific parts of it.
>
> All other participants see the [] preceding three events as they occur.

Ex. 1003, 2:38–47. We find that these are specific examples in Roseman of real-time communications sent and received by the participator computers in a group.

As explained in Section II.B.3.a above, Roseman and Vetter teach that such communications can be via an Internet network.

Thus, we find that Roseman and Vetter teach these limitations of claim 189. We note that Patent Owner does not contest that Roseman and Vetter teach these limitations.

> d. *"determining whether the first user identity is individually censored from sending data in the communications, the data presenting at least one of a pointer, video, audio, a graphic, and multimedia by determining whether a respective at least one parameter corresponding to the first user identity has been determined by an other of the user identities" and*
>
> *"if the first user identity is censored from the sending of the data, not allowing sending the data that is censored from the first participator computer to the second participator computer"*

Petitioner argues that Roseman describes several examples of presenting data of different types, including:

a *pointer*: Ex. 1003, 14:53–62 (description of a user placing a file onto a virtual conference table, the host sending an icon (pointer) representing that file to the other participator computers in the group, and a participant clicking on the icon, causing the host computer to present the file to all participants);

audio and video: *id.* at 11:11–16 ("Audio and video connections are made if supported by the user, the room and the other users. A small picture of each user is displayed in the meeting room to indicate presence. If video links are enabled than [sic] the picture may be replaced with a video signal from the user, typically showing the user.");

graphic: *id.* at 8:1–4 ("Each Invitee can transmit a file (of any suitable kind: data, text, or graphic) to the host, and the host will place the file onto the table, where all participants can see it.");

multimedia: *id.* at Abstract (discussing "'multi-media' conferencing").

Pet. 35–36, 38–40. We agree that these are specific examples of data presenting at least one of a pointer, video, audio, a graphic, and multimedia.

As to "determining whether the first user identity is individually censored from sending data in the communications," as recited in claim 189, Petitioner contends that Roseman's host computer can act as a "moderator" to regulate when and/or how long participants can speak during a conference. Pet. 41–42. Specifically, Roseman describes the following:

> 11. Host Can Act as Moderator. The Requestor may wish to hold a conference wherein ideas are freely exchanged among the participants. It is possible that this intent can be defeated by an aggressive person who dominates the conference, and, in effect, maintains a "filibuster."
>
> The host can automatically prevent filibustering, in several ways. One, the host can monitor the speech of each person, and place a limit on the total time allowed to each person. The limit can be overriden by the Requester, or by a vote taken by the host of the other participants.
>
> Two, while one participant is speaking, the host can monitor the audio input of the other participants. The host looks for instances when the speaker refuses to stop talking when the other participants speak. When the host finds such instances, the host issues a message to all participants stating that a filibuster appears to be occurring, and requests a vote as to whether to allow the filibuster to continue.

Ex. 1003, 12:29–45. We find that this is an example of "determining whether the first user identity is individually censored from sending data in the communications . . . by determining whether a respective at least one parameter corresponding to the first user identity has been determined by an other of the user identities." Here, the first user identity is the party seeking to filibuster and the other of the user identities can be the requestor or the other participants who vote.

Petitioner also argues that Lichty teaches censoring. Pet. 42. In particular, Petitioner points to the "Ignore" button of Lichty's user interface. *Id.* Petitioner contends that a first member pressing the ignore button is "an other of the user identities" and the party the first member chooses to ignore corresponds to "the user identity" of claim 189. *Id.* Petitioner argues that both Roseman and Lichty state essentially the same reason for their respective moderator and "ignore" features, namely solving the common problem of dealing with potentially unwanted communications from conference participants. *Id.* at 43–44; *see also* Ex. 1003, 12:29–33 ("The requestor may wish to hold a conference wherein ideas are freely exchanged among the participants. It is possible that this intent can be defeated by an aggressive person who dominates the conference, and, in effect, maintains a 'filibuster.'"); Ex. 1007, 510 ("Ignore is most useful when the chat of another member becomes disruptive in the chat room."). Petitioner argues that Lichty's solution would be equally applicable to Roseman. Pet. 44. We agree with Petitioner that Lichty teaches another example of "determining whether the first user identity is individually censored from sending data in the communications . . . by determining whether a respective at least one parameter corresponding to the first user identity has been determined by an other of the user identities." We find that Lichty's "ignore" feature would have been a predictable solution for the common problem described in both Roseman and Lichty, namely, dealing with unwanted communications from disruptive users.

On the complete record, we find that Roseman and Lichty teach these limitations of claim 189. We note that Patent Owner does not contest that Roseman and Lichty teach these limitations.

> *e. "wherein, for the communications which are received and which present an Internet URL, facilitating handling the Internet URL via the computer system so as to find content specified by the Internet URL and presenting the content at an output device of the second participator computer"*

Petitioner contends that Roseman teaches sending a document from a first participator computer to a second participator computer by using a document icon that the host computer places on a virtual conference table for retrieval by the second participator computer. Pet. 41–42. Petitioner contends that Pike provides a teaching of "basic and familiar Internet concepts, such as hypertext links and URLs." *Id.* at. 36. Petitioner argues that it would have been obvious to combine this teaching with the teachings of Roseman and Vetter, with the predictable result that Roseman's clickable icons include URLs to identify the location of the corresponding document on the host computer. *Id.* at 37. Petitioner argues that a person of ordinary skill would have known that this would be advantageous as it would alleviate a need to communicate the file content itself from the host computer to the participant computer unless requested by the participant. *Id.* at 37–38. As explained in detail above, it would have been obvious to implement Roseman's system to communicate over the Internet. We find that it would have been straightforward and obvious to implement Roseman's icon as a URL, as Pike illustrates that it was well-known to implement pointers as URLs when communicating over the Internet. Ex. 1006, 43.

On this record, we are persuaded that Petitioner's evidence supports a finding that Roseman teaches this limitation of claim 189. We note that

Patent Owner does not contest that Roseman, Vetter, and Pike teach this limitation.

4. Claim 465

Petitioner contends that independent claim 465 recites an apparatus with limitations that are substantially similar to the steps of claim 189. Pet. 53. Petitioner shows in a claim chart where each limitation of claim 465 overlaps with claim 189. *Id.* at 54–55. Petitioner argues that claim 465 would have been obvious for the same reasons given for claim 189. *Id.* at 55–56. Patent Owner does not advance any additional arguments for claim 465. PO Resp. 30–31. We agree with Petitioner's identification of overlap and find that claim 465 is taught by Roseman, Rissanen, Vetter, and Lichty for the reasons given for claim 189, above.

5. Intermediate Claims 202, 208, 214, 220 and Challenged Claims 203, 209, 215, 221

Petitioner challenges dependent claims 203, 209, 215, and 221, which depend indirectly from challenged claim 189. '659 Pet. 6. The challenged dependent claims depend directly from claims 202, 208, 214, and 220, respectively, which are not challenged. Nevertheless, to determine the patentability of claims 203, 209, 215, and 221, we must evaluate unchallenged intermediate claims 202, 208, 214, and 220.

Claims 202, 208, 214, and 220 recite "wherein the determining whether the first user identity is censored includes determining that the first user identity is censored from the sending of," respectively:

"the data presenting the video" (claim 202);

"the data presenting the audio" (claim 208);

"the data presenting the graphic" (claim 214); and

"the data presenting the multimedia" (claim 220).

Petitioner makes essentially the same argument for each of these claims. For example, for claim 202, Petitioner refers to examples of communicating video that it presented for the limitation of claim 189, "determining whether the first user identity is individually censored from sending data in the communications, the data presenting at least one of a pointer, video, audio, a graphic, and multimedia,"[9] and incorporates the arguments it presents for claim 189[d] to show censoring. Pet. 51–52; s*ee also id.* at 57–61 (similar arguments for claims 208, 214, and 220).

Patent Owner argues that "Lichty merely discloses ignoring a user, not specifically excluding video, audio, graphic or multimedia from being presented to a certain identity" and that "Lichty excludes a user, not content or data from being presented." Supp. PO Resp. 9–10. Patent Owner also argues that "Petitioner's assertion that the same reasoning from limitation 189[d] applies to the present limitations is incorrect for at least the reason that 189[d] fails to apply to the level of particularity of claims 202, 208, 214, and 220, and thus Petitioner fails to address each and every limitation of the claims." Supp. PO Resp. 10.

In reply, Petitioner argues that "[t]he Petition cited Lichty for its disclosure of its censoring feature, and relied on the host in Roseman to carry out the other features of the claim, including the transmission of video, audio, content, graphic or multimedia content" and that "under the

[9] Petitioner refers to this limitation as limitation "189[d]."

combination of Roseman and Lichty, when a first user is blocked from sending data to a second user via the censoring features of Lichty, that user is blocked from sending video, audio, graphic or multimedia content, whatever the case may be." Reply 7. In other words, Petitioner argues that, by censoring a user from sending any content, the user effectively is censored from sending individual types of content, including video, audio, graphic, or multimedia, even if there is no determination specific to the type of content. Petitioner does not contend that Roseman and Lichty teach making a determination as to whether a user can send data based on the type of data the user seeks to send. For example, Petitioner does not contend that Roseman and Lichty teach censoring a user from sending video data, but permitting the user to send audio data.

Claim 189 recites "determining whether the first user identity is individually censored from sending data in the communications, the data presenting at least one of a pointer, video, audio, a graphic, and multimedia." On its face, claim 189 does not require a determination that the user is censored from sending a particular type of data. Rather, claim 189 recites determining whether the user identity is censored from sending data. Claims 202, 208, 214, and 220, however, more narrowly recite determining whether the first user identity is censored from sending particular types of data. Claim 202, for example, recites "determining that the first user identity is censored from the sending of the data presenting the video." Claim 202, thus, positively recites a determination of censorship based on data type. Contrary to Petitioner's reading, claim 202 recites more than just a result of a general censorship of all data sent by the user. Claims 208 (audio), 214

(graphic), and 220 (multimedia) similarly recite determination of censorship based on data type.

In Section II.A.1 above, we construe "censor," by itself, to mean "control what is said in a group," and "the first user identity is individually censored from sending data," as recited in claim 189, to refer to control of data sent by the at least one of the user identities, individually. Nevertheless, claims 202, 208, 214, and 220 include additional language reciting determinations based on data type. This is consistent with the description in the specification that "[c]ensorship also can use the tokens for real time control of data (ascii, text, video, audio) from and to users, as well as control over multimedia URLs—quantity, type, and subject." Ex. 1001, 8:17–19.

As explained above, Roseman describes censoring users from sending all communications based on a determination that the user is conducting a filibuster. Ex. 1003, 12:29–45. Petitioner points to no description in Roseman of determining that a user is censored from sending a particular type of data—it is all or nothing. Likewise, Lichty describes an ignore feature for blocking all communications from a disruptive user, regardless of data type—again, all or nothing. Ex. 1007, 269, 510. We find that Roseman and Lichty do not teach determining that a user is censored from sending certain types of data.

In sum, Petitioner has not shown that Roseman, Rissanen, Vetter, Lichty, and Pike teach the limitations of intermediate claims 202, 208, 214, and 220. Accordingly, Petitioner has not shown by a preponderance of the evidence that Roseman, Rissanen, Vetter, Lichty, and Pike render obvious claims 203, 209, 215, and 221.

6. Intermediate Claims 476, 481, 486, 491

Petitioner challenges independent claim 465 and dependent claims 477, 482, 487, and 492, which depend indirectly from claim 465. '659 Pet. 6. The challenged dependent claims depend directly from claims 476, 481, 486, and 491, respectively, which are not challenged. Nevertheless, to determine the patentability of claims 477, 482, 487, and 492, we must evaluate unchallenged intermediate claims 476, 481, 486, and 491.

Claim 476 recites "wherein data presents the video"; claim 481 recites "wherein the data presents the audio"; claim 486 recites "wherein the data presents the graphic"; and claim 491 recites "wherein the data presents the multimedia." For the reasons given in Section II.B.3.d above, we find that Roseman teaches examples of the data presenting video, audio, graphics, and multimedia. Thus, Roseman teaches the additional limitations of claims 476, 481, 486, and 491. We note that Patent Owner does not raise any additional arguments for these claims.

7. Claims 334, 477, 482, 487, 492, 580 ("two client software alternatives")

Claim 334 depends from claim 189 and adds

> wherein the computer system provides access via any of two client software alternatives, wherein both of the client software alternatives allow respective user identities to be recognized and allow at least some of the participator computers to form at least one group in which members can send communications and receive communications.

Claim 580 depends from claim 465 and recites the same limitation. Claims 477, 482, 487, and 492 depend from intermediate claims 476, 481, 486, and 491, respectively, and recite substantially the same limitation.

In the Institution Decision, we determined that the claim language "the computer system provides access via any of two client software alternatives" refers to separate software platforms implementing user interfaces on two different participator computers, with both providing access to the control computer. Dec. 34. This is the reading most consistent with the '657 patent's description. Ex. 1001, 2:25–31 ("Participator software runs on each of the participator computers to program each of the participator computers to operate a user interface. The user interface permits one of the users to send and/or receive a multimedia information message to the controller computer, which arbitrates which of the participator computers receives the multimedia information message."), 4:32–35 ("While platform controlled embodiments are within the scope of the invention, it is particularly advantageous to have a platform independent embodiment, i.e., an embodiment that is byte code compiled."), 5:1–5 ("The Participator Computers 5 are each running and under the control of Participator Software 4, which directs each of the Participator Computers 5 to handle a user Interface permitting one said user to send a multimedia information Message 8 to the Controller Computer 3 . . . .").

Petitioner argues that Roseman describes its local computers as using a Windows operating system, but notes that other environments are within the level of skill in the art. Pet. 48 (citing Ex. 1003, 12:1–5, 12:9–10); '659 Pet. 53. Dr. Lavian testifies that it was well-known to provide software products for multiple computing platforms, such as Windows and Macintosh because it was more commercially attractive and would increase the number of users who could use the software. Ex. 1002 ¶ 119. Petitioner argues that it would have been obvious to provide alternatives for local computer

software that would operate on Windows and Macintosh platforms. Pet. 48; '659 Pet. 53.

Patent Owner argues that "Roseman does not indicate how a second alternative would be able to communicate with the host computer to receive the common image or to interact with it" and that "Roseman's disclosure of the 'Windows Context' is not an affirmative teaching of another client software alternative." PO Resp. 33; Supp. PO Resp. 5–6. Petitioner, however, does not argue that Roseman expressly teaches two client software alternatives. Rather, Petitioner argues that Roseman describes one software alternative, for the Windows platform, and expressly teaches that software for other platforms would have been within the level of skill in the art. Pet. 48; '659 Pet. 53; Reply 20 ("The Petition explained that the claimed two client software alternatives were obvious, among other reasons, because it would have been obvious to adapt the participator software in Roseman to run on multiple computing platforms, such as Windows and Macintosh."); Supp. Reply 3.

Patent Owner argues that Roseman does not "indicate how any of its client software could be modified so as to make [a] second software alternative." PO Resp. 33; Supp. PO Resp. 6. According to Patent Owner, Dr. Lavian admitted in deposition that it is not always possible to make the same software programs for different operating systems. PO Resp. 34 (citing Ex. 2006, 157:6–158:11); Supp. PO Resp. 6–7. Although it might not be possible to adapt every software program to work on every operating system, Roseman itself suggests adapting its software to different

environments beyond Windows. Ex. 1003, 12:1–10. Thus, Patent Owner's argument is not persuasive.[10]

Patent Owner also argues that Windows and Macintosh are not client software, but instead are operating systems. PO Resp. 33; Supp. PO Resp. 6. Petitioner, however, does not argue that Windows and Macintosh are the two software alternatives. Rather, Petitioner argues that Roseman describes a client software alternative that would work with the Windows operating system and suggests that another client software alternative working with the Macintosh operating system would have been within the level of skill in the art. Pet. 48; '659 Pet. 53; Reply 20 ("But the Petitioner did not point to Windows and Macintosh *themselves* as the two client software alternatives, but rather, to versions of the participator software in Roseman adapted to run on those platforms."); Supp. Reply 3. Thus, Patent Owner's argument is not persuasive.

Patent Owner further contends that a skilled artisan would not have used two separate software alternatives to implement Roseman's client software with Windows and Macintosh platforms because the skilled artisan would have used Java instead. PO Resp. 34–35; Supp. PO Resp. 7–8. According to Patent Owner, "Java and byte-code are cross-platform solutions that can run on both Windows and Macintosh." PO Resp. 34; Supp. PO Resp. 7. Dr. Carbonell testifies that

[10] Patent Owner also argues that a Telnet-based solution for Roseman would not work without graphical user interface (GUI) support. PO Resp. 33; Supp. PO Resp. 6. This is inapposite, as Petitioner does not argue that Roseman would have been modified to accommodate a Telnet-based solution.

> one of ordinary skill in the art who was motivated to provide software that could work across different platforms and operating systems would have been motivated to utilize a single platform independent software implementation, such as a Java implementation and would not have been motivated to provide additional alternatives to that cross-platform software.

Ex. 2005 ¶ 71.

Petitioner argues that the claim language does not exclude platform-specific embodiments and that the '657 patent specifically describes such embodiments as within the scope of the invention. Reply 21 (citing Ex. 1001, 4:32–35 ("While platform controlled embodiments are within the scope of the invention, it is particularly advantageous to have a platform independent embodiment, i.e., an embodiment that is byte code compiled."). We agree with Petitioner. As noted above, "just because better alternatives exist in the prior art does not mean that an inferior combination is inapt for obviousness purposes." *Mouttet*, 686 F.3d at 1334. Thus, even if Java would have been advantageous in some circumstances, we still find that platform-specific client software embodiments would have been an apt extension of Roseman's system.

In light of Roseman's description of client software for the Windows environment and its express teaching that the software for other environments is within the level of skill, Ex. 1003, 12:1–10, we are persuaded that Roseman at least suggests client software for other platforms that were common at the time, such as Macintosh. We credit Dr. Lavian's testimony that providing software for use with both Windows and Macintosh would have made Roseman's system more commercially attractive by increasing the number of users who could use the software. Ex. 1002 ¶ 119. *See also KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) ("When a

work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one."). Thus, we find that Roseman suggests "wherein the computer system provides access via any of two client software alternatives," as recited in claim 334 and similarly recited in claims 477, 482, 487, and 492.

Petitioner contends that Roseman's software running on a local computer, which can be a software implementation for a Windows platform and a Macintosh platform, allows user identities to be recognized by the host computer. Pet. 50–51; '659 Pet. 55–56. Petitioner argues that a group of local computers is formed when a user of a local computer in Roseman drags other participants into a child-room. Pet. 51; '659 Pet. 56. In another example, Petitioner argues that Roseman's description of creating a virtual conference room, involving identifying the participants of the conference room and requiring invited users to have appropriate keys, teaches permitting at least a first user identity and a second user identity to form a group. Pet. 32; '659 Pet. 34.

We agree with Petitioner. When Roseman's users, via software running on their respective local computers, access conference rooms using keys, Roseman's host computer recognizes the users and allows them to send and receive communications from each other. Ex. 1003, 3:22–56. Thus, we find that Roseman teaches "wherein both of the client software alternatives allow respective user identities to be recognized and allow at least some of the participator computers to form at least one group in which members can send communications and receive communications," as recited in claim 334, and similarly recited in claims 477, 482, 487, 492, and 580.

8. Remaining Challenged Dependent Claims

Claim 342 depends from claim 189 and adds "wherein at least one of the communications includes data presenting a human communication of sound." Claim 584 depends from claim 465 and adds a similar limitation. As Petitioner observes (Pet. 52), Roseman describes communicating in virtual conference rooms via audio connections. Ex. 1003, 11:11–16. Thus, Roseman teaches the additional limitation of claims 342 and 584.

Claim 348 depends from claim 189 and adds "providing the first user identity with access to a member-associated image corresponding to the second user identity." Claim 592 depends from claim 465 and adds a similar limitation. Petitioner points to Roseman's description of including photographs of each participant in the common screen presented to the users. Pet. 52–53 (citing Ex. 1003, 7:35–39, Fig. 9). This is shown in Figure 9 of Roseman, reproduced above. Based on this evidence, we find that Roseman teaches the subject matter of claims 348 and 592.

9. Conclusion of Obviousness

As explained above, Roseman, Rissanen, Vetter, Lichty, and Pike teach each limitation of claims 189, 334, 342, 348, 465, 477, 482, 487, 492, 580, 584, and 592. Petitioner has introduced persuasive evidence that a skilled artisan would have had reasons to combine the teachings of Roseman, Rissanen, Vetter, Lichty, and Pike. Patent Owner does not argue or introduce evidence of objective indicia of nonobviousness. In sum, upon consideration of all the evidence, we conclude that Petitioner has proved by a preponderance of the evidence that claims 189, 334, 342, 348, 465, 477, 482, 487, 492, 580, 584, and 592 would have been obvious over Roseman,

Rissanen, Vetter, Lichty, and Pike. Petitioner has not proved, by a preponderance of the evidence, that claims 203, 209, 215, and 221 are unpatentable.

III. PATENT OWNER'S MOTION TO EXCLUDE

Patent Owner filed a paper styled "Motion to Exclude Evidence," seeking to exclude certain portions of the 2nd Lavian Declaration that it argues exceeds the proper scope of a reply. Paper 39, 1. Specifically, Patent Owner moves to exclude portions of paragraphs 54, 74, and 75 of the 2nd Lavian Declaration. *Id.* at 2–5.

Petitioner opposes this motion on the ground that it is not directed to the admissibility of evidence and, therefore, is procedurally improper. Paper 42, 2. Patent Owner contends that arguments that exceed the scope of a reply are irrelevant, prejudicial, confusing, or misleading under Federal Rules of Evidence 401, 402, and 403. Paper 44, 1–2. As Petitioner points out, however, the Board repeatedly has denied, as improper, motions to exclude that merely argue that evidence is outside the proper scope of a reply. Paper 42, 2–3. Despite its invocation of Rules 401, 402, and 403, we agree that Patent Owner's Motion to Exclude is nothing more than an argument that Petitioner's Reply exceeds its proper scope. Accordingly, we deny Patent Owner's Motion.

Nevertheless, we have considered Patent Owner's argument with respect to those portions of Petitioner's Reply that are relied upon in this decision, and determine they do not belatedly raise new issues or present evidence that should have been presented in the Petition. In any case, we do not rely on paragraphs 54, 74, and 75 of the 2nd Lavian Declaration.

IV. CONCLUSION

Petitioner has proved by a preponderance of the evidence that claims 189, 334, 342, 348, 465, 477, 482, 487, 492, 580, 584, and 592 are unpatentable, but has not proved that claims 203, 209, 215, and 221 are unpatentable.

V. ORDER

For the reasons given, it is:

ORDERED, based on a preponderance of the evidence, that claims 189, 334, 342, 348, 465, 477, 482, 487, 492, 580, 584, and 592 are unpatentable; and

FURTHER ORDERED, because this is a final written decision, the parties to this proceeding seeking judicial review of our Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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Patent 8,694,657 B1

PETITIONER:

Heidi Keefe
hkeefe@cooley.com

Phillip Morton
pmorton@cooley.com

Andrew Mace
amace@cooley.com

PATENT OWNER:

Peter Lambrianakos
plambrianakos@brownrudnick.com

Vincent Rubino
vrubino@brownrudnick.com