

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZOOM COMMUNICATIONS, INC.
Petitioner

v.

RICOH COMPANY, LTD.
Patent Owner

IPR2026-00435

**PETITION FOR INTER PARTES REVIEW
OF U.S. PATENT NO. 11,546,548**

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PETITIONER’S EXHIBIT LIST

No.	Reference	Referred To As
1001	U.S. Patent No. 11,546,548	’548 Patent
1002	Prosecution History of U.S. Patent No. 11,546,548	’548 Patent File History
1003	Declaration of Dr. Kevin Almeroth	Almeroth Decl.
1004	U.S. Patent Application Publication No. 2004/0117445	Lee
1005	U.S. Patent Application Publication No. 2011/0181683	Nam
1006	RESERVED	
1007	U.S. Patent App. Pub. No. 2006/0248210	Kenoyer
1008	U.S. Patent No. 6,346,963	Katsumi
1009	U.S. Patent App. Pub. No. 2007/0291108	Huber
1010	U.S. Patent App. Pub. No. 2008/0069011	Sekaran
1011	RESERVED	
1012	RESERVED	
1013	RESERVED	
1014	U.S. Patent App. Pub. No. 2013/0169742	Wu
1015	U.S. Patent App. Pub. No. 2014/0114664	Khan
1016	Adobe Connect Enterprise User Guide	Adobe User Guide
1017	LifeSize Multipoint User Guide	LifeSize User Guide
1018	GoToWebinar’s 2012 Organizer Quick Start Guide	GoToWebinar Quick Start Guide

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1019	U.S. Patent App. Pub. No. 2010/0302346	Huang
1020	U.S. Patent No. 9,113,032	Vander Mey
1021	U.S. Patent No. 8,700,703	Ueno

LISTING OF CHALLENGED CLAIMS

[1.pre]	A transmission management apparatus for updating attendance states of a plurality of transmission terminals including a first transmission terminal and a second transmission terminal, the transmission management apparatus comprising:
[1.a]	a storage medium configured to store first information including a first identification name and a first attendance state associated with the first transmission terminal, and second information including a second identification name and a second attendance state associated with the second transmission terminal; and
[1.b]	circuitry configured to: update the first attendance state associated with the first transmission terminal to a state indicating that the first transmission terminal is attending a video communication, based on attendance request information for video communication received from the first transmission terminal;
[1.c]	update, when the second transmission terminal attends the video communication, the second attendance state associated with the second transmission terminal to a state indicating that the second transmission terminal is attending the video communication;
[1.d]	acquire information including an identification name associated with a transmission terminal with which an attendance state is associated and in which the attendance state indicates that the transmission terminal is attending the video communication, from the storage medium; and
[1.e]	transmit the acquired information to the first transmission terminal, wherein the acquired information is used in order to
[1.f]	display an identification name list of sites including the first transmission terminal and the second transmission terminal which are attending the video communication during the video communication,
[1.g]	wherein the first transmission terminal is configured to display video images from each transmission terminal attending the video communication simultaneously.
[2]	The transmission management apparatus of claim 1, wherein the storage medium stores a terminal management table that contains the first information.
[3]	The transmission management apparatus of claim 1, wherein the storage medium stores a first identifier for identifying the first

	transmission terminal and a second identifier for identifying the second transmission terminal.
[4]	The transmission management apparatus of claim 1, wherein the identification name associated with a particular transmission terminal of the plurality of transmission terminals is information to be registered or changed in response to a request from the particular transmission terminal.
[5]	The transmission management apparatus of claim 1, wherein other transmission terminals of the plurality of transmission terminals, which are other than the first transmission terminal and are attending a same conference, transmit or receive at least one of image data and sound data to or from each other via a relaying apparatus.
[6]	The transmission management apparatus of claim 1, wherein each of the plurality of transmission terminals is one of a video conference terminal, a car navigation device, and a cell phone.
[7]	The transmission management apparatus of claim 1, wherein the first identification name is stored in the storage medium in association with first identification information, and the second identification name is stored in the storage medium in association with second identification information.
[8]	The transmission management apparatus of claim 1, wherein a destination list associated with first identification information transmitted from the first transmission terminal is stored in the storage medium, and the destination list registers at least the second transmission terminal as a destination candidate.
[9.pre]	A method comprising: updating attendance states of a plurality of transmission terminals including a first transmission terminal and a second transmission terminal;
[9.a]	storing, in a storage medium, first information including a first identification name and a first attendance state associated with the first transmission terminal, and second information including a second identification name and a second attendance state associated with the second transmission terminal;
[9.b]	updating the first attendance state associated with the first transmission terminal to a state indicating that the first transmission terminal is attending a video communication, based on attendance request information for video communication received from the first transmission terminal;

[9.c]	updating when the second transmission terminal attends the video communication, the second attendance state associated with the second transmission terminal to a state indicating that the second transmission terminal is attending the video communication;
[9.d]	acquiring information including an identification name associated with a transmission terminal with which an attendance state is associated and in which the attendance state indicates that the transmission terminal is attending the video communication, from the storage medium;
[9.e]	transmitting the acquired information to the first transmission terminal, wherein the acquired information is used in order to display an identification name list of sites including the first transmission terminal and the second transmission terminal which are attending the video communication during the video communication; and
[9.f]	displaying, by the first transmission terminal, video images from each transmission terminal attending the video communication simultaneously.
[10.pre]	A system comprising:
[10.a]	a first transmission terminal; and a management apparatus comprising: a storage medium configured to store first information including an identification name and a first attendance state associated with the first transmission terminal, and second information including an identification name and a second attendance state associated with a second transmission terminal; and
[10.b]	circuitry configured to: update the first attendance state associated with the first transmission terminal to a state indicating that the first transmission terminal is attending a video communication, based on attendance request information for video communication received from the first transmission terminal,
[10.c]	update, when the second transmission terminal attends the video communication, the second attendance state associated with the second transmission terminal to a state indicating that the second transmission terminal is attending the video communication,
[10.d]	acquire information including an identification name associated with a transmission terminal with which an attendance state is associated and in which the attendance state indicates that the transmission terminal is attending the video communication, from the storage medium, and
[10.e]	transmit the acquired information to the first transmission terminal, and the first transmission terminal is configured to:
[10.f]	receive the acquired information from the management apparatus, and

[10.g]	display an identification name list of sites including the first transmission terminal and the second transmission terminal which are attending the video communication, based on the acquire information during the video communication,
[10.h]	wherein the first transmission terminal is configured to display video images from each transmission terminal attending the video communication simultaneously.
[11]	The system of claim 10, wherein the management apparatus is configured to: receive an information request signal from the first transformation terminal when the first transmission terminal is in video communication with at least the second transmission terminal, the information request signal indicating a request for information on a transmission terminal, including the second transmission terminal.
[12]	The transmission management apparatus of claim 1, wherein the transmission management apparatus is composed of one or more computers.
[13]	The method of claim 9, wherein the transmission management apparatus is composed of one or more computers.
[14]	The system of claim 10, wherein the transmission management apparatus is composed of one or more computer.
[15]	The transmission management apparatus of claim 1, wherein the transmission management apparatus is configured to: receive an information request signal from the first transmission terminal when the first transmission terminal is in video communication with at least the second transmission terminal, the information request signal indicating a request for information on a transmission terminal, including the second transmission terminal.
[16]	The method of claim 9, further comprising: receiving, by the transmission management apparatus, an information request signal from the first transformation terminal when the first transmission terminal is in video communication with at least the second transmission terminal, the information request signal indicating a request for information on a transmission terminal, including the second transmission terminal, with which the first transmission terminal is in video communication.
[17.pre]	A non-transitory computer-readable storage medium storing executable instructions, which when executed by circuitry, cause the circuitry to perform a method comprising:

[17.a]	storing first information including a first identification name and a first attendance state associated with a first transmission terminal, and second information including a second identification name and a second attendance state associated with a second transmission terminal;
[17.b]	updating the first attendance state associated with the first transmission terminal to a state indicating that the first transmission terminal is attending a video communication, based on attendance request information for video communication received from the first transmission terminal;
[17.c]	updating when the second transmission terminal attends the video communication, the second attendance state associated with the second transmission terminal to a state indicating that the second transmission terminal is attending the video communication;
[17.d]	acquiring information including an identification name associated with a transmission terminal with which an attendance state is associated and in which the attendance state indicates that the transmission terminal is attending the video communication; and
[17.e]	transmitting the acquired information to the first transmission terminal, wherein the acquired information is used for displaying an identification name list of sites including the first transmission terminal and the second transmission terminal which are attending the video communication during the video communication,
[17.f]	wherein the first transmission terminal is configured to display video images from each transmission terminal attending the video communication simultaneously.
[18]	The method of claim 9, further comprising: storing a terminal management table that contains the first information.
[19]	The method of claim 9, further comprising: storing a first identifier for identifying the first transmission terminal and a second identifier for identifying the second transmission terminal.
[20]	The method of claim 9, wherein the identification name associated with a particular transmission terminal of the plurality of transmission terminals is information to be registered or changed in response to a request from the particular transmission terminal.
[21]	The method of claim 9, wherein other transmission terminals of the plurality of transmission terminals, which are other than the first transmission terminal and are attending a same conference, transmit or receive at least one of image data and sound data to or from each other via a relaying apparatus.

[22]	The method of claim 9, wherein each of the plurality of transmission terminals is one of a video conference terminal, a car navigation device, and a cell phone.
[23]	The method of claim 9, further comprising: storing the first identification name in association with first identification information; and storing the second identification name in association with second identification information.
[24]	The method of claim 9, further comprising: storing a destination list associated with first identification information transmitted from the first transmission terminal, and the destination list registers at least the second transmission terminal as a destination candidate.

I. INTRODUCTION

Petitioner requests *inter partes* review and cancellation of claims 1-24 of U.S. Patent No. 11,546,548 (the “’548 Patent”) (EX1001). The challenged claims should never have issued. They do not claim a new video-conferencing architecture, relay mechanism, terminal, or communication protocol. Instead, they claim the ordinary management of video-conference attendance information—simply storing, updating, and displaying the names and attendance states of video-conference participants. EX1001, claims 1, 9, 10, 17.

The ’548 Patent challenged claims are straightforward. The management apparatus stores terminal names and attendance states. It updates those states as terminals join a conference. It responds to an information request by looking up which terminals are currently attending and sending back their names. The terminal displays the resulting list alongside video images. That’s the entire alleged invention.

But as the prior art demonstrates, every one of these features was already known. Centralized management of terminal identification and status information in a terminal management table was standard practice. Acquiring and transmitting terminal names and attendance states in response to information requests during active conferences was well-known. Displaying terminal name lists alongside conference video feeds was equally well-known. The ’548 Patent adds nothing beyond the combination of these well-known elements in their predictable

arrangement. EX1003, ¶¶36-39. Simply put, the claims merely implement a predictable solution to a known user-interface issue—they simply keep track of terminal name and attendance information, and then transmit and display it. The patent’s alleged solution simply lets a user know which transmission terminals are attending the video-conference regardless of how many join. EX1001, 19:47-65, 1:50-62, 21:15-19.

The prior art already disclosed this same terminal management architecture, as well as this user-interface solution. For example, Lee already disclosed this video-conference attendance management architecture. Lee’s conference server (management apparatus) includes a conference management section and attendant information storage section which prepares an attendant information file from conference attendance requests, stores information for multiple attendee terminals, retrieves and transmits that information for display, and updates the stored attendant information when an attendee leaves. EX1004, ¶¶[0119], [0122], [0161]-[0169], [0175], [0235]-[0240].

Nam confirms that the interface features, such as displaying an updated list of names and attendees, were likewise already disclosed in the art. Nam discloses video communication; attendance lists; video-call screens showing participant images; and conference-call participant views displaying information such as participant names, user IDs, login states, and host designation. EX1005, ¶¶[0049]-[0056], [0125]-

[0136], [0149]-[0152], [0198]-[0205]. Nam therefore supplies additional express support for any of the user interface features in the challenged claims. EX1005, ¶¶[0049]-[0056], [0125]-[0136], [0149]-[0152], [0198]-[0205]; EX1003, ¶159.

The Office allowed the claims after Applicant argued that cited prior art did not disclose displaying an identification-name list of attending sites during the video communication or displaying video images from each attending transmission terminal simultaneously. EX1002, 431-434; EX1003, ¶47. **The Grounds in this Petition provide prior art directly addressing those features.** Petitioner therefore requests institution of review and cancellation of claims 1-24.

II. TECHNOLOGY BACKGROUND

The technology of the challenged patent—a video conference system in which a centralized management apparatus tracks participating terminals, stores their identification information, and relays it for display during an active session—was thoroughly developed and widely practiced well before the earliest priority date. EX1003, ¶28.

A. Multi-Party Video Conferencing Was Well Known

Video conferencing systems enabling multi-party communication over IP networks were commercially available and widely deployed by the early 2000s. As Huang explained, “the evolution of the internet and World Wide Web has made web conferencing an attractive option for people to meet online, to have video, voice, and

text communications, and to view and collaborate on the same document remotely.”

EX1019, [0002]. These systems typically comprised multiple endpoint terminals equipped with cameras, microphones, and displays, connected through an IP network to a centralized server or multipoint control unit (“MCU”) that managed the distribution of audio and video data. EX1007, [0005]; EX1008, 1:21–30; EX1003, ¶29.

By 2007, the architectural pattern at issue—a centralized management server coordinating sessions among distributed terminals while individually controlling display layouts—was firmly established. Huber disclosed a teleconferencing system in which “each participant could individually choose the layout independently” from a central host, and in which “only the difference needs to be sent out” when a conference state changes, enabling efficient signaling for conferences with hundreds of participants. EX1009, [0005]–[0006]. Sekaran similarly disclosed a “scalable, pluggable multi-party, and distributed multimedia conferencing” architecture with “a centralized policy and control conferencing component” that managed conference sessions, participant rosters, and media components. EX1010, Abstract; EX1003, ¶30.

B. Centralized Management of Terminal States and Identification Data

A core feature of prior art conferencing systems was the centralized management of terminal identification and status information. Known management

systems maintained databases storing each terminal's unique identifier, human-readable name, operational state (e.g., online, offline, in transmission or absent), IP address, and associated metadata. Ueno, for example, disclosed a presence server, separate from the underlying conferencing server, that maintained a group state table and a user state table centrally tracking each user's identifying information and status—including an “initial” (offline) state, a “present” (online) state, an “out-zone” state, and an “absent” state—for every terminal participating in a group or conference room. EX1021, FIG. 20, 13:45–14:20; EX1003, ¶31. This centralized state-tracking architecture, in which a dedicated management system stores and disseminates terminal status independently of the terminals themselves, was well known. EX1003, ¶31.

USER STATE TABLE

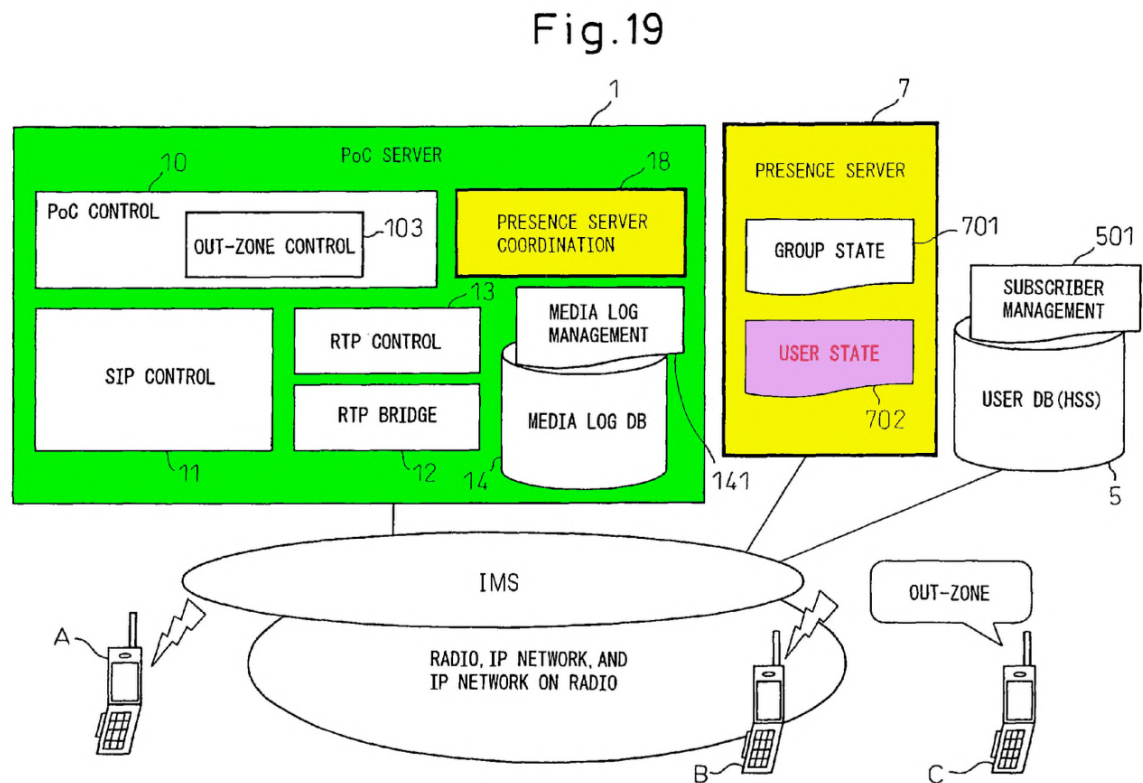
702

USER	STATE	FINAL CONFIRMATION TIME
A	INITIAL STATE	—
B	IN-ZONE	10 : 05
C	OUT-ZONE	9 : 55
D	ABSENCE	10 : 00

EX1021, FIG. 20.

Specifically, Ueno disclosed a presence server that coordinated with a separate PoC server or teleconference server to authenticate and track participating users and to notify that server of a user's current state or any state change, either autonomously or in response to an inquiry from the conferencing server, thereby distributing the burden of session coordination across a management architecture.

EX1021, 12:12–13:23, FIG. 19; EX1003, ¶32.

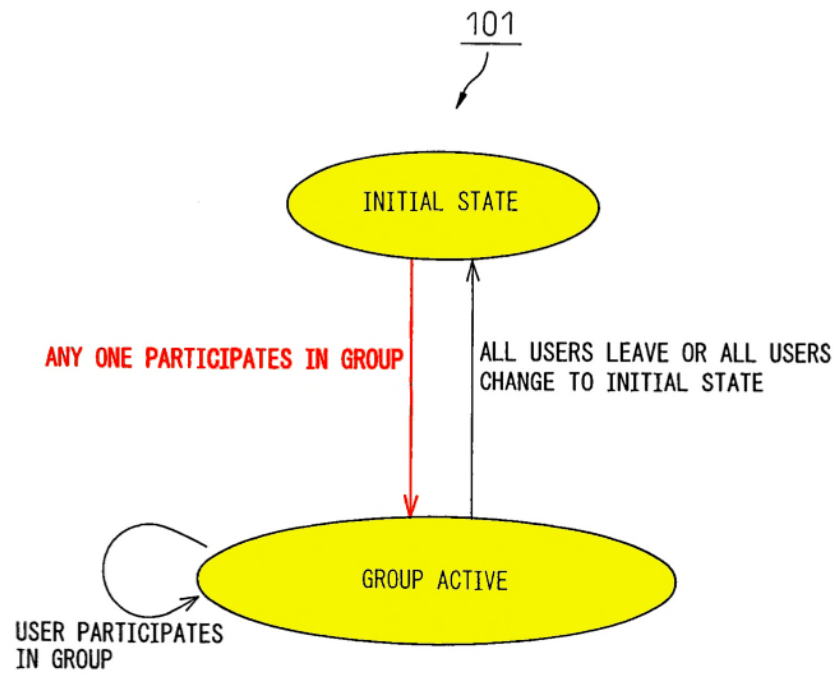


EX1021, FIG. 19.

C. Conference Attendance Tracking and Session Establishment

The process of establishing a session, tracking attendance, and responding to terminal information requests was standardized across prior art systems. When a terminal wished to initiate a conference, it sent attendance request information—including its terminal ID and the destination terminal’s ID—to the management apparatus. EX1003, ¶33. The management apparatus updated the terminal’s state, coordinated relay device selection, established image and sound sessions, and propagated state change information to other participants. For example, Ueno disclosed an analogous attendance-and-session mechanism: when a user initiated participation in a group or conference room, a participation notification was sent to the managing server, which updated the corresponding group state table from an “initial” state to an “active” state, coordinated with a presence server to confirm and record the resulting state change, and propagated that change to the other participating terminals. EX1021, FIGS. 4, 22A–22B, 6:26–7:34; EX1003, ¶33. This same sequence—updating terminal state, coordinating session establishment, and propagating the change to other participants—was well known. EX1003, ¶35.

Fig. 4



EX1021, FIG. 4.

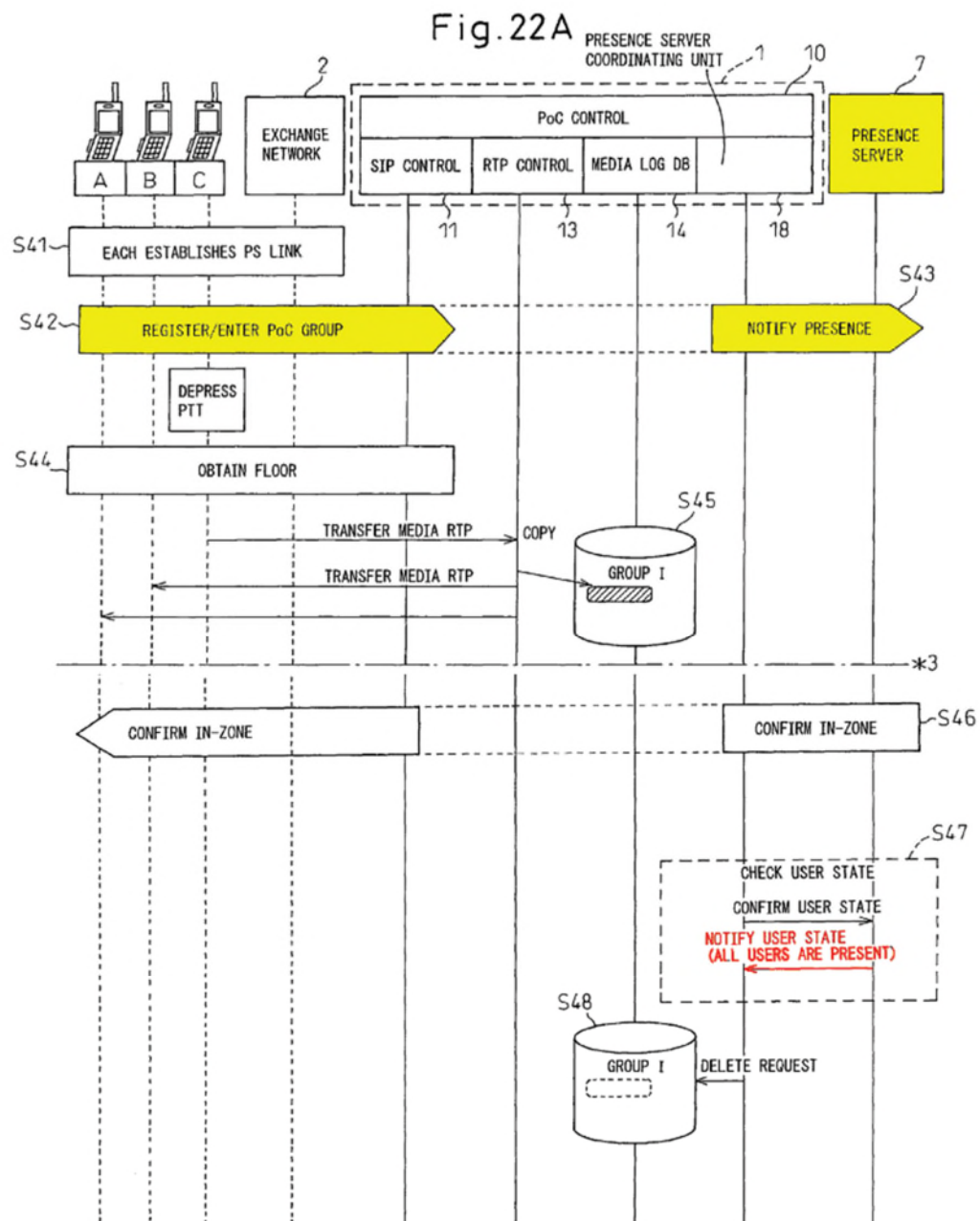


Fig.22B

EX1021, FIG. 22A, 22B.

Dynamic updating when participants joined or departed was likewise well known. EX1003, ¶34. Prior art systems automatically propagated updated attendance information, enabling real-time awareness of conference composition without manual user intervention. EX1009, [0006] (disclosing signaling “only the difference” when a conference state changes); EX1007, [0007]; EX1021, FIG. 4 (disclosing that a group automatically transitioned from an “initial state” to a “group active state” when any single participant joined, and automatically reverted to the “initial state” when all participants left, without any action by other participants), 7:26-34; EX1003, ¶34. For example, Ueno’s presence server likewise notified the conferencing server of a user’s current state or of any state change either autonomously or upon inquiry, further illustrating that automatic, real-time propagation of attendance changes—without requiring manual intervention by any participant—was a standard feature of prior art conferencing architectures. EX1021, 13:21–44, FIG. 19; EX1003, ¶34.

These disclosures demonstrate that displaying participant information during an active conference was not inventive. EX1003, ¶35.

III. ’548 PATENT

A. Overview

The ’548 Patent claims nothing more than a transmission management apparatus that stores terminal identification names and attendance states, updates

those states when terminals join a video conference, acquires identification name information for attending terminals, and transmits it so that a terminal can display a list of site names alongside video images from each attending terminal. EX1001, claims 1, 9-10, 17; EX1003, ¶36.

The '548 Patent's Background section concedes that remote conference systems in which images and sounds are transmitted between terminals for display on remote screens were already well-known. EX1001, 1:26–49; EX1003, ¶37. The patent acknowledges that, “a display screen of the transmission terminal is divided into the number of transmission terminals attending the conference and images transmitted from other transmission terminals are displayed in the divided areas on the display screen so as to know who is attending the conference.” EX1001, 1:42–47; EX1003, ¶37.

The '548 Patent identifies only one narrow problem: when “the number of transmission terminals attending the conference increases,” “the division number of the display screen is increased and thus a display area for displaying an image transmitted from each transmission terminal is reduced,” so that “users who use the respective transmission terminals cannot grasp which transmission terminal is attending the conference.” EX1001, 1:50–62; EX1003, ¶37.

The patent's solution is straightforward: track and display attendee lists.

Rather than relying solely on video images to show attendance, the transmission

management apparatus maintains a table storing name, identification information (e.g., “AA Terminal, Tokyo Business Office, Japan”), and attendance state. EX1001, FIG. 9, 11:29–67; EX1003, ¶38. When a terminal requests information about other attending terminals, the transmission management apparatus searches this table for terminals whose operation state indicates they are attending the video conference and transmits the corresponding name and identification information back to the requesting terminal. EX1001, 18:55–19:42, FIG. 16; EX1003, ¶38. The terminal then displays the received identification names as a list in a display area alongside a main image area showing video feeds. EX1001, 17:42–18:45, FIG. 15; EX1003, ¶38. Such tracking and display of terminal attendees simply “enables users who use the respective transmission terminals to grasp which transmission terminal is attending a conference regardless of the number of transmission terminals attending the conference.” EX1001, 21:15–19; EX1003, ¶¶38-39. That is the entire alleged invention.

B. Prosecution History

U.S. Patent Application No. 16/903,713 was filed on June 17, 2020, as a continuation of U.S. Application No. 15/442,787, filed February 27, 2017, which is a continuation of U.S. Application No. 15/041,570, filed February 11, 2016, which is a divisional of U.S. Application No. 13/989,665, filed as PCT/JP2012/055011 on February 22, 2012. The application claims priority to Japanese Patent Application

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Nos. 2011-042365 (filed February 28, 2011) and 2011-236251 (filed October 27, 2011). EX1001; EX1003, ¶40. The application was initially filed with a single claim to a transmission management apparatus comprising a terminal management table storage unit, a receiving unit for terminal information request signals, a terminal state acquisition unit, and a transmitting unit configured to transmit acquired terminal-identifying information to a requesting terminal. EX1002, 9; EX1003, ¶40.

In a Non-Final Office Action dated April 19, 2021, the Examiner rejected claim 1 for nonstatutory double patenting over claims 1–7 of U.S. Patent No. 9,307,197 (the “’197 Patent”), as anticipated by Volmat (U.S. Patent Application Publication No. 2012/0185685) under §102(a)(1), and as obvious over Ford (U.S. Patent Application Publication No. 2007/0100944) in view of Tanaka (U.S. Patent Application Publication No. 2010/0226546) under §103. EX1002, 92-98; EX1003, ¶41.

On July 19, 2021, the Applicant amended claim 1 and added claims 2–23. Amended claim 1 was recast as a “transmission system” in which the management apparatus stores and updates attendance state information and transmits name information to attending terminals, and at least one terminal includes separate display functions for showing captured image data in a first display area and a list of name information in a second display area, with the list activating in response to a predetermined input operation. EX1002, 111-119, 122-125; EX1003, ¶42. The

Applicant argued the double patenting rejection was moot and that Volmat did not disclose the newly added first-display-function (image display) and second-display-function (name display) limitations. EX1002, 122-124; EX1003, ¶42.

On October 18, 2021, the Applicant responded with a further amendment presenting claims 1–10. EX1002, 143-148; EX1003, ¶43. In a subsequent Final Office Action dated December 3, 2021, the Examiner again rejected claims 1–10 on double patenting and prior art grounds. EX1002, 159-161; EX1003, ¶43.

On March 3, 2022, the Applicant filed a Request for Continued Examination (RCE) presenting claims 1–16, arguing that claim 1 was patentably distinct from the '197 Patent because it recited updating attendance states and transmitting acquired information to display an identification name list of attending sites. EX1002, 175-182, 186-188; EX1003, ¶44.

On April 5, 2022, the Examiner issued a Non-Final Rejection, rejecting claims 1–4 and 6–16 as anticipated by Volmat under §102(a)(1) and claim 5 as obvious over Volmat in view of Halavy (US 2010/0194847) under §103(a). EX1002, 196-202; EX1003, ¶45. During a July 11, 2022 interview, the Applicant proposed an amendment to the independent claim to recite the first transmission terminal is configured to display video images from each transmission terminal attending the video conference simultaneously and the Examiner indicated that the proposed

amendment was not taught by the cited references, subject to further search.

EX1002, 217. EX1003, ¶45.

On August 5, 2022, the Applicant amended claims 1, 3, 7–11, 15, and 16, and added claims 17–24. The Applicant argued that Volmat’s destination list in Figure 7 is displayed only upon device activation before any conference begins, and does not disclose displaying “an identification name list of sites . . . which are attending the video communication during the video communication” or displaying “video images from each transmission terminal attending the video communication simultaneously.” The Applicant also submitted a certified translation of Japanese Priority Application No. 2011-042365, asserting that its February 28, 2011 filing date antedates Volmat. EX1002, 219-228, 402-405; EX1003, ¶46.

On August 31, 2022, the Examiner issued a Notice of Allowance, allowing claims 1–24 for the following reasons. EX1002, 431-434 (emphasis added):

None of the cited arts alone or in combination teaches { **update**, when the second transmission terminal attends the video communication, **the second attendance state associated with the second transmission terminal to a state indicating that the second transmission terminal is attending** the video communication; **acquire information including an identification name** associated with a transmission terminal with which an attendance state is associated and in which the attendance state indicates that the transmission terminal is attending the video communication, from the storage medium; and **transmit the acquired**

information to the first transmission terminal, wherein the acquired information is used in order to ***display an identification name list*** of sites including the first transmission terminal and the second transmission terminal which are attending the video communication during the video communication, wherein the first transmission terminal is configured to ***display video images from each transmission terminal attending the video communication simultaneously*** }.

As explained in Grounds 1 and 2 below, Lee and Lee in view Nam render obvious updating an attendance state, acquiring, transmitting and displaying an identification name list, and simultaneously displaying images from each transmission terminal attending the conference. EX1003, ¶47.

IV. POSITA

A person of ordinary skill in the art (“POSITA”) relevant to the ’548 Patent as of February 28, 2011 would have had at least: (1) a bachelor’s degree in electrical engineering, computer science, computer engineering, or equivalent coursework, with at least two years of work experience in video conferencing systems, networked multimedia communication systems, or remote conference system architectures; or (2) a master’s degree in electrical engineering, computer science, computer engineering, or equivalent coursework, with coursework or research focused on video conferencing systems, networked terminal management, real-time audio/video transmission, or client-server communication architectures. An individual with additional education could have less practical experience, and vice versa.

V. CLAIM CONSTRUCTION

Petitioner contends that no constructions are necessary for determining whether the prior art meets the limitations of the challenged claims.

VI. OVERVIEW OF CHALLENGE

Petitioner requests cancellation of claims 1-24 as set forth below.

Ground	Claims	Statutory Basis	Reference(s)
1	1-24	§103	Lee
2	1-24	§103	Lee in view of Nam

Petitioner's challenge is based on the following references, which are prior art under pre-AIA 35 U.S.C. §102.

Exhibit	Reference	Date(s)	Availability as Prior Art
EX1004	U.S. Patent Application Publication No. 2004/0117445 ("Lee")	Filed Jan. 8, 2002; published Jun. 17, 2004	§§102(a), 102(b), 102(e)
EX1005	U.S. Patent Application Publication No. 2011/0181683 ("Nam")	Filed Dec. 9, 2010; published July 28, 2011	§102(e)

Lee and Nam were not cited during prosecution of the '548 Patent.

Ground 1 demonstrates that Lee renders claims 1-24 obvious. Lee discloses the claimed transmission management functions through its conference server 11 (transmission management apparatus) including client control section 41 and attendant information storage section 42 (storage medium), for updating, acquiring, transmitting and displaying attendance information for client PCs (transmission

terminals) attending a video conference. EX1004, ¶¶[0103]-[0106], [0119]-[0122], [0161]-[0176], [0235]-[0240], [0269]-[0275].

Ground 2 relies on Lee in view of Nam. Nam expressly discloses the claimed video-communication interface features such as simultaneous video display, terminal-type limitations, destination-list storage, and terminal-requested participant information. EX1005, ¶¶[0048]-[0055], [0063]-[0065], [0125]-[0129], [0140]-[0142], [0149]-[0152], [0159]-[0160], [0198]-[0205], [0529]-[0548]; EX1003, ¶161.

VII. OVERVIEW OF PRIOR ART

A. Lee

U.S. Patent Application Publication No. 2004/0117445 to Lee et al. (“Lee”) was published on June 17, 2004 and is prior art to the ’548 Patent. Lee discloses a network conferencing system in which client PCs and teleconferencing systems in multiple conference rooms communicate through a conference server over a communication network. EX1004, ¶¶[0001], [0069]-[0077], [0085]-[0096]; EX1003, ¶52.

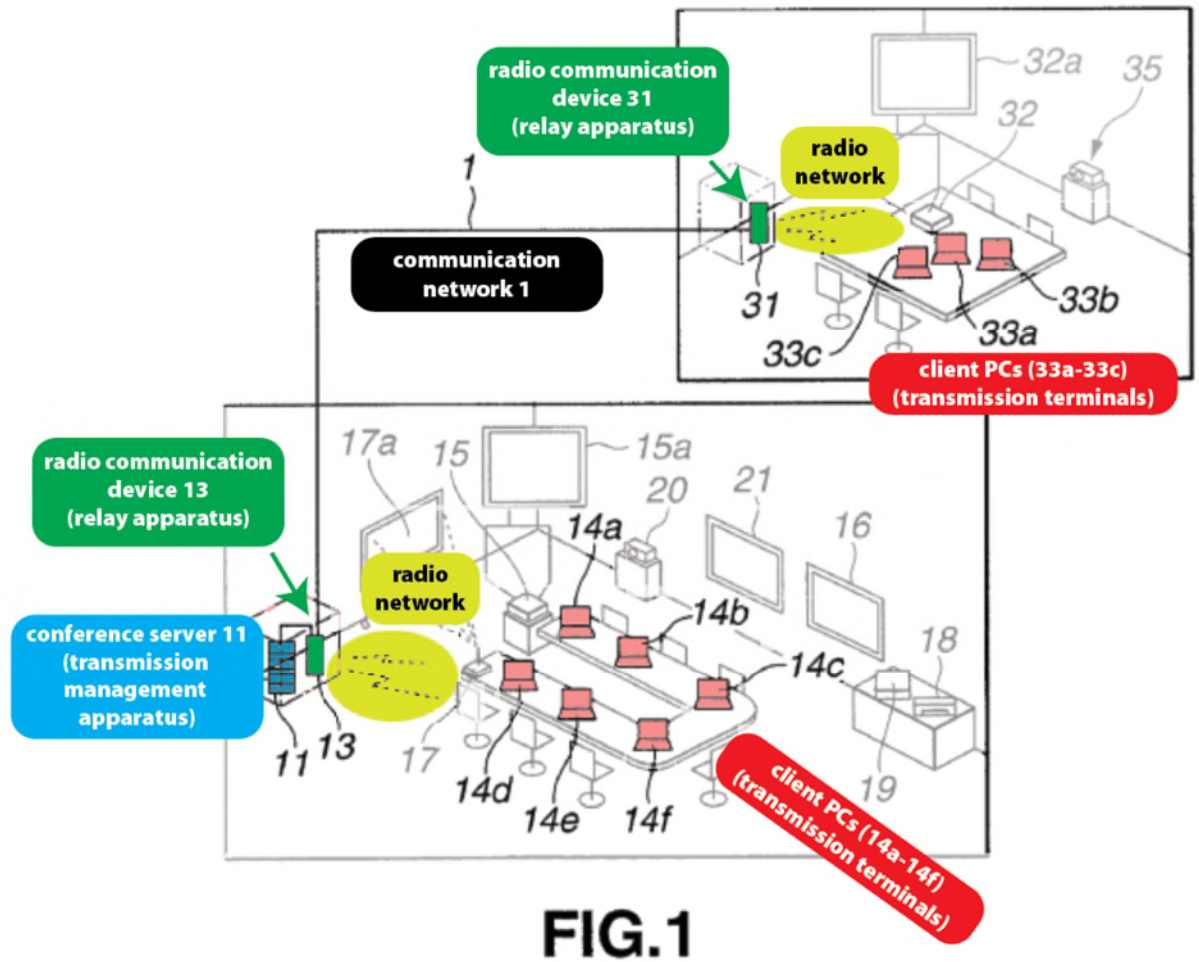


FIG.1

Lee's conference server 11 (transmission management apparatus) includes a client control section 41 and an attendant information storage section 42 (storage medium), which prepare and store conference attendant information. EX1004, ¶[0119]. EX1003, ¶53.

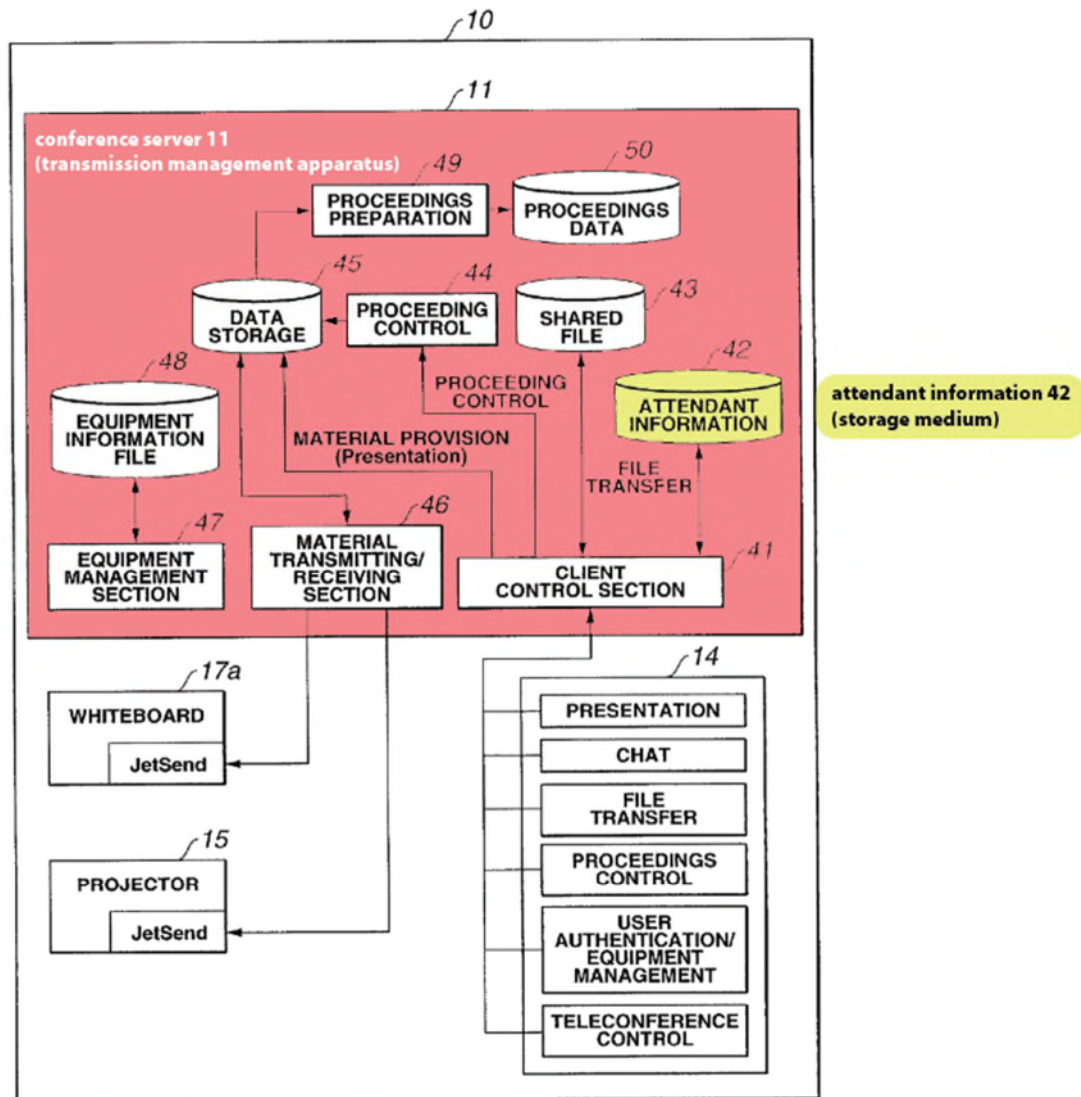


FIG.7

Specifically, the conference server 11 prepares and stores an attendant information file including personal data such as names, mail addresses, and IP addresses for the client PCs, transmits that personal data to the chairman terminal, for example, and updates the attendant information file when a participant leaves. EX1004, ¶¶[0122], [0161]-[0169], [0175]. Lee also discloses teleconferencing

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systems that transmit and receive video data and audio data and that can be controlled through the chairman terminal. EX1004, ¶¶[0085]-[0096], [0269]-[0275]; EX1003, ¶54.

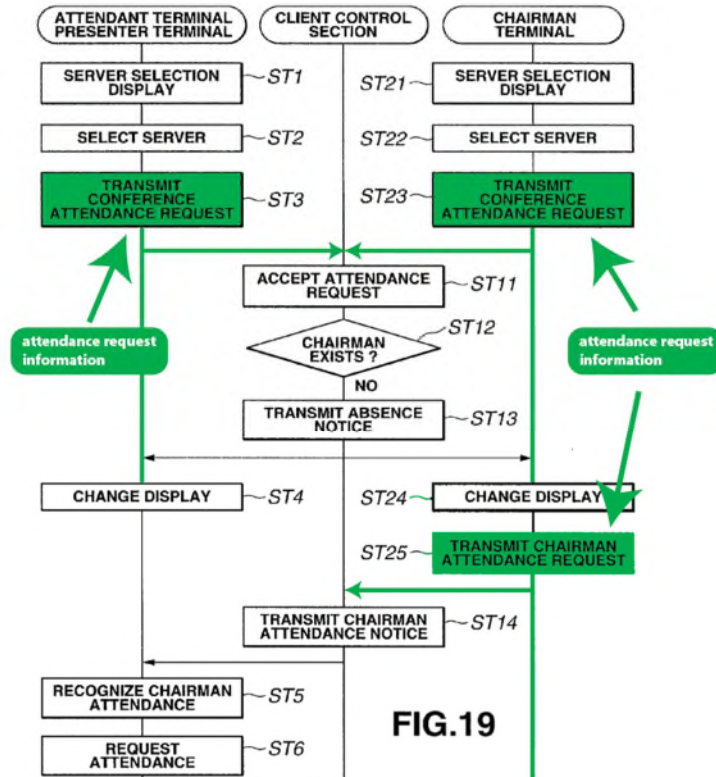


FIG.19

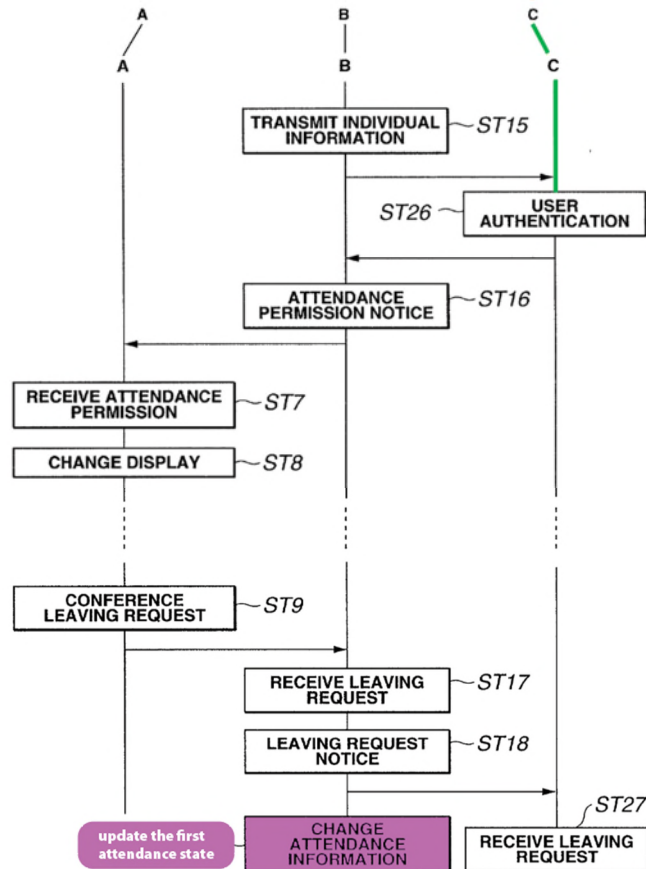
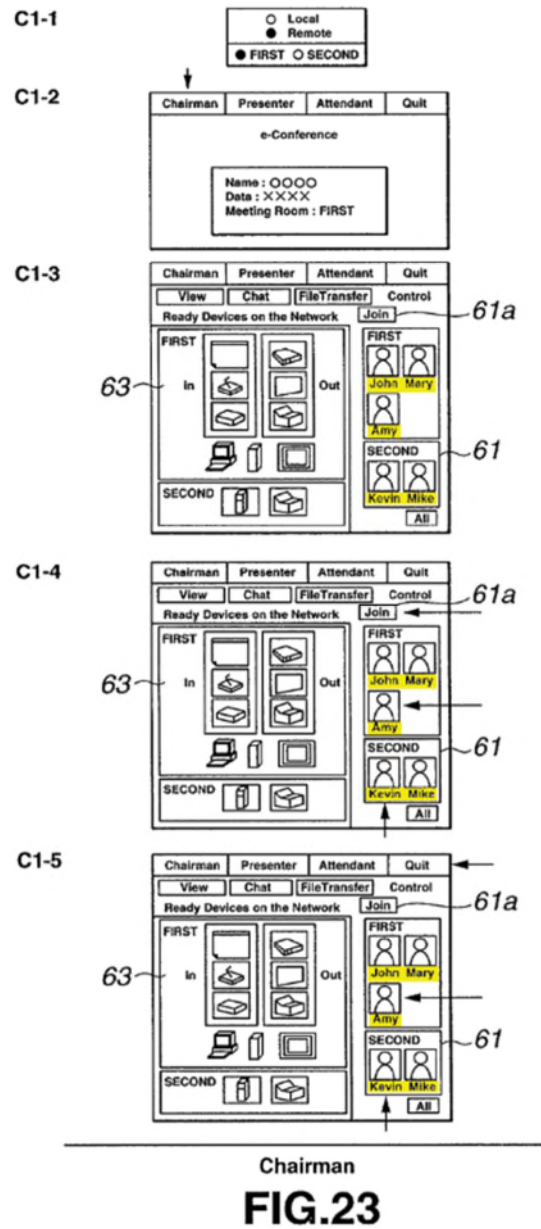
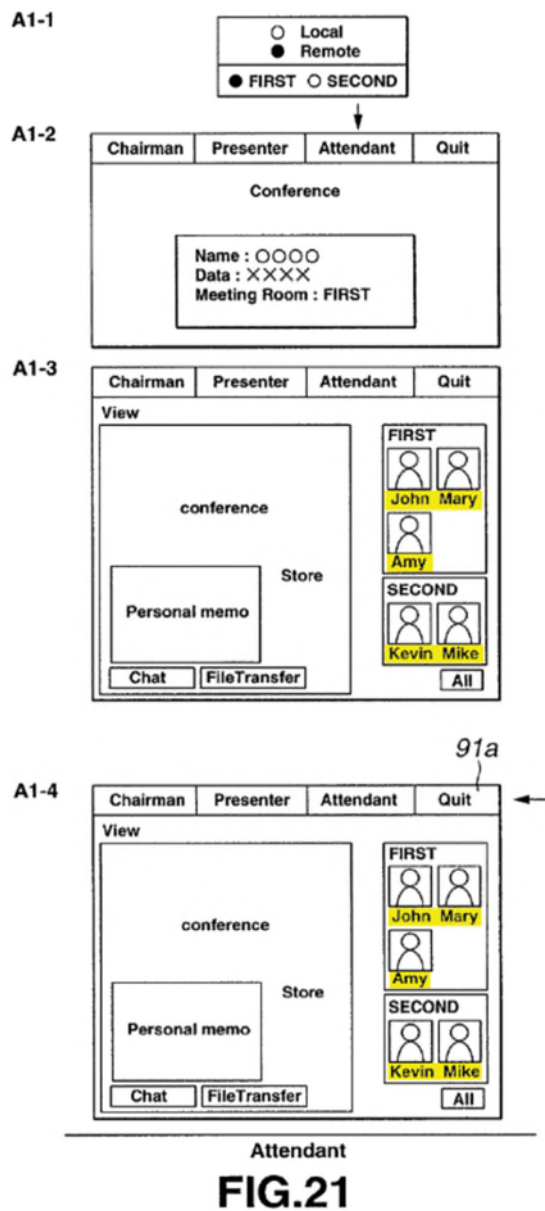


FIG.20

Finally, Lee also discloses an attendant and chairman display screen displaying the images and names of attendees in the video conference. EX1004, ¶¶[0036], [0038]; EX1003, ¶55.



B. Nam

U.S. Patent Application Publication No. 2011/0181683 to Nam (“Nam”) was filed on December 9, 2010 and published on July 28, 2011. EX1005, Cover. Nam discloses a video communication system using display devices, mobile terminals, personal computers, and video communication devices that transmit and receive video and audio data over wired or wireless networks. EX1005, ¶¶[0049]-[0056], [0063]-[0065]; EX1003, ¶56.

Nam displays name and identification information associated with a logged-in user, including corresponding user IDs, login states, icons, and search/registration functionality. EX1005, ¶¶[0125]-[0136]. Nam also discloses video-call screens that display each party’s communication image, conference-call screens, and a participant-view screen showing participant names, user IDs, login states, and host designation. EX1005, ¶¶[0149]-[0152], [0198]-[0205]; EX1003, ¶¶57-59.

FIG. 9

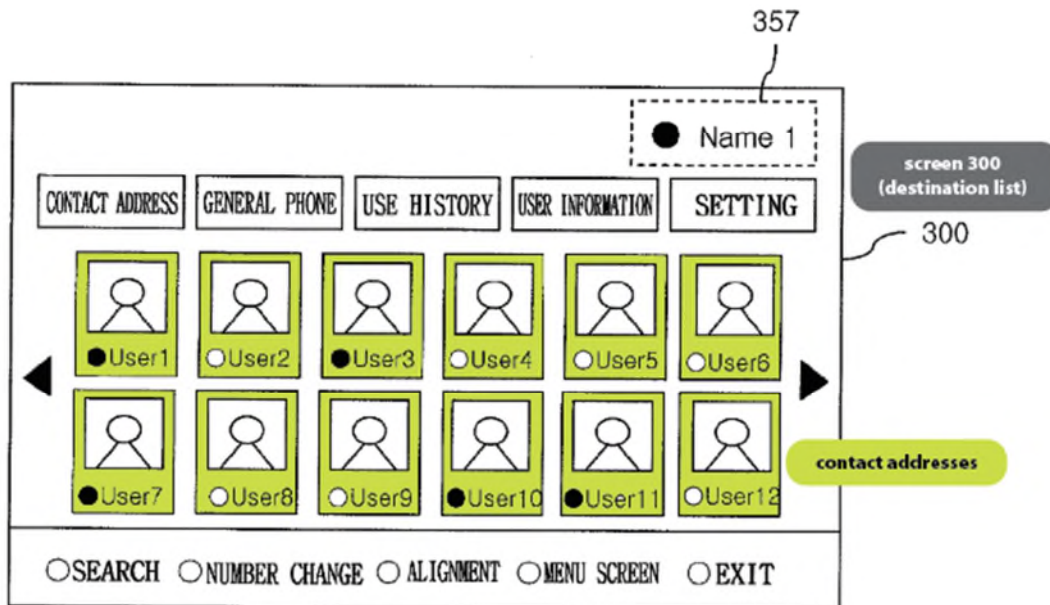
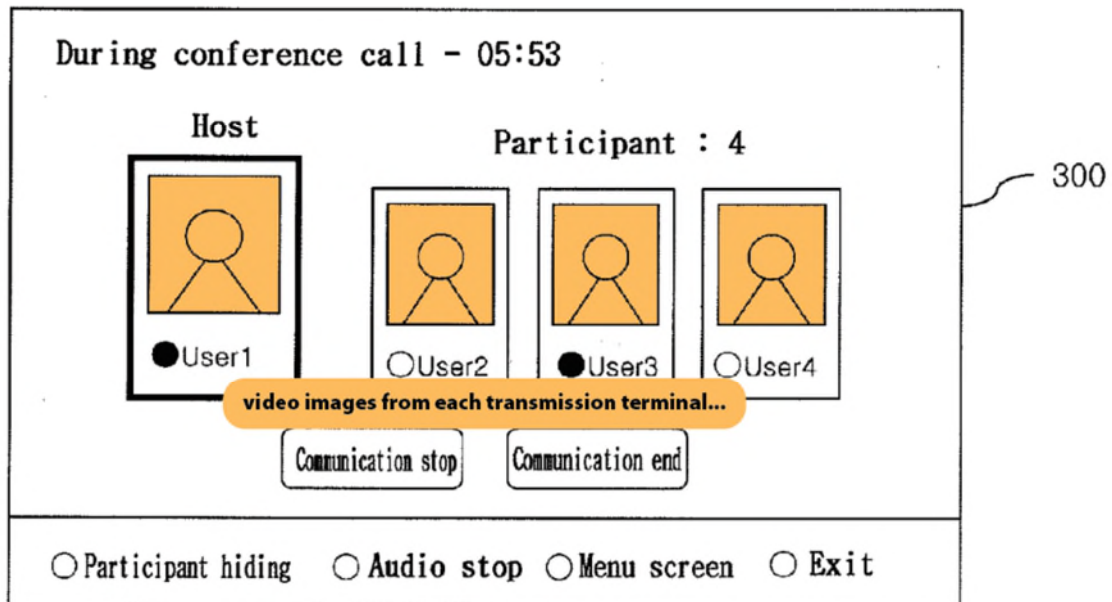


FIG. 33



VIII. THE ASSERTED GROUNDS OF INVALIDITY

Under Ground 1, Lee renders obvious claims 1-24. Lee discloses a network conferencing system in which a conference server manages conference attendance, stores attendant information, receives conference attendance requests, transmits attendant personal data for display, updates the attendant information file when participants leave, and controls teleconferencing systems that transmit and receive video and audio data. EX1004, ¶¶[0103]-[0106], [0119]-[0122], [0161]-[0176], [0235]-[0250], [0269]-[0275]; EX1003, ¶60.

Ground 2 asserts, in the alternative, that Lee in view of Nam renders obvious claims 1-24, with Lee supplying the same core conference-management and attendance-state disclosures from Ground 1 and Nam confirming and strengthening any disputed display-related aspects of the challenged claims. EX1003, ¶61.

A. Ground 1: Lee Renders Obvious Claims 1-24

Lee discloses a network conferencing system in which a conference management server 11 (transmission management apparatus) manages attendance of multiple client PCs (transmission terminals) used by conference participants, stores attendee information, receives conference-attendance requests, updates attendee participation information, transmits attendee names and other personal data to a participating client PC, and supports a display that identifies the attendees participating in the conference. EX1004, ¶¶[0067]-[0077], [0119]-[0122], [0161]-

[0176], [0235]-[0250]. Lee also discloses a teleconferencing system in which camera devices generate image data, and monitor devices display images. EX1004, [0085]-[0096]. Teleconferencing systems in different conference rooms then transmit and receive video data and audio data under the control of the conference system. EX1004, [0085]-[0096], [0266]-[0274]. Thus, as explained below, Lee teaches or at least renders obvious each limitation of claims 1-24. EX1003, ¶62.

1. Independent Claims 1, 9, 10, and 17

Independent claims 1, 9, 10, and 17 recite the same core functionality in apparatus, method, system, and computer-readable-medium form. Lee discloses or renders obvious those limitations through its conference server, attendant information file, attendant displays, conference attendance request flow, and teleconferencing control flow as explained below. EX1004, ¶¶[0119]-[0122], [0161]-[0175], [0235]-[0250], [0269]-[0275]; EX1003, ¶63.

2. Independent Claim Preambles [Claim 1]/[Claim 9]/[Claim 10]/[Claim 17]

- a) **[1.pre] “A transmission management apparatus for updating attendance states of a plurality of transmission terminals including a first transmission terminal and a second transmission terminal, the transmission management apparatus comprising:”**

To the extent the preamble is limiting, Lee teaches it. Lee discloses a “network conferencing system” including a first conference room 10 and a second conference

room 30 connected via communication network 1 for transmitting data and information. EX1004, ¶¶[0067]-[0071]; EX1003, ¶¶64-65.

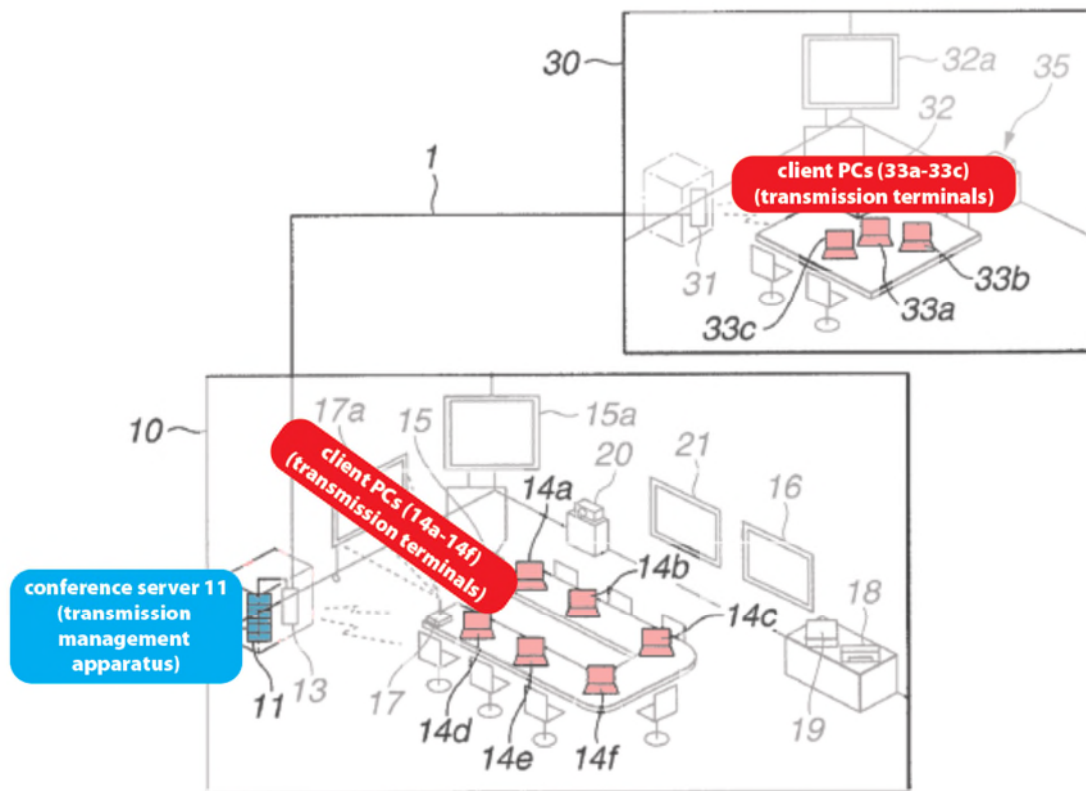


FIG.1

Lee's system includes client PCs operated by conference attendants, including client PCs 14a-14f in the first conference room and client PCs 33a-33c in the second conference room. EX1004, ¶¶[0075]-[0077], [0091]-[0096]. **Lee's client PCs correspond to the claimed transmission terminals** because they are electronic devices used by conference participants to transmit and receive information through the network conferencing system. EX1004, ¶¶[0075]-[0077], [0098]-[0102]; EX1003, ¶¶66.

Lee's conference server 11 corresponds to the claimed transmission management apparatus. EX1003, ¶67. Lee discloses that conference server 11 is connected to the conference-room equipment and client PCs, transmits and receives information, controls communication between the client PCs, and manages user authentication and conference participation information. EX1004, ¶¶[0070]-[0072], [0116]-[0122]. Lee further discloses that the conference server includes a client control section 41 and an attendant information storage section 42 (storage medium), and that client control section 41 prepares and stores an attendant information file containing information for multiple individuals corresponding to the respective client PCs (transmission terminals). EX1004, ¶¶[0119]-[0122], [0235]-[0237]; EX1003, ¶68.

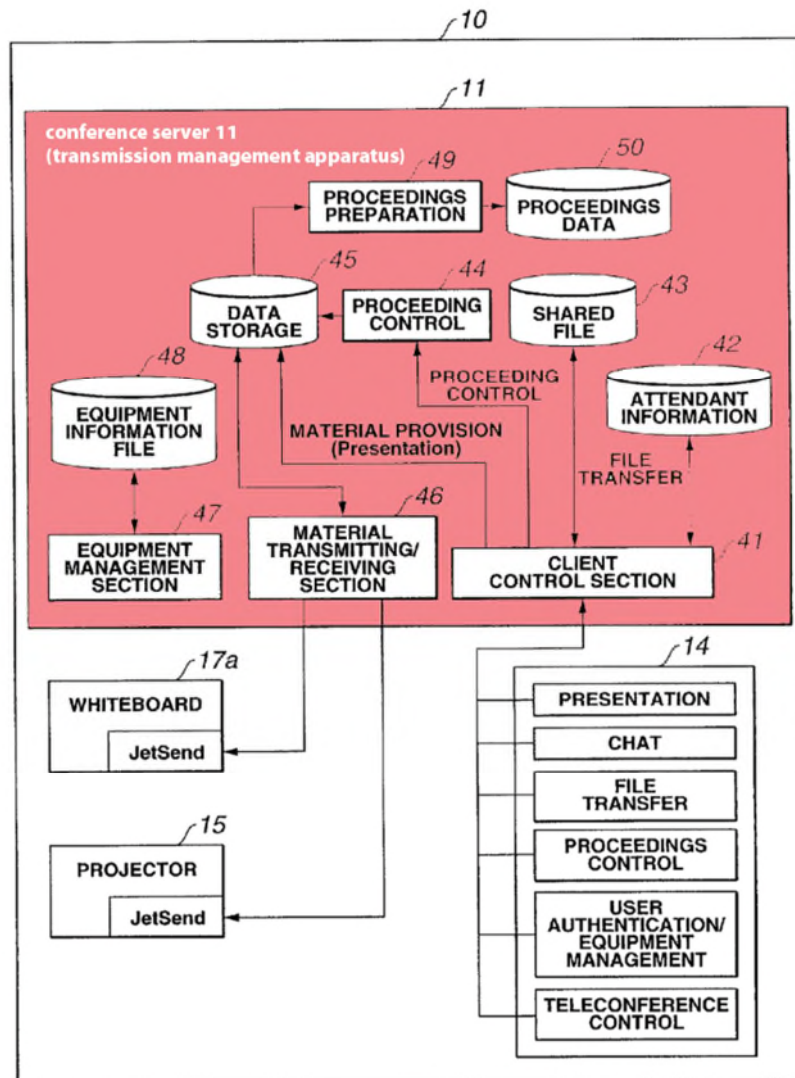


FIG.7

Lee teaches updating attendance states because the client control section receives conference attendance requests, prepares attendee information, transmits permission information, **and updates the attendant information file** when an attendee leaves. EX1004, ¶¶[0161]-[0176]; EX1003, ¶69. Lee also teaches updating attendance states during an ongoing conference because a newly attending client PC transmits a conference attendance request with personal data, the client control

section 41 processes that request, the chairman terminal permits attendance, and the display state changes from shaded to normal to reflect the newly authenticated attendee. EX1004, ¶¶[0241]-[0250]; EX1003, ¶69. A POSITA would have understood that Lee's conference server 11 (management apparatus) updates whether a given client PC (transmission terminal) is attending, not attending, authenticated, or unauthenticated, because Lee uses that status to determine chairman presence, transmit attendance permissions, update displays, and update the attendee information file upon leaving. EX1004, ¶¶[0105]-[0106], [0174]-[0176], [0245]-[0250]; EX1003, ¶69.

b) [9.pre] “A method comprising: updating attendance states of a plurality of transmission terminals including a first transmission terminal and a second transmission terminal;”

Claim 9 is the method counterpart to claim 1 and is obvious over Lee for the same reasons. To the extent the preamble is limiting, Lee teaches a method comprising updating attendance states of a plurality of transmission terminals, including a first transmission terminal and a second transmission terminal. EX1003, ¶70. Lee's conference server 11 (management apparatus) manages conference attendance by client PCs (transmission terminals), receives conference attendance requests, transmits attendance-permission information, updates an attendant information file when an attendee leaves, and processes new attendance during an ongoing conference. EX1004, ¶¶[0161]-[0176], [0235]-[0250]. The claimed first

and second transmission terminals are taught by Lee's client PCs, including the chairman terminal, attendant terminal, and presenter terminal, because Lee discloses client PCs operated by attendants in the first and second conference rooms and uses those client PCs for participation in the network conferencing system. EX1004, ¶¶[0068]-[0071], [0075]-[0077], [0149]-[0156]. The remaining limitations of claim 9 recite method steps that correspond to the storage, updating, acquiring, transmitting, name-list display, and simultaneous video-image limitations addressed below for claim 1. Accordingly, the method of claim 9 would have been obvious over Lee for the same reasons discussed for claim 1.

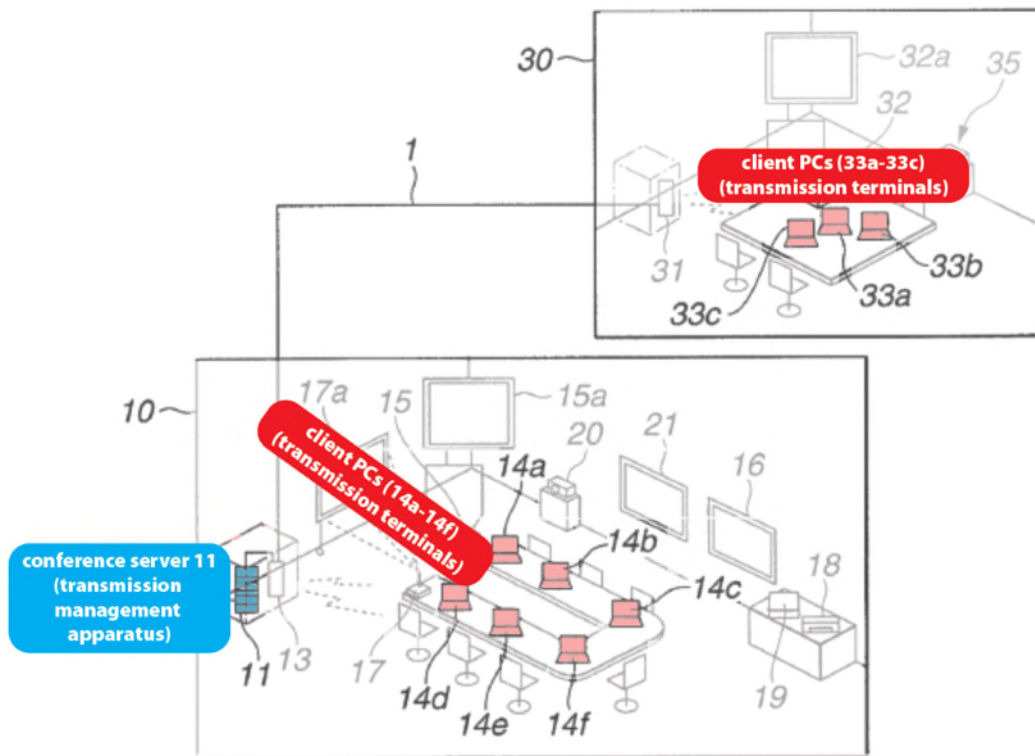


FIG.1

c) [10.pre] “A system comprising:“

Claim 10 is the system counterpart to claim 1 and is obvious over Lee for the same reasons. To the extent the preamble is limiting, Lee teaches a system comprising a first transmission terminal and a management apparatus. EX1003, ¶71. Lee teaches the claimed first transmission terminal because Lee discloses a network conferencing system with client PCs operated by conference participants, including chairman, presenter, and attendant terminals. EX1004, ¶¶[0068]-[0071], [0075]-[0077], [0149]-[0156]. Lee teaches the claimed management apparatus because Lee’s conference server 11 includes client control section 41 and attendant information storage section 42, controls communication between client PCs, manages user authentication and teleconference control, prepares and stores the attendant information file, and transmits attendance-permission information. EX1004, ¶¶[0116]-[0124]. The remaining limitations of claim 10 recite system components and functions that correspond to the storage medium, circuitry, update, acquire, transmit, name-list display, and simultaneous video-image limitations addressed below for claim 1. EX1003, ¶71. Accordingly, the system of claim 10 would have been obvious over Lee for the same reasons discussed for claim 1.

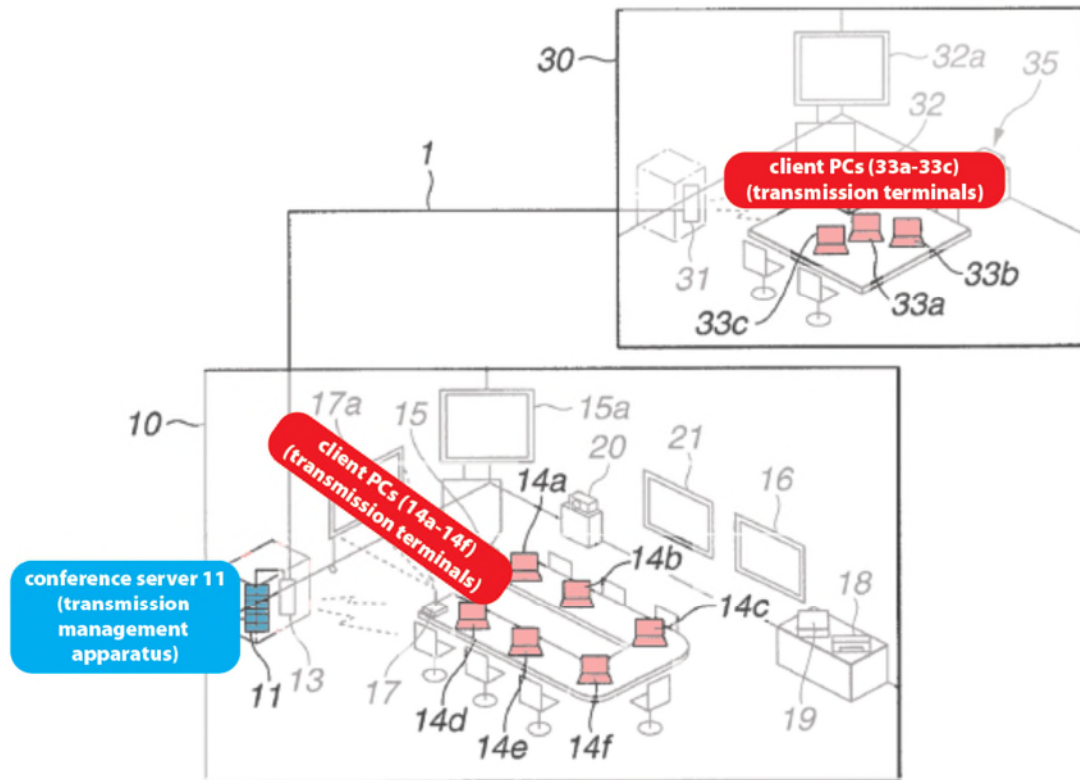


FIG.1

- d) [17.pre] “A non-transitory computer-readable storage medium storing executable instructions, which when executed by circuitry, cause the circuitry to perform a method comprising:”

Claim 17 is the non-transitory computer-readable storage medium counterpart to claims 1 and 9 and is obvious over Lee for the same reasons. To the extent the preamble is limiting, Lee teaches or renders obvious a non-transitory computer-readable storage medium storing executable instructions that, when executed by circuitry, cause the circuitry to perform the claimed method. EX1003, ¶72. Lee discloses “the various functions of the conference server **11** may be provided in the

client PCs. That is, the client PCs operated by the conference attendants and the conference server **11 may be realized by the same hardware**. Thus, the client PC having the functions of the conference server 11 can directly transmit the data stored in the **internal storage medium** to the projector device 15 and the data display device 16 via the radio communication device 13.” EX1004, ¶[0275]. Lee also discloses that each client PC has “stored therein” basic software, communication protocols, a conference program, and a GUI program, and Lee discloses that conference server 11 has stored programs including a client control program, proceedings control program, equipment recognition program, material transmission/reception program, and proceedings preparation program. EX1004, ¶¶[0098]-[0102], [0110]-[0119]; EX1003, ¶72.

Lee further discloses that conference server 11 executes the client control program to control the client PCs and communication between them, and that the conference server includes sections that store attendee, shared-file, data, equipment, and proceedings information. EX1004, ¶¶[0116]-[0119]. A POSITA would have understood that those stored executable server programs are stored on a non-transitory computer-readable storage medium and executed by server circuitry because Lee discloses an internal storage medium and describes stored programs that are executed by conference server 11 to perform the disclosed conference-management functions. EX1004, ¶¶[0110]-[0124]; EX1003, ¶73. The remaining

limitations of claim 17 recite instructions for performing method steps that correspond to the storage, updating, acquiring, transmitting, name-list display, and simultaneous video-image limitations addressed below for claim 1. Accordingly, claim 17 would have been obvious over Lee for the same reasons discussed for claim 1. EX1003, ¶¶73-74.

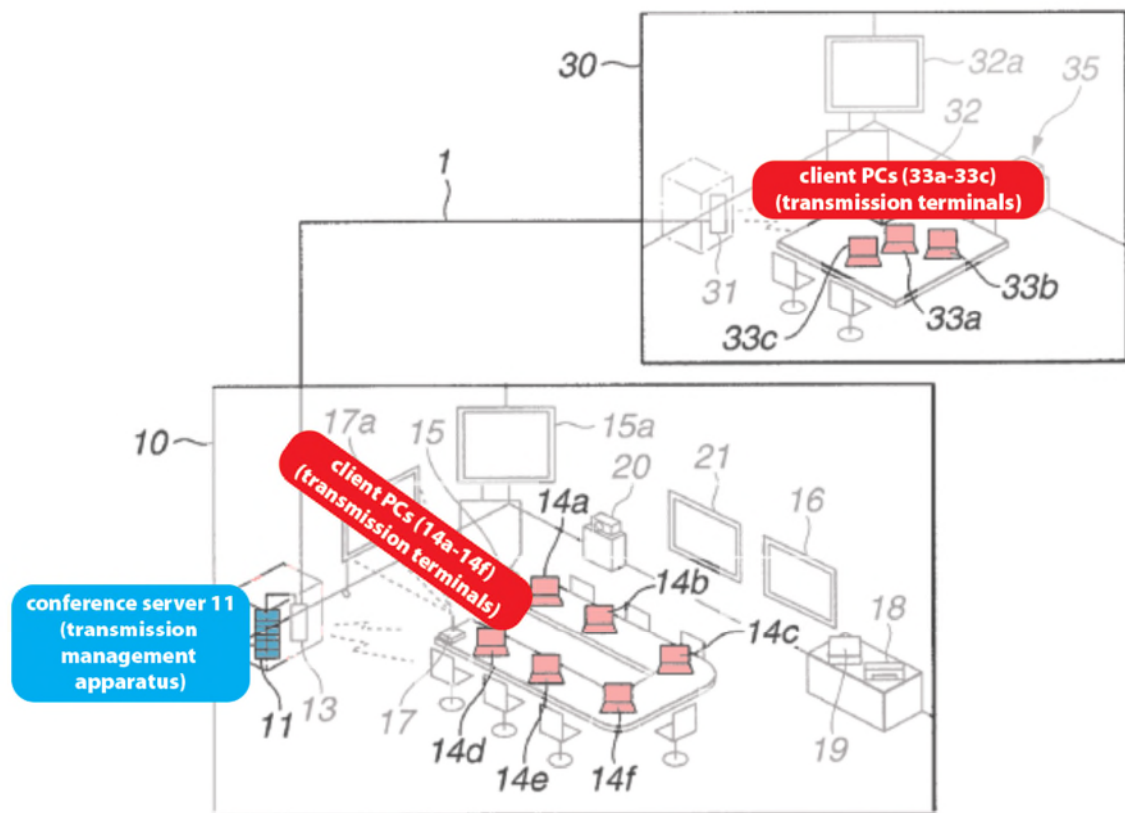


FIG.1

3. **[1.a]/[9.a]/[10.a]/[17.a] “a storage medium configured to store first information including a first identification name and a first attendance state associated with the first transmission terminal, and second information including a second identification name and a second attendance state associated with the second transmission terminal; and”**

Lee discloses this limitation. Lee discloses that conference server 11(transmission management apparatus) includes an attendant information storage section 42 (storage medium). EX1004, ¶[0119]. Lee explains that client control section 41 (within conference server 11) receives “personal data indicating the name, mail address and IP address of the attendants operating the respective client PCs,” (transmission terminals) prepares “the attendant information file including the information of a plurality of individuals,” and stores that file in attendant information storage section 42 (storage medium). EX1004, ¶[0122]; EX1003, ¶¶75-76.

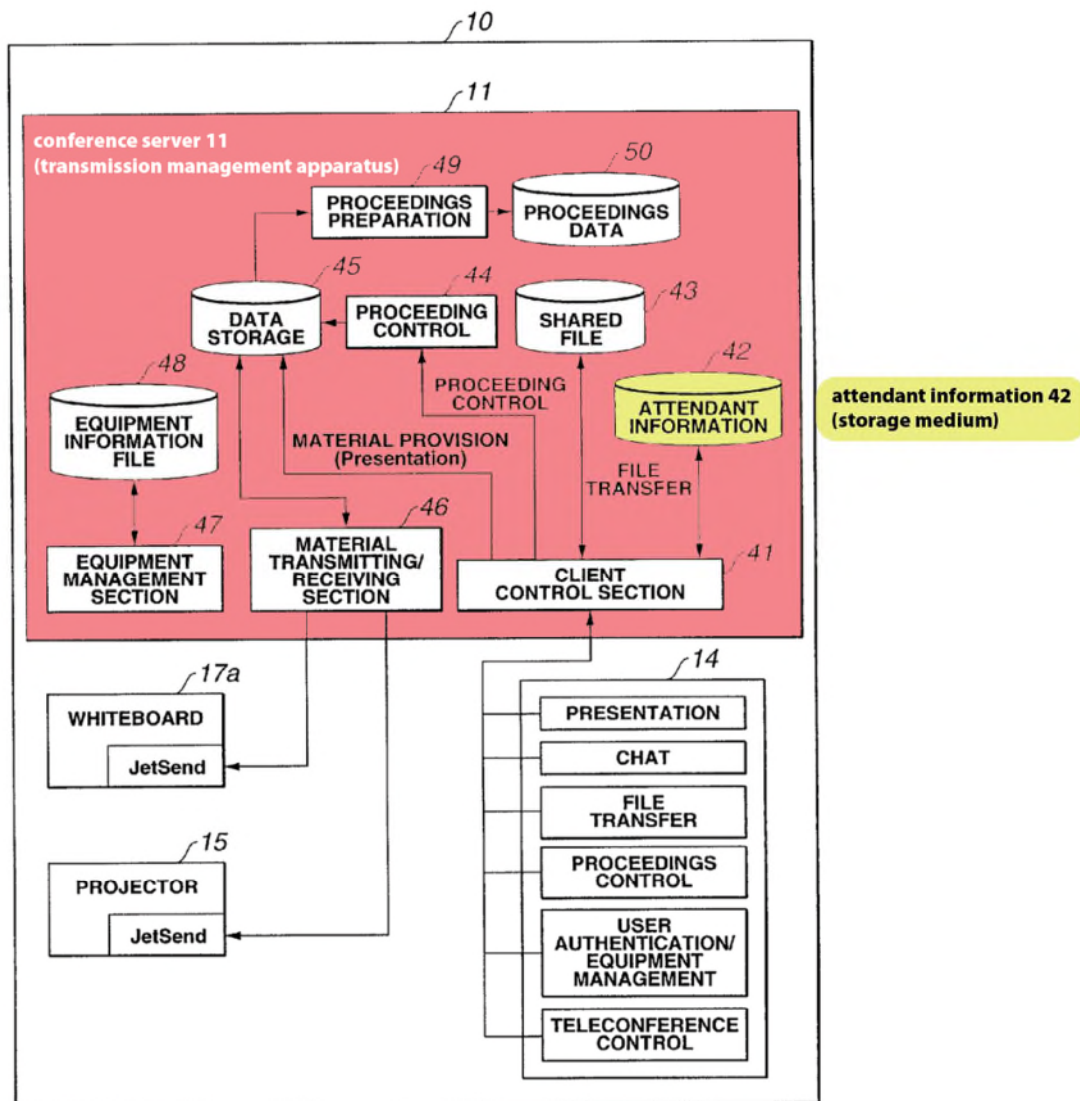


FIG.7

The stored personal data for a first client PC (first transmission terminal) teaches first information including a first identification name associated with the first transmission terminal, and the stored personal data for a second client PC (second transmission terminal) teaches second information including a second identification name associated with the second transmission terminal. EX1004, ¶¶[0122], [0161]-[0162], [0235]-[0237], [0243]-[0244]; EX1003, ¶¶77.

Lee also discloses the conference server 11(transmission management apparatus) storing attendance states associated with those terminals. EX1003, ¶78. Lee discloses that the attendant information file stored in the storage medium of the conference server is used to identify client PCs (terminals) attending the conference, to confirm the presence of the chairman terminal, to retrieve personal data related to client PCs attending the conference, and to update the file when an attendee leaves. EX1004, ¶¶[0174]-[0176], [0235]-[0237], [0245]; EX1003, ¶78. Lee's use of shaded and normal displays also reflects an attendance state because the chairman terminal provides a shaded display for a client PC that is not user-authenticated and a normal display for a user-authenticated client PC. EX1004, ¶¶[0105]-[0106].

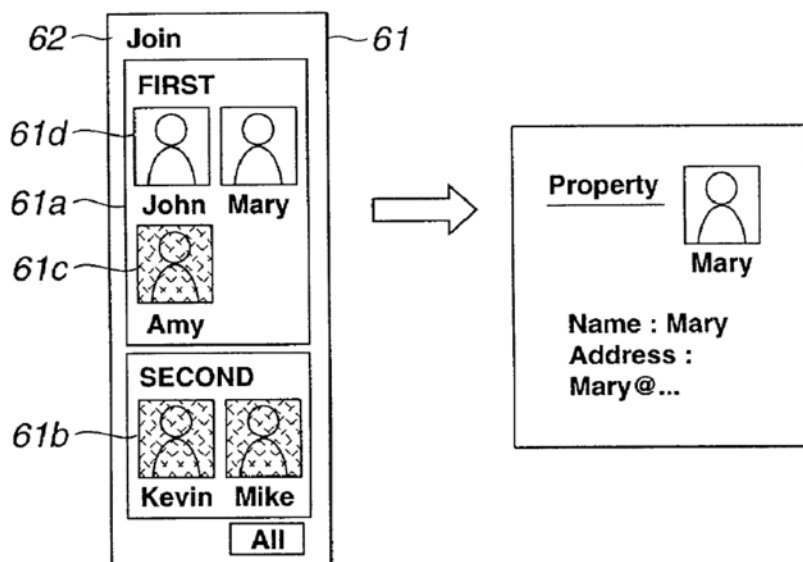


FIG.4A

FIG.4B

When the chairman grants attendance permission to a newly attending client PC, Lee changes the icon for that client PC from shaded to normal, and other client PCs similarly change the icon display for that client PC after receiving the attendance permission notice. EX1004, ¶¶[0247]-[0249]; EX1003, ¶79.

It would also have been obvious to store that attendance state in Lee's conference server 11 (transmission management apparatus) attendant information section 42 (storage medium), or in another associated storage location of the conference server, because Lee's server must maintain and update attendee status information to determine who is attending, who is authorized, whether the chairman is present, and whose information should be transmitted to participating terminals. EX1004, ¶¶[0122], [0175], [0235]-[0237], [0245]-[0250]; EX1003, ¶¶80-81.

4. **[1.b]/[9.b]/[10.b]/[17.b] “circuitry configured to: update the first attendance state associated with the first transmission terminal to a state indicating that the first transmission terminal is attending a video communication, based on attendance request information for video communication received from the first transmission terminal;”**

Lee discloses circuitry configured to perform the claimed update. EX1003, ¶¶82-83. Lee discloses conference server 11 (transmission management apparatus), which executes server programs including the client control program, proceedings control program, equipment recognition program, material transmission/reception program, and proceedings preparation program. EX1004, ¶¶[0110]-[0119]; EX1003, ¶83. Lee further discloses that client control section 41 carries out

communication with the client PCs (transmission terminals), manages requests and data in user authentication, controls communication between client PCs, prepares and stores the attendant information file in the attendant information section 42 (storage medium), and transfers attendance-permission information. EX1004, ¶¶[0116], [0120]-[0124]; EX1003, ¶83. A POSITA would have understood, or at least found it obvious, that Lee's conference server (transmission management apparatus) implements these software-controlled functions using computer circuitry such as a processor, memory, and network interface, because Lee describes a "conference server" that executes programs, stores files, reads stored information, and transmits data through a communication network. EX1004, ¶¶[0070]-[0072], [0110]-[0124], [0235]-[0237]; EX1003, ¶83.

Lee's chairman terminal is an example of a first transmission terminal, and the chairman attendance request is attendance request information received from that first transmission terminal. EX1004, ¶¶[0165]-[0167]; EX1003, ¶84. Lee discloses that client PCs (transmission terminals) transmit conference attendance requests including personal data to client control section 41 within conference server 11. EX1004, ¶¶[0161]-[0162]; EX1003, ¶84. Lee further discloses that a client PC operated by the chairman transmits a chairman attendance request to the client control section, and in response the client control section enables that client PC to start the teleconference control program, proceedings control program, and user

authentication/equipment management program, thereby giving the client PC authority to be the chairman terminal. EX1004, ¶¶[0165]-[0168]; EX1003, ¶84.

Lee's attendance request is for video communication because when Lee refers to "attendants" and "attendant terminals," it is referring to attending a video conference. EX1004, ¶[0003]; EX1003, ¶85. Lee's network conferencing system includes a teleconferencing system in which camera devices generate image data, and monitors display images, and then the teleconferencing system transmits and receives video data and audio data. EX1004, ¶¶[0085]-[0096], [0112], [0266]-[0270]; EX1003, ¶85.

Lee also discloses that the chairman terminal can control the teleconferencing operation by selecting the teleconferencing system and causing connection processing between the teleconferencing systems in the different conference rooms. EX1004, ¶¶[0267]-[0270]; EX1003, ¶86. Thus, when Lee's client control section responds to the chairman attendance request by authorizing the chairman terminal and recognizing the chairman's attendance, Lee teaches or renders obvious updating the first attendance state to indicate that the first transmission terminal is attending the video communication. EX1004, [0162]-[0167], [0235]-[0237], [0245]; EX1003, ¶86.

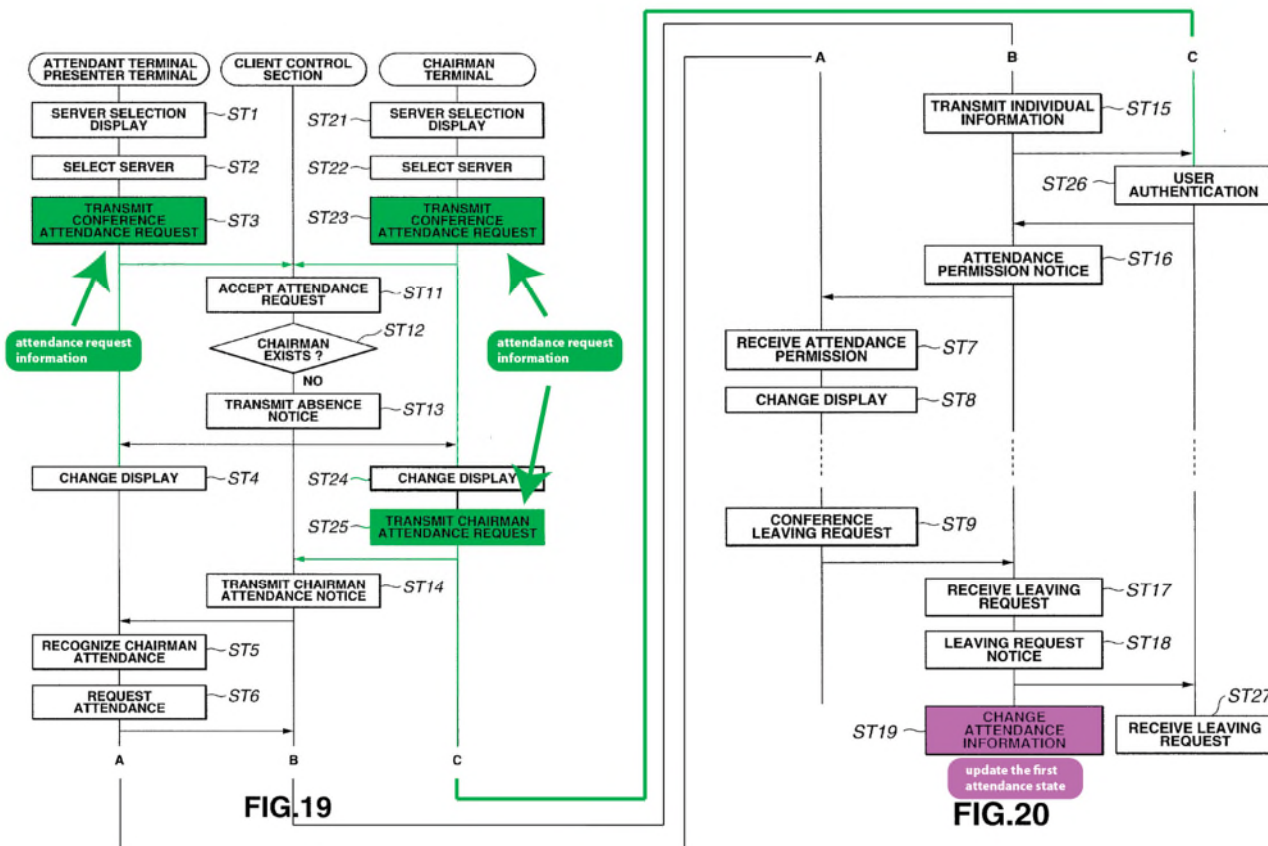
Lee also teaches the same update using an attendant terminal rather than a chairman terminal as the claimed first transmission terminal. EX1003, ¶87. During

an ongoing conference, a newly attending client PC (transmission terminal) transmits a conference attendance request to the client control section 41 within conference server 11 and adds personal data to that request. EX1004, ¶¶[0241]-[0244]; EX1003, ¶87. After attendance is permitted, Lee changes the icon display for that client PC from shaded to normal, and other client PCs already attending the conference similarly change the icon display. EX1004, ¶¶[0247]-[0249]; EX1003, ¶87. This confirms that Lee's system updates the attendance state for a requesting transmission terminal based on attendance request information received from that terminal. EX1004, ¶¶[0243]-[0250]; EX1003, ¶87.

Moreover, the conference server 11 performs "client control" functions. EX1004, ¶[0119]; EX1003, ¶88. The client control section of the conference server waits for requests from attending transmission terminals. EX1004, ¶[0159]; EX1003, ¶88. The client control section further determines whether or not a chairman terminal exists and transmits a "chairman absence notice" to the other terminals if not; this means that the server must be updating attendance states based on attendance requests, so that it can keep track of whether a chairman is attending. EX1004, ¶¶[0163]-[0164]; EX1003, ¶88. Similarly, the client control section creates an "attendant information file" using data included in conference attendance requests, and notifies other terminals as new attendants arrive. EX1004, ¶[0162];

EX1003, ¶88. A POSITA would understand that this file stores “attendance state” as it is updated to reflect attendance of client PCs. EX1003, ¶88.

Finally, the conference server also updates the attendance state, including updating the attendant information file, as terminals *leave* the conference, in response to “conference leaving requests.” EX1004, ¶¶[0174]-[0175], FIG. 20. This shows that the attendance state is continuously updated based on attendance requests, as there would be no need to indicate that a terminal is in a non-attending state unless the information file would otherwise contain information showing the terminal in an attending state. EX1003, ¶¶89-90.



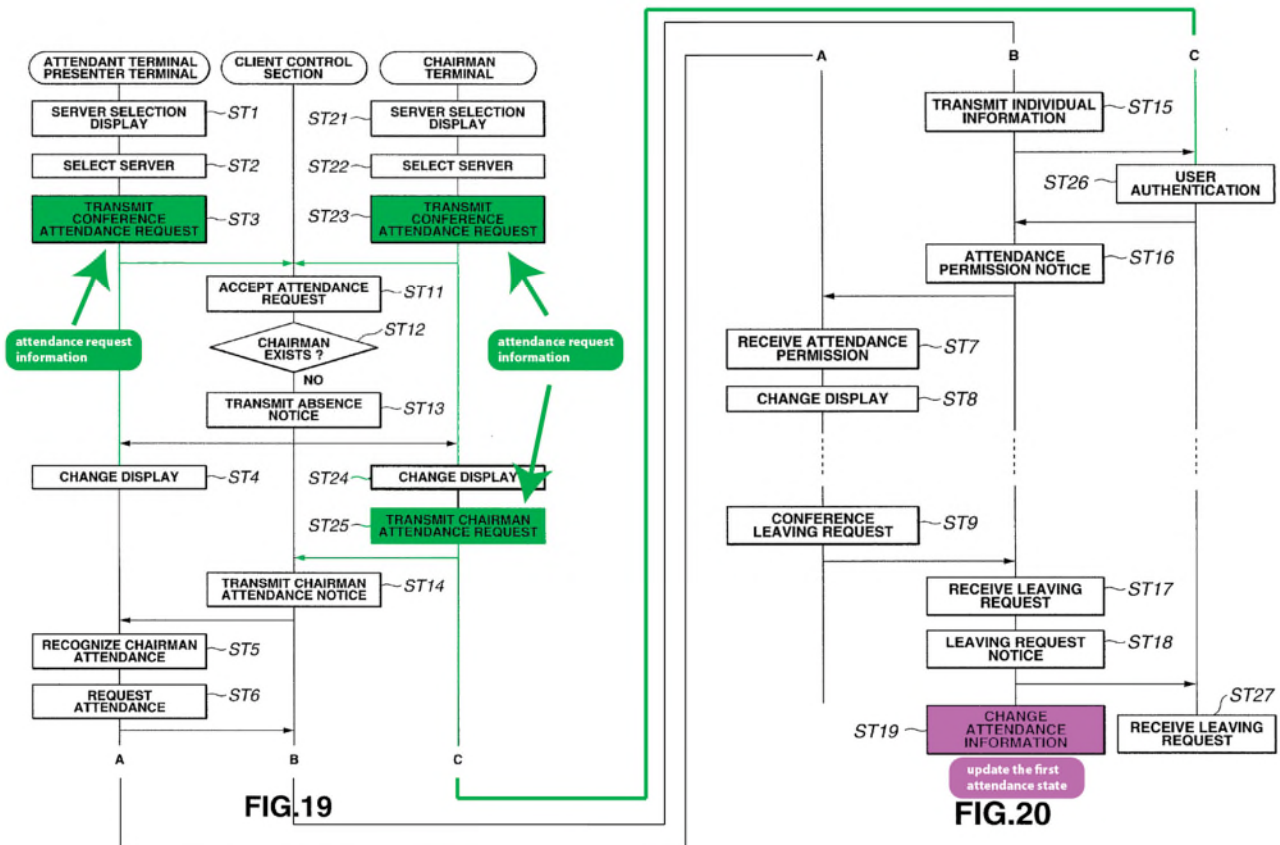
5. [1.c]/[9.c]/[10.c]/[17.c] **“update, when the second transmission terminal attends the video communication, the second attendance state associated with the second transmission terminal to a state indicating that the second transmission terminal is attending the video communication;”**

Lee discloses this limitation. Lee discloses that, after the chairman terminal is recognized, the attendant terminal and presenter terminal transmit an attendant attendance request and a presenter attendance request to request attendance at the conference. EX1004, ¶¶[0168]-[0170]. The client control section then transmits attendance permission information to the attendant terminal or presenter terminal, and those terminals change their displays to the attendant or presenter display screens. EX1004, ¶¶[0171]-[0173]. Lee therefore teaches updating the state of a second transmission terminal, such as an attendant terminal or presenter terminal, to indicate that the terminal is attending the conference. EX1004, ¶¶[0168]-[0173]; EX1003, ¶¶91-92.

Lee further teaches updating the second attendance state when a new transmission terminal (client PC) joins during an existing conference. EX1003, ¶93. Lee discloses that a newly attending client PC transmits a conference attendance request with personal data, the client control section within the conference server transmits the request notice to the other client PCs and the chairman terminal, and the chairman terminal adds an icon for the new user, such as “Amy.” EX1004, ¶¶[0241]-[0246]. When the chairman permits attendance, Lee changes that client

PC's icon from shaded to normal, and the new client PC and the other client PCs change the icon display to normal after the client control section transmits the conference attendance permission notice. EX1004, ¶¶[0247]-[0249]. Through this process, the new client PC “can attend the conference” and the other client PCs “can recognize the new attendant.” EX1004, ¶[0250]. This teaches or renders obvious **updating** the second attendance state associated with the second transmission terminal to indicate that the second transmission terminal is attending the video communication. EX1004, ¶¶[0243]-[0250]; EX1003, ¶93.

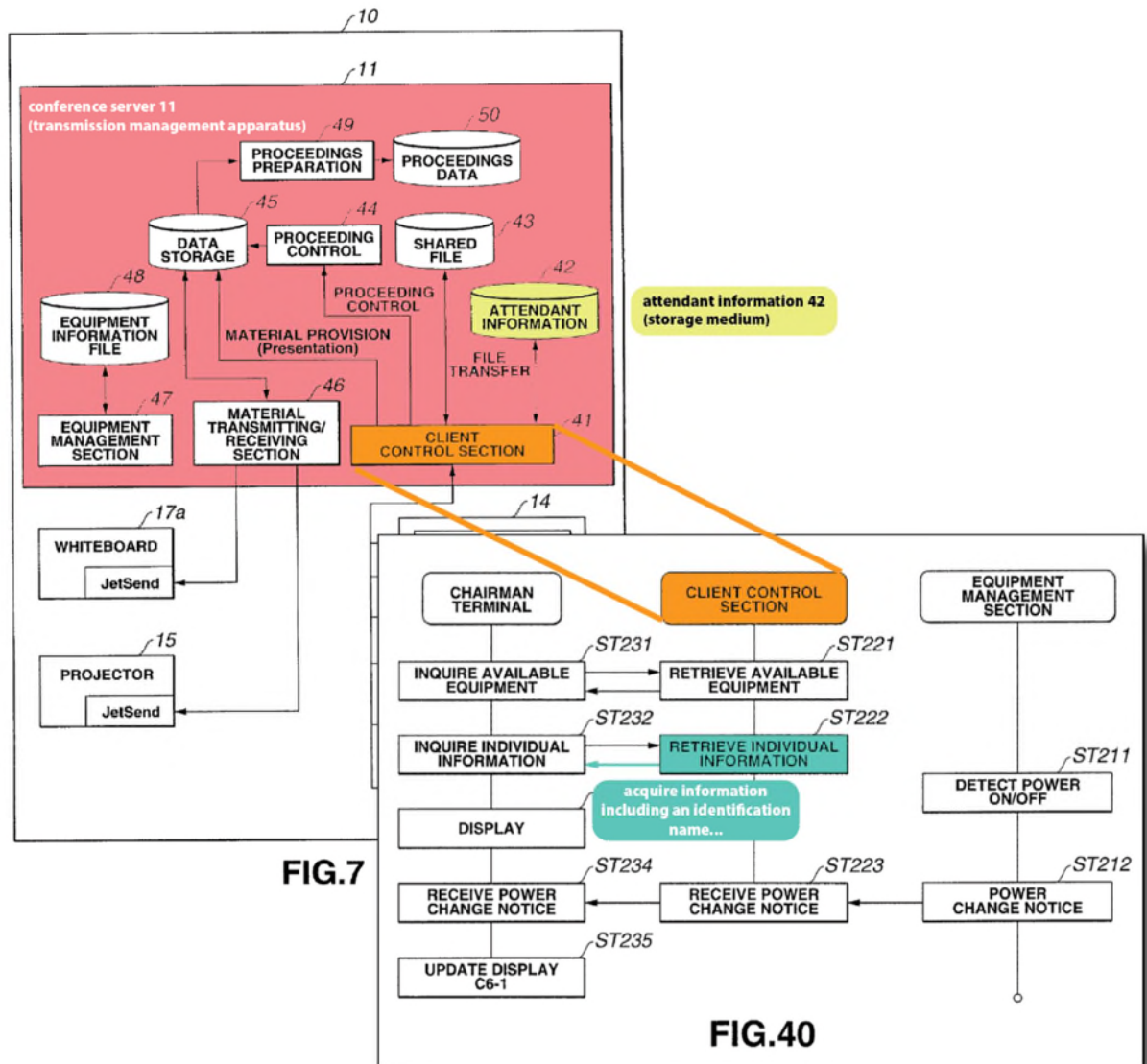
Moreover, Lee's conference server's client control section waits for requests from attending terminals and creates an “attendant information file” using data included in conference attendance requests, and notifies other terminals as new attendants arrive or leave. EX1004, ¶¶[0159], [0162], [0174]-[0175], FIGs. 19, 20; EX1003, ¶94. The attendance state is thus *continuously updated* based on attendance requests from various client PCs seeking to join (or leave) the conference. EX1003, ¶¶94-95.

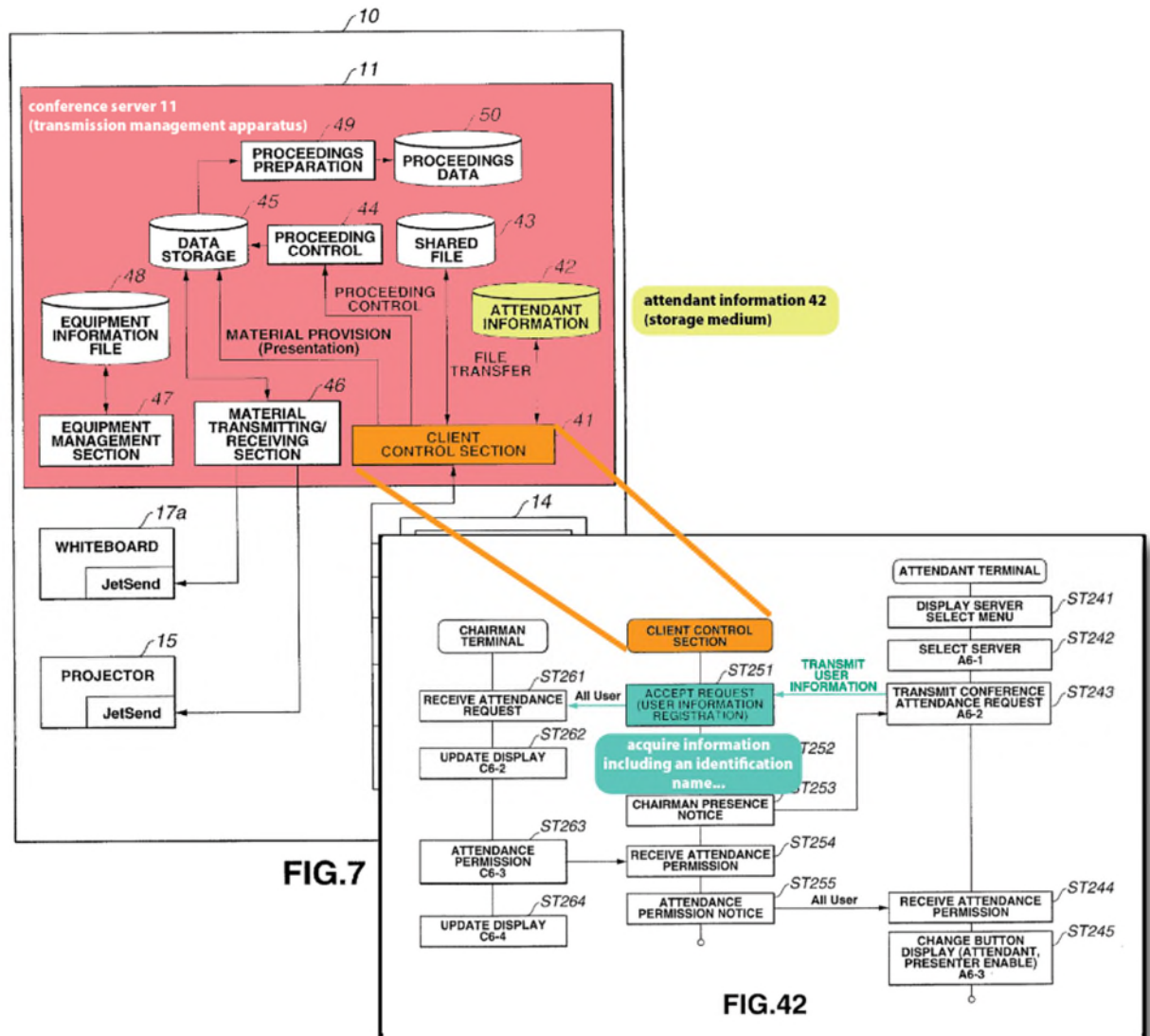


- 6. [1.d]/[9.d]/[10.d]/[17.d] “acquire information including an identification name associated with a transmission terminal with which an attendance state is associated and in which the attendance state indicates that the transmission terminal is attending the video communication, from the storage medium; and”**

Lee discloses this limitation. Lee discloses that client control section 41 within conference server 11 receives personal data identifying the names, mail addresses, and IP addresses of attendants operating the respective client PCs (transmission terminals), prepares an attendant information file including information for a plurality of individuals, and stores that file in attendant information storage section

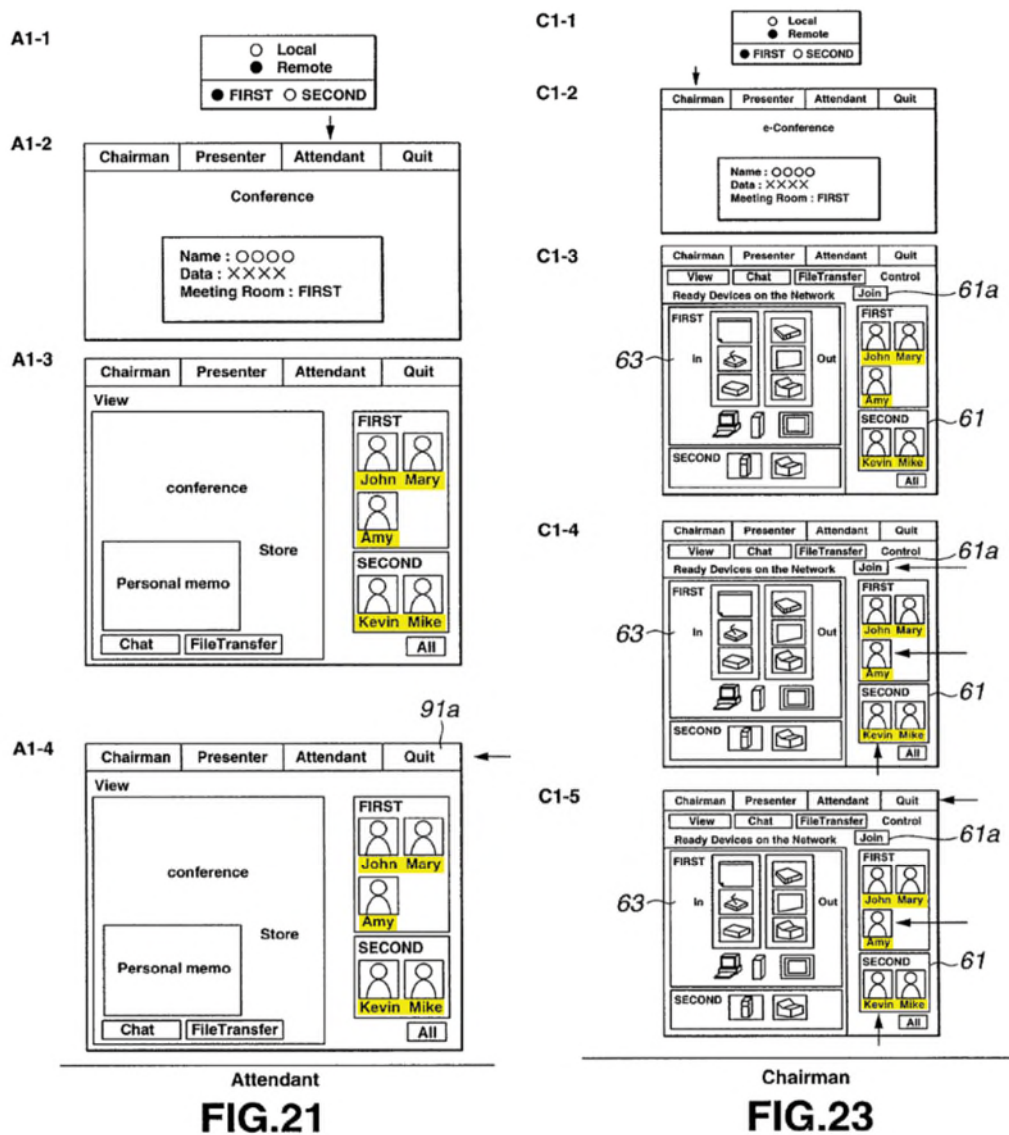
42 (storage medium). EX1004, ¶[0122]; EX1003, ¶¶96-97. Lee further discloses that, in response to attendance processing, the client control section **reads out** personal data from attendant information storage section 42 and **transmits** the personal data to the chairman terminal. EX1004, ¶[0169]; EX1003, ¶¶98. Lee also discloses that, when the chairman terminal **inquires** about conference attendants, the client control section 41 within conference server 11 **reads out** the attendant information file stored in attendant information storage section 42 (storage medium), retrieves personal data, and **transmits** the personal data related to the client PCs attending the conference to the chairman terminal. EX1004, ¶¶[0236]-[0237], [0250]; EX1003, ¶¶96-98.





The retrieved personal data includes an identification name associated with a transmission terminal because Lee states that the personal data includes the “name” of the attendant operating the respective client PC. EX1004, ¶[0122]; EX1003, ¶99. The retrieved information is associated with a terminal whose attendance state indicates attendance because Lee retrieves and transmits personal data “related to the client PCs attending the conference.” EX1004, ¶[0237]; EX1003, ¶99.

Moreover, the information stored in “attendant information storage section 42” contains the name and IP address “of the attendants operating the respective client PCs,” thus associating the name with attending transmission terminals. EX1004, ¶[0122]; EX1003, ¶99. The attendance file is updated as attendants request to leave the conference, ensuring that the name and IP address information in the attendance information storage section 42 reflect whether the transmission terminal is attending the video communication. EX1004, ¶¶[0174]-[0175], FIG. 20. Lee therefore teaches **acquiring**, from the attendant information storage section 42 (storage medium), information including an identification name associated with a transmission terminal (client PC) that is attending the video communication. EX1004, ¶¶[0122], [0169], [0236]-[0237]; EX1003, ¶¶99-100.



7. [1.e]-[1.f]/[9.e]/[10.e]-[10.g] “transmit the acquired information to the first transmission terminal, wherein the acquired information is used in order to display an identification name list of sites including the first transmission terminal and the second transmission terminal which are attending the video communication during the video communication”

Lee discloses this limitation. Lee discloses that the client control section 41 within conference server 11 **transmits** personal data retrieved from the attendant

information storage section 42 to the chairman terminal. EX1004, ¶[0169]. Lee further discloses that, when the chairman terminal inquires about conference attendants, the client control section reads out the attendant information file, acquires personal data, and **transmits** the personal data related to the client PCs (transmission terminals) attending the conference to the chairman terminal (first transmission terminal). EX1004, ¶¶[0236]-[0237]. The chairman terminal corresponds to the first transmission terminal, and the transmitted personal data is the acquired information. EX1004, ¶¶[0169], [0236]-[0237]; EX1003, ¶¶101-102.

Lee also teaches that the acquired information is used to display an identification name list of sites including attending terminals. EX1003, ¶103. Lee discloses that the chairman terminal executes the user authentication/equipment management program to provide an attendant icon display in which attendants operating the other client PCs are displayed as icons. EX1004, ¶[0103]. Lee further discloses that attendant icon display screens are displayed for the first conference room and second conference room, and that the chairman terminal (first transmission terminal) displays the images and names of the attendants so that the conference attendants are visually recognizable to the chairman. EX1004, ¶[0104]. Lee's display of attendee names grouped by conference room teaches the claimed identification name list of sites, because the displayed rooms identify attending conference sites and the displayed names identify the terminals and participants

attending from those sites. EX1004, ¶¶[0104], [0149]-[0156], [0237], [0246]-[0250]; EX1003, ¶103.

Moreover, Lee discloses that **each attendant terminal**, not just the chairman terminal and projector displays, provides the attendant icon display screen 61. EX1004, ¶[0151]. EX1003, ¶104.

Lee teaches displaying the list during the video communication because Lee describes adding a new attendee during the conference, transmitting a conference attendance request notice to the other client PCs and chairman terminal, displaying the new attendee's icon and name, changing the icon to normal when attendance is permitted, and enabling the new client PC to attend the conference so that other client PCs can recognize the new attendant. EX1004, ¶¶[0241]-[0250]; EX1003, ¶104. Lee also discloses that the conference includes teleconference processing in which teleconferencing systems transmit and receive video data and audio data. EX1004, ¶¶[0266]-[0274]. Thus, Lee teaches or renders obvious **transmitting** the acquired attendee-name information to the first transmission terminal for displaying a list of attending sites during the video communication. EX1004, ¶¶[0103]-[0106], [0169], [0236]-[0237], [0241]-[0250], [0266]-[0274]; EX1003, ¶¶104-105.

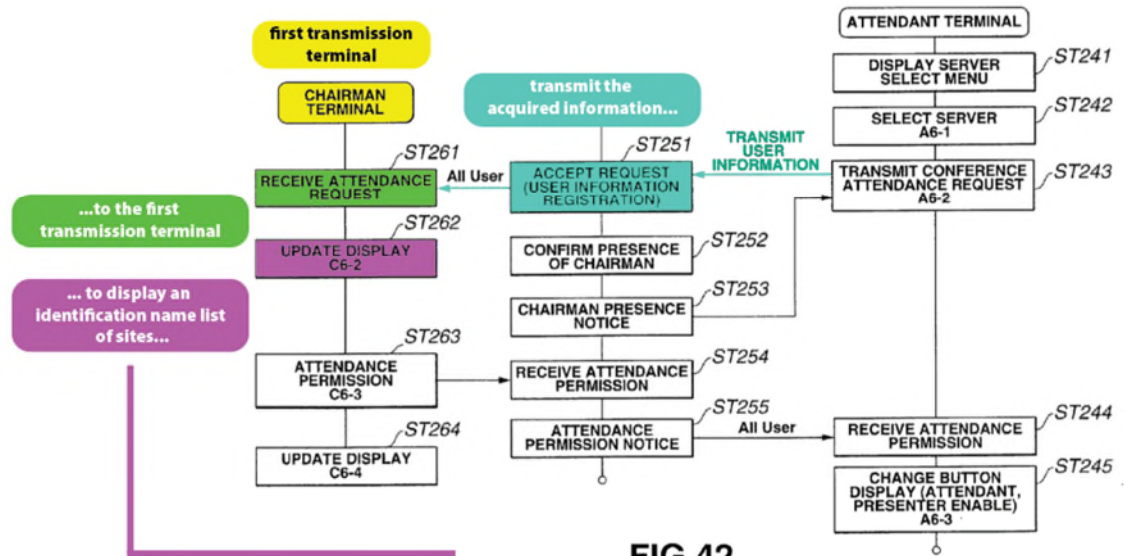


FIG. 42

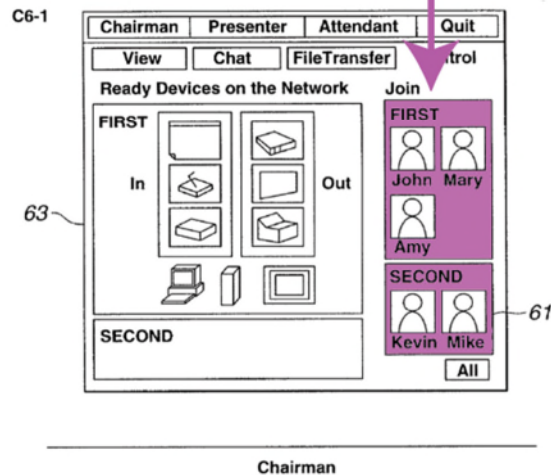


FIG. 41

8. [1.g]/[9.f]/[10.h]/[17.f] “wherein the first transmission terminal is configured to display video images from each transmission terminal attending the video communication simultaneously.”

Lee teaches or at least renders obvious this limitation. Lee discloses that the network conferencing system includes a teleconferencing system with camera device 20, teleconference monitor device 21, camera control unit 22, audio controller 23, and microphone devices. EX1004, ¶[0085]. Camera device 20 images the presenter and the scene in the first conference room, generates image data, and outputs that image data to the teleconferencing system 35 of the second conference room and to conference server 11 (transmission management apparatus). EX1004, ¶[0086]. Teleconference monitor device 21 displays images picked up by camera device 35a in the second conference room. EX1004, ¶[0088], Teleconferencing system 35 of the second conference room includes camera device 35a and teleconference monitor 35b for imaging the status of the second conference room and transmit data to the first conference room. EX1004, ¶¶[0091]-[0096]. Lee further discloses that the teleconferencing systems carry out connection processing to transmit and receive video data and audio data. EX1004, [0267]-[0270]; EX1003, ¶¶106-107.

Lee’s first transmission terminal is configured to display conference video images because Lee’s terminal-side conference interface includes display screens for conference participation and because Lee’s teleconference monitor displays

video images from the remote conference room. EX1004, ¶¶[0088], [0149]-[0156], [0267]-[0270]; EX1003, ¶108.

As shown in Fig. 12 below, Lee's chairman terminal, an example of the first transmission terminal, has a display screen displaying video images of each transmission terminal attending the video conference. EX1004, ¶[0027], FIG12, FIG16; *see also id.* ¶[0029], FIG14, ¶[0033], FIG18; EX1003, ¶109.

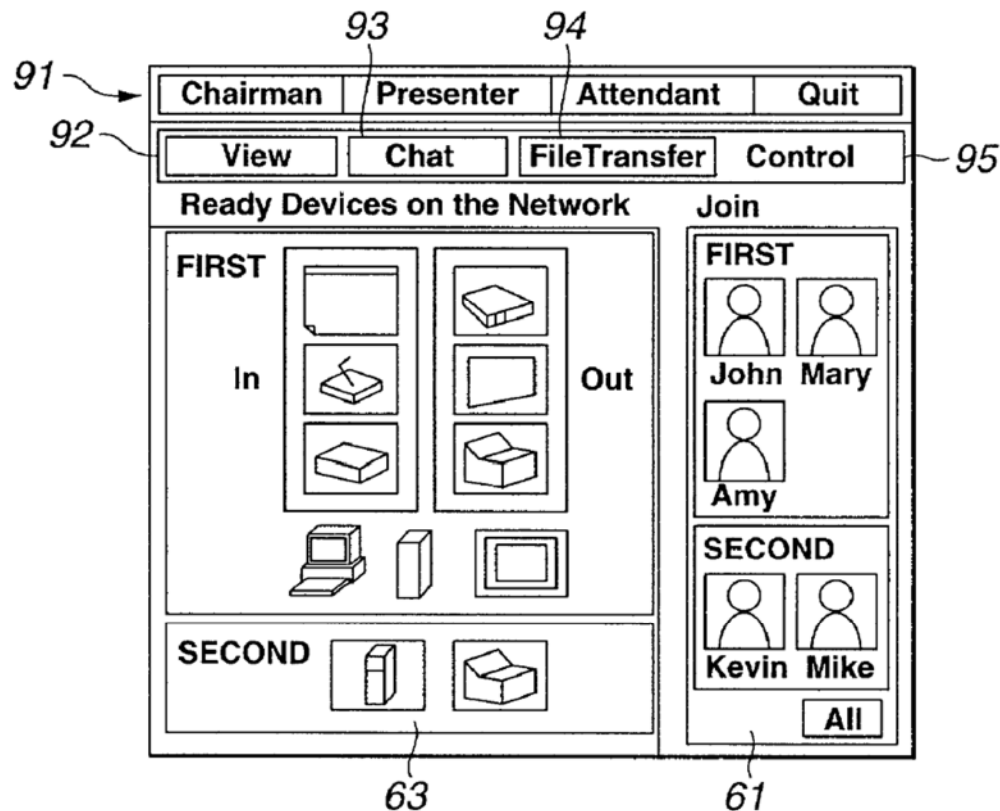


FIG.12

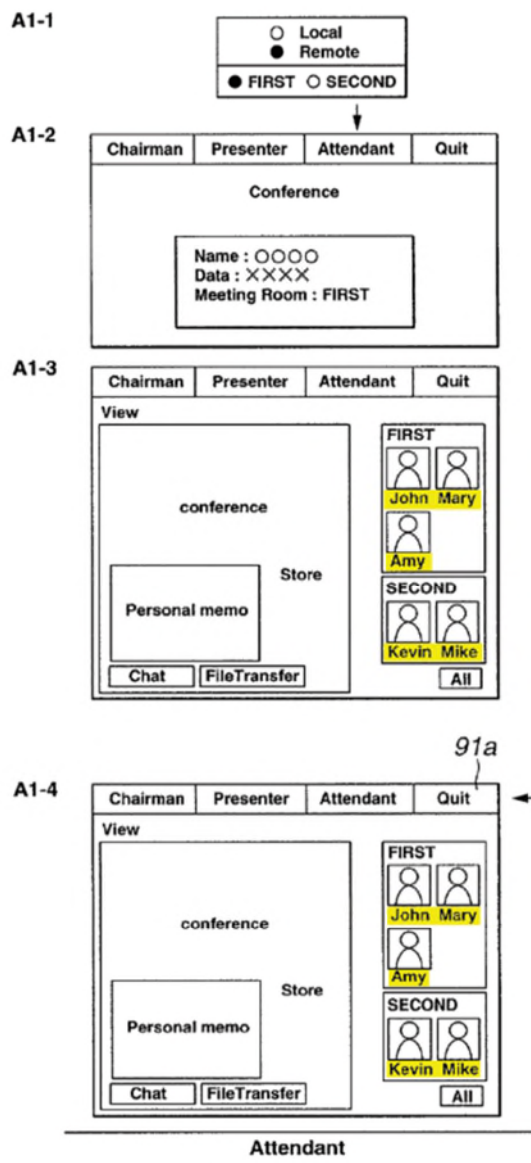


FIG. 21

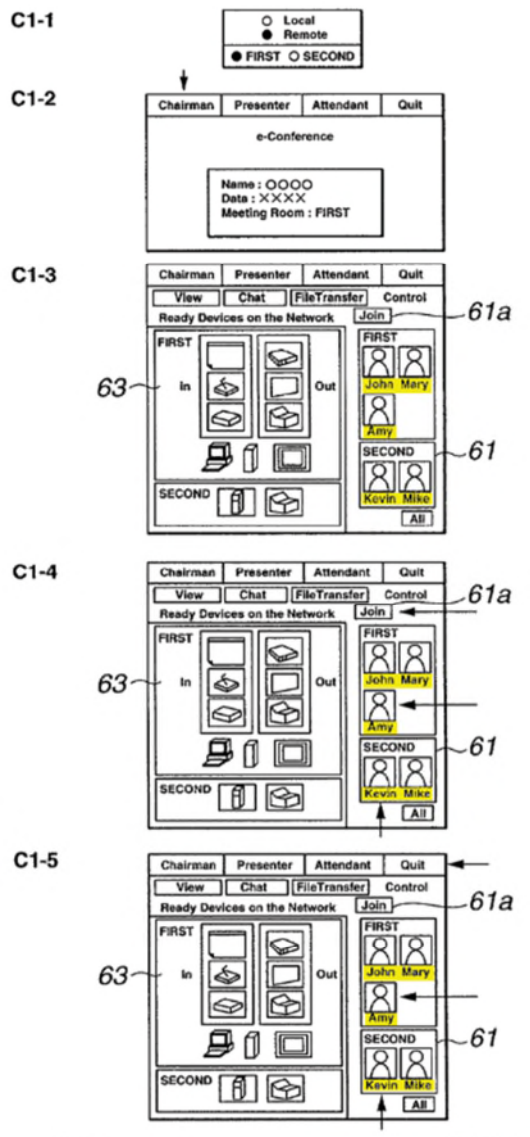


FIG. 23

EX1004, FIG21, FIG23, ¶¶[0160]-[0176]

Lee also teaches simultaneous multi-participant visual display by displaying multiple attendants as images and names in attendant icon display screens for the first conference room and the second conference room. EX1004, ¶¶[0103]-[0106],

[0149]-[0156], [0246]-[0249], FIG14-18, 43-44; EX1003, ¶108. Lee further teaches divided display areas for conference content, including a presenter video display area, which confirms that Lee's system uses divided on-screen areas to present video and other conference information in a coordinated display. EX1004, ¶¶[0142]-[0147]; EX1003, ¶¶110-111.

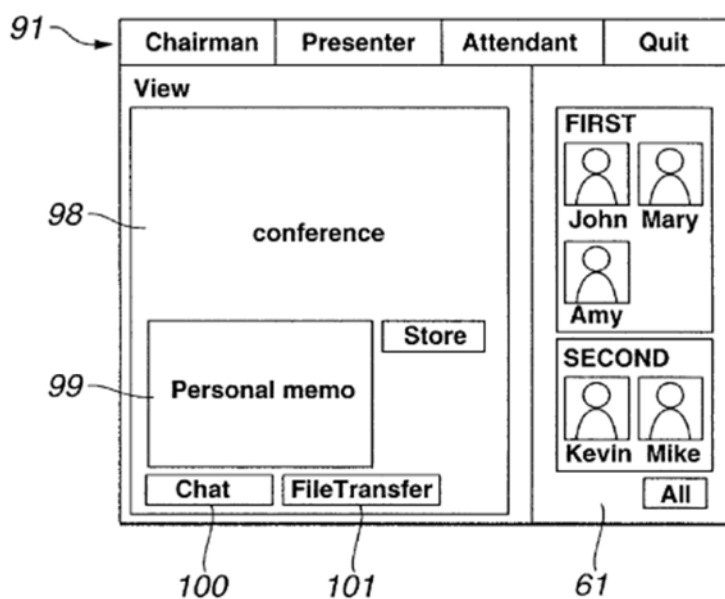


FIG.14

Accordingly, Lee teaches or renders obvious this limitation.

9. Claims [2]/[18] “wherein the storage medium stores a terminal management table that contains the first information.”

Lee teaches or renders obvious this limitation. As discussed above for limitation [1.a]/[17.a], Lee discloses that conference server 11 includes attendant information storage section 42 (storage medium), and that client control section 41

receives personal data indicating the “name, mail address and IP address” of attendants operating the respective client PCs, prepares an “attendant information file including the information of a plurality of individuals,” and stores that file in attendant information storage section 42. EX1004, ¶¶[0119]-[0122]; EX1003, ¶¶112-113.

Lee’s attendant information file teaches the claimed terminal management table because it is stored information that manages participant/client-PC information for the terminals attending or seeking to attend the conference. EX1004, ¶¶[0122], [0235]-[0237]; EX1003, ¶114. The attendant information file contains the claimed first information because it includes at least the name of the individual operating the first client PC. EX1003, ¶114. As explained for limitation [1.a]/[9.a]/[10.a]/[17.a], Lee teaches or renders obvious storing the associated attendance state for that client PC in the same file or in an associated storage location (storage medium 42) of the conference server 11. EX1004, ¶¶[0122], [0174]-[0176], [0235]-[0237], [0245]-[0250]; EX1003, ¶114.

It would also have been obvious to implement Lee’s attendant information file as a table of terminal/participant records because Lee stores information corresponding to identical fields for each of multiple attendants and later reads out and acquires personal data corresponding to client PCs attending the conference. EX1004, ¶¶[0122], [0236]-[0237]; EX1003, ¶115. It was commonplace to store

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information in a table form when storing multiple records, each of which contains information corresponding to identical fields. EX1003, ¶115. For example, SQL databases, which predate the '548 Patent's priority date and were commercialized in the late 1970's, use tables for the storage and manipulation of structured data similar to the attendant information. EX1003, ¶115. A POSITA would have been very familiar with table-based storage, and would readily have mapped the attendant information to such storage because it represents the same fields across each record, so that representation as a table is particularly effective. EX1003, ¶¶115-116. Accordingly, Lee renders obvious claims 2/18.

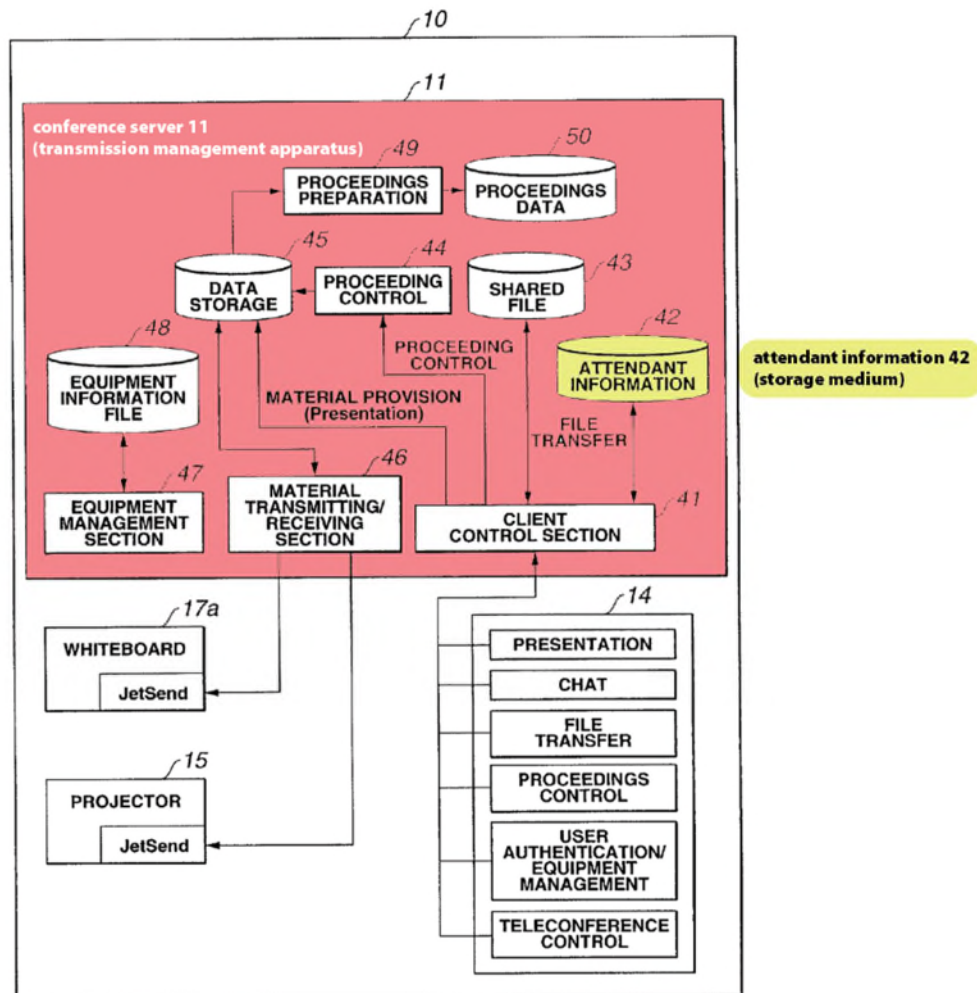


FIG.7

10. Claims [3]/[19] “wherein the storage medium stores a first identifier for identifying the first transmission terminal and a second identifier for identifying the second transmission terminal.”

Lee discloses this limitation. As discussed above for limitation [1.a]/[9.a]/[10.a]/[17.a], Lee discloses that client control section 41 receives personal data indicating the “name, mail address and IP address” of attendants operating the respective client PCs (transmission terminals), prepares an attendant information file including the information of a plurality of individuals, and stores that file in attendant

information storage section 42 (storage medium). EX1004, ¶[0122]; EX1003, ¶¶117-118.

Lee's stored personal data teaches the claimed first and second identifiers because Lee expressly stores IP addresses for the respective client PCs, and an IP address identifies the corresponding client PC on the conferencing network. EX1004, ¶[0122]; EX1003, ¶119. Lee's attendant information file also stores information for a plurality of individuals corresponding to the respective client PCs, which teaches storing identifiers for both a first transmission terminal and a second transmission terminal. EX1004, ¶¶[0122], [0235]-[0237]; EX1003, ¶119.

Further, it would also have been obvious to use the stored IP addresses, or other stored personal data such as mail addresses, as the first and second identifiers because Lee stores them precisely to distinguish among the respective client PCs participating in the conference. EX1004, ¶¶[0122], [0235]-[0237]; EX1003, ¶¶120-121. Accordingly, Lee discloses or renders obvious claims 3/19.

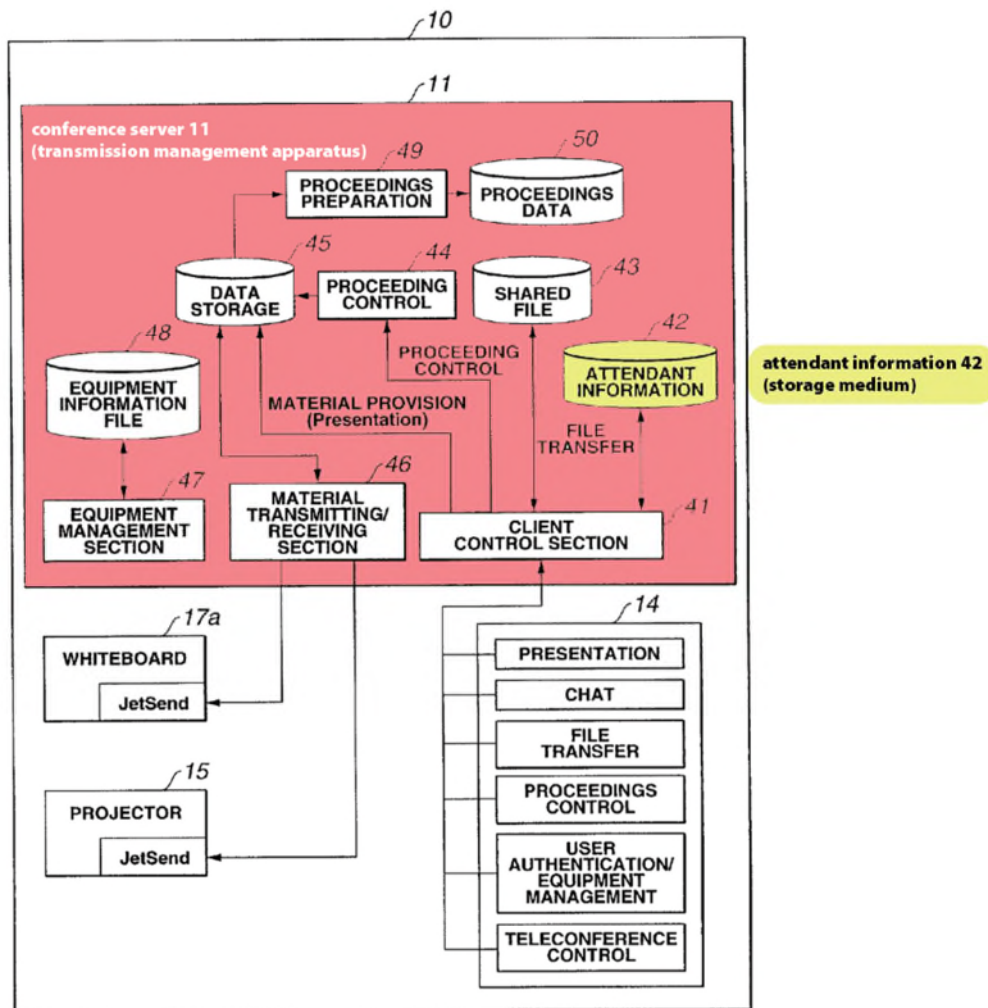


FIG.7

11. Claims [4]/[20] “wherein the identification name associated with a particular transmission terminal of the plurality of transmission terminals is information to be registered or changed in response to a request from the particular transmission terminal.”

Lee discloses this limitation. Lee discloses that the client PCs (transmission terminals) transmit conference attendance requests including personal data (information to be registered) to client control section 41, and that the client control section prepares an attendant information file using the personal data included in

those conference attendance requests to register the client PC. EX1004, ¶¶[0161]-[0162]; EX1003, ¶¶122-123.

Lee's personal data includes the claimed identification name because Lee discloses that client control section 41 receives personal data indicating the "name, mail address and IP address" of the attendants operating the respective client PCs. EX1004, ¶[0122]; EX1003, ¶124. Lee also teaches that the identification name is **registered** in response to a request from the particular transmission terminal because the client PC transmits the conference attendance request with personal data, and the client control section then uses that personal data to prepare the attendant information file. EX1004, ¶[0161]-[0162]; EX1003, ¶124. For a new participant joining during a conference, Lee likewise discloses that the newly attending client PC transmits a conference attendance request, adds personal data to that request, and causes the chairman terminal to display an icon with the name "Amy." EX1004, ¶¶[0243]-[0246]. The conference server also updates the attendance state, including updating the attendant information file, as terminals leave the conference, in response to "conference leaving requests." EX1004, ¶¶[0174]-[0175], FIG. 20.

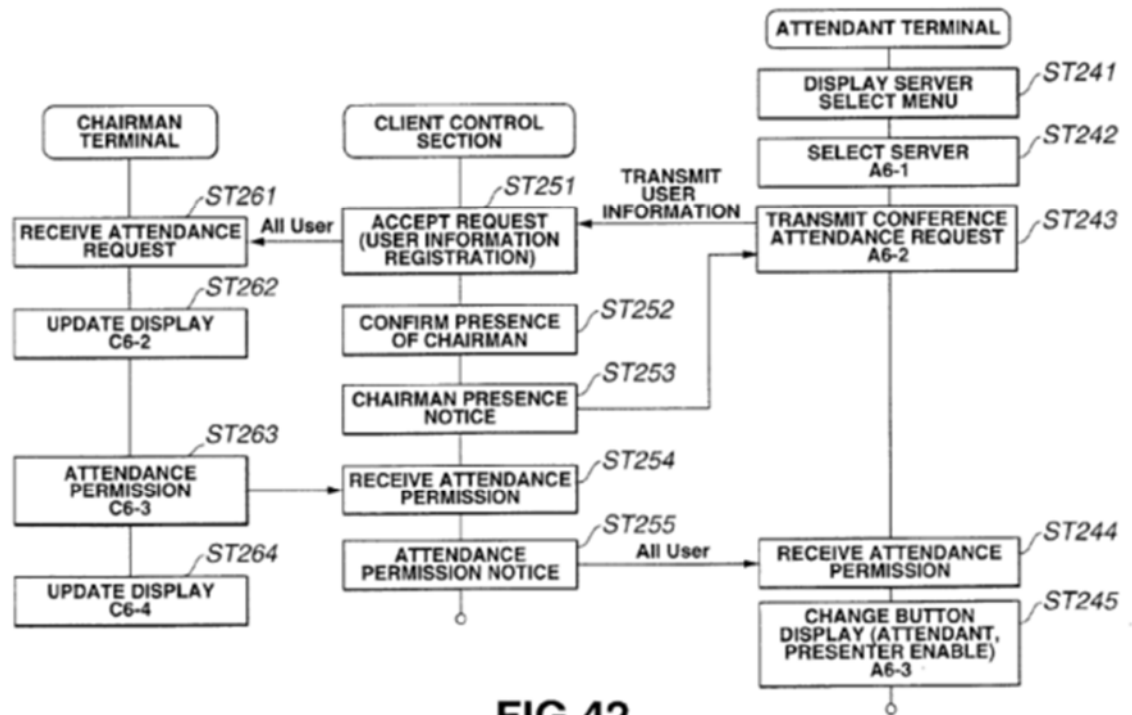


FIG.42

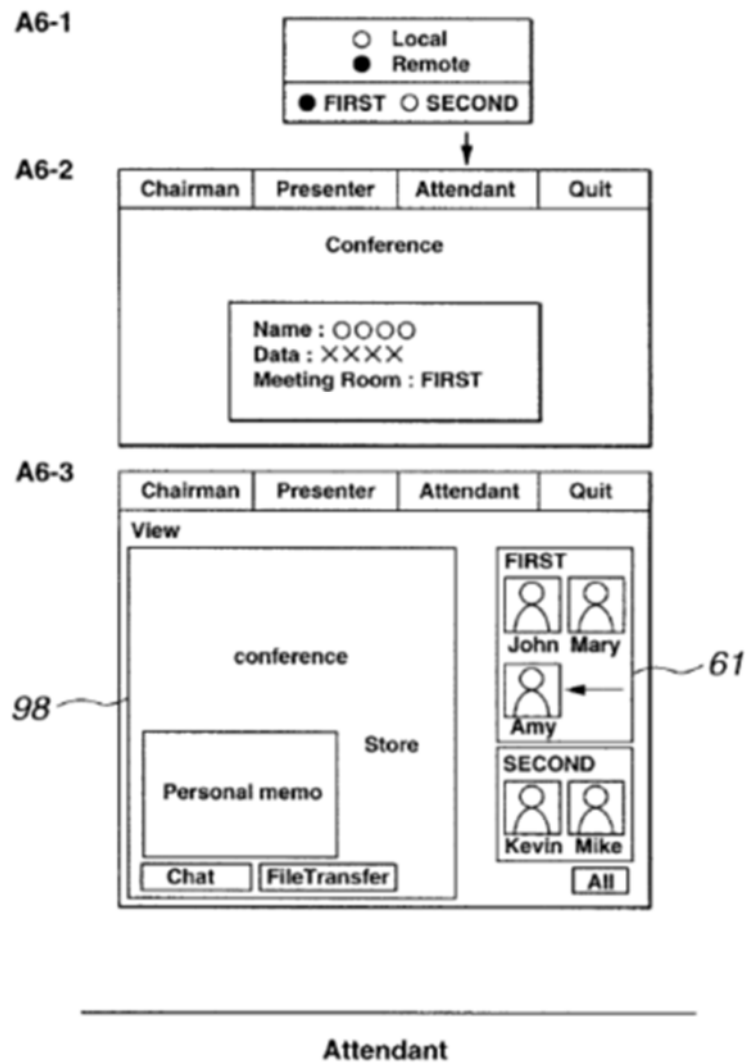


FIG.43

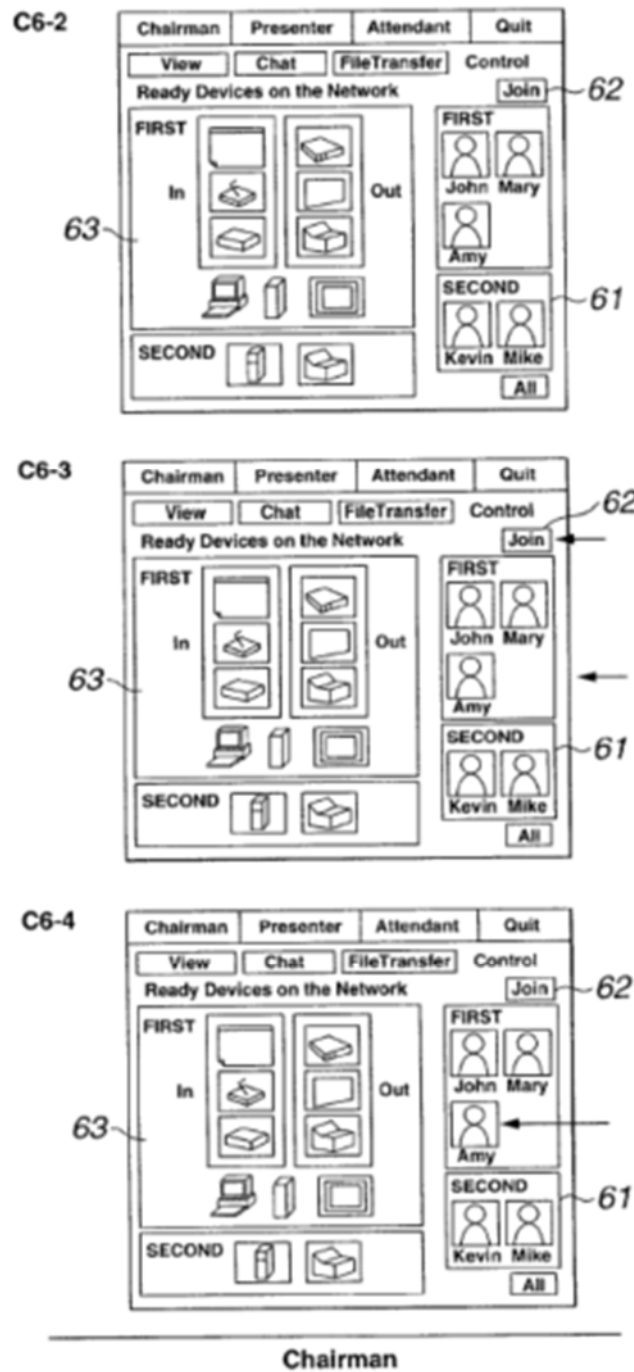


FIG.44

To the extent Patent Owner argues that Lee's disclosure is limited to registering an identification name rather than changing one, claim 4/20 is still

satisfied because it requires that the identification name be registered *or* changed in response to a request from the particular transmission terminal. EX1004, ¶¶[0161]-[0162], [0243]-[0246]; EX1003, ¶125. Moreover, it would have been obvious to allow the stored name to be changed in the same manner because Lee already obtains the user's name from personal data supplied by the client PC and updates the attendant information file in response to conference activity. EX1004, ¶¶[0122], [0174]-[0176], [0243]-[0250]; EX1003, ¶¶125-126. Accordingly, Lee discloses or renders obvious claims 4/20.

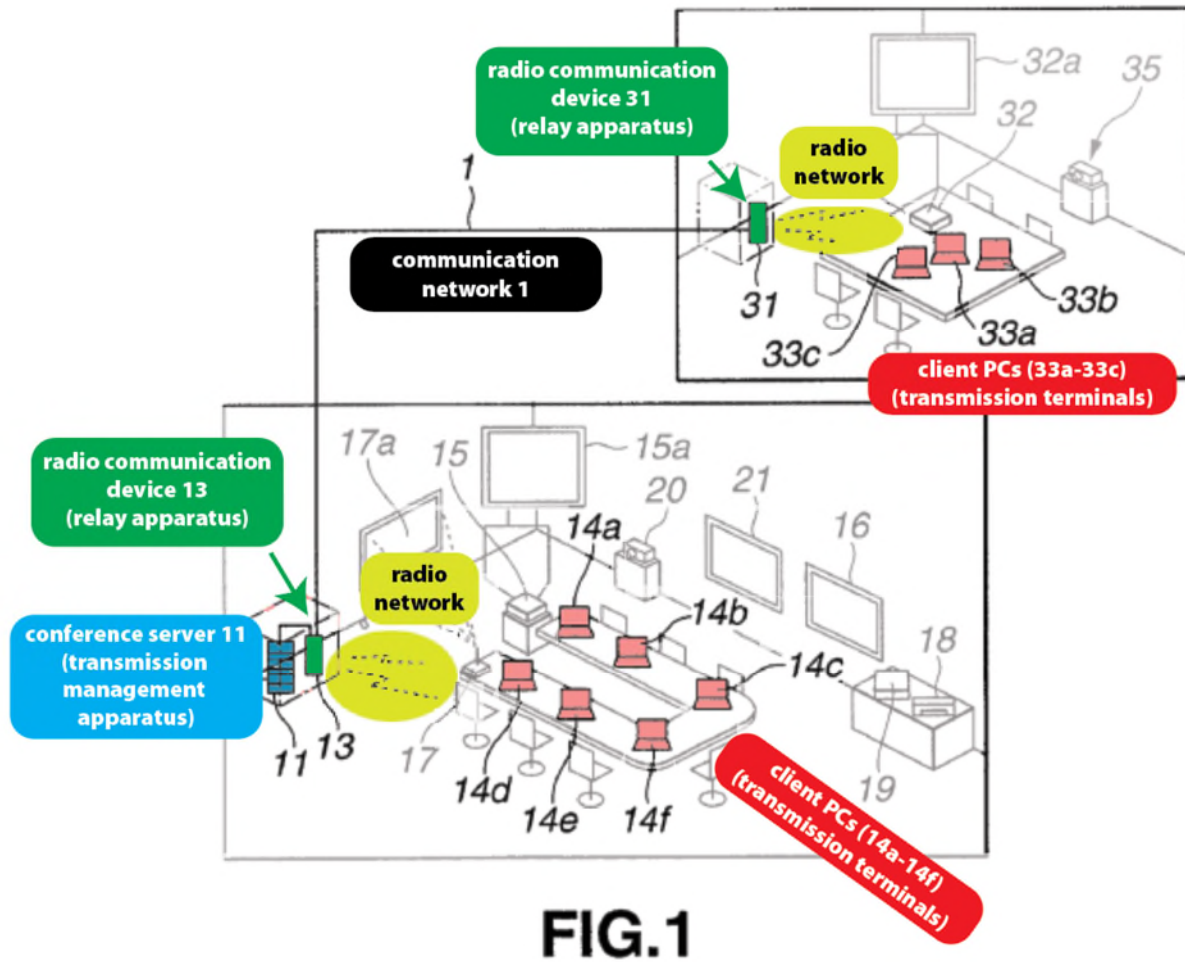
12. Claims [5]/[21] “wherein other transmission terminals of the plurality of transmission terminals, which are other than the first transmission terminal and are attending a same conference, transmit or receive at least one of image data and sound data to or from each other via a relaying apparatus.”

Lee discloses this limitation. Lee discloses a network conferencing system with multiple client PCs operated by conference participants, including chairman, presenter, and attendant terminals, and Lee discloses that the conference (including the exchange of image and sound data via a relaying apparatus) is held by those terminals after attendance permission is provided. EX1004, ¶¶[0069], [0149]-[0156], [0171]-[0173]; EX1003, ¶127.

Lee teaches the claimed transmission or reception of image data and sound data because Lee discloses a teleconferencing system in which sounds and images in the first conference room are obtained to notify the second conference room of

the status of the first conference room: camera device 20 generates image data, microphone devices generate sound data, and teleconferencing system 35 images the status of the second conference room and transmits image data to the first conference room. EX1004, ¶¶[0085]-[0096]; EX1003, ¶128. Lee further discloses that, in response to connection processing, the teleconferencing systems in the first conference room and second conference room “transmit and receive video data and audio data.” EX1004, ¶¶[0267]-[0270]; EX1003, ¶128.

Lee also discloses that the transmission occurs via a relaying apparatus. EX1003, ¶129. Lee’s conference server 11 has a communication function (radio communication device 13 in first conference room 10 and radio communication device 31 in second conference room 30) for transmitting and receiving images, sounds, and characters to and from equipment in the first and second conference rooms, and the conference server 11 is connected to the equipment in the first conference room and transmits and receives information to and from equipment in the second conference room through communication network 1. EX1004, [0070]-[0072]. Thus, radio communication device 13 in first conference room 10 and radio communication device 31 in second conference room 30 are the claimed relaying apparatuses as shown below in annotated Fig. 1.



Lee further discloses that client control section 41 within conference server 11 controls communication between client PCs and “relays various information and data,” and it transmits connection requests to the teleconferencing systems to carry out teleconference connection processing. EX1004, ¶¶[0116]-[0120], [0268]-[0270]; EX1003, ¶130.

It would also have been obvious to use Lee’s conference server, hub, radio communication devices, or other network communication components as a relaying apparatus for the image data and sound data exchanged in the same conference

because they all perform the function of relaying information between conference terminals. EX1004, ¶¶[0070]-[0077], [0085]-[0096], [0116]-[0120], [0267]-[0270]; EX1003, ¶131. A POSITA would have been motivated to do so because Lee already centralizes conference control and communication through conference server 11 and related network components, and using those components to relay video and audio data would predictably support the disclosed teleconference connection between conference rooms. EX1004, ¶¶[0070]-[0072], [0116]-[0120], [0267]-[0270]; EX1003, ¶131. Lee discloses the use of Ethernet and 802.11b. EX1004, ¶¶[0069], [0092], [0098]. A person of ordinary skill would have understood that these internet protocols are designed for the relaying of information from device to device along the path from the source of data to its destination. EX1003, ¶132. Additionally, a POSITA would have been motivated to relay video streams through one or more central servers which could perform functions such as adjusting resolution to accommodate networking conditions or for different purposes (e.g. thumbnails), permitting central monitoring and moderation of videoconferences, and permitting centralized storage of videoconference recordings. EX1003, ¶¶132-133. Accordingly, Lee discloses or renders obvious claims 5/21.

13. Claims [6]/[22] “wherein each of the plurality of transmission terminals is one of a video conference terminal, a car navigation device, and a cell phone.”

Lee discloses this limitation. As discussed for claim 1/9, Lee discloses a network video conferencing system with client PCs (transmission terminals) operated by conference participants, including chairman, presenter, and attendant terminals. EX1004, ¶¶[0069], [0075]-[0077], [0149]-[0156].

Lee’s client PCs are video conference terminals because they are transmission terminals used by conference participants in a network video conferencing system that includes teleconferencing functions. EX1003, ¶134. Lee discloses that the first conference room includes a teleconferencing system with camera device 20, teleconference monitor device 21, camera control unit 22, audio controller 23, and microphones, and that the second conference room includes teleconferencing system 35 with camera device 35a and teleconference monitor 35b. EX1004, ¶¶[0085]-[0096]. Lee further discloses that, when the teleconference starts, the teleconferencing systems in the first and second conference rooms carry out connection processing to transmit and receive video data and audio data. EX1004, ¶¶[0267]-[0270]. EX1003, ¶134.

A POSITA would have understood that Lee’s chairman, presenter, and attendant terminals are video conference terminals because Lee’s client PCs are used to attend and control the same network conference in which video data and audio

data are transmitted and received between conference rooms. EX1004, ¶¶[0069], [0149]-[0156], [0171]-[0173], [0267]-[0270]; EX1003, ¶¶135-136. Accordingly, Lee discloses or renders obvious claims 6/22.

14. Claims [7]/[23] “wherein the first identification name is stored in the storage medium in association with first identification information, and the second identification name is stored in the storage medium in association with second identification information.”

Lee discloses this limitation. As discussed for limitation [1.a]/[9.a]/[10.a]/[17.a], Lee discloses that client control section 41 receives personal data indicating the “name, mail address and IP address” of the attendants (first and second identification name and information) operating the respective client PCs (first and second transmission terminals), prepares an attendant information file including the information of a plurality of individuals (first and second identification information), and stores that file in attendant information storage section 42 (storage medium). EX1004, ¶[0122]; EX1003, ¶¶137-138.

Lee’s stored names teach the claimed first and second identification names, and Lee’s stored mail addresses and IP addresses teach the claimed first and second identification information. EX1004, ¶[0122]; EX1003, ¶139. Lee stores this information in association because the attendant information file includes information for a plurality of individuals corresponding to respective client PCs, and

the personal data for each attendant includes the name, mail address, and IP address for that attendant's client PC. EX1004, ¶¶[0122], [0235]-[0237]; EX1003, ¶139.

A POSITA would have understood that Lee's attendant information file stores a first participant's name in association with the mail address and/or IP address identifying that participant's first client PC, and stores a second participant's name in association with the mail address and/or IP address identifying that participant's second client PC. EX1004, ¶¶[0122], [0235]-[0237]; EX1003, ¶140. It would also have been obvious to treat the stored mail addresses or IP addresses as identification information because Lee stores that information with the attendant names to distinguish among the respective client PCs and conference participants. EX1004, ¶¶[0122], [0235]-[0237]; EX1003, ¶¶140-141. Accordingly, Lee discloses or renders obvious claims 7/23.

15. **Claims [8]/[24] “wherein a destination list associated with first identification information transmitted from the first transmission terminal is stored in the storage medium, and the destination list registers at least the second transmission terminal as a destination candidate.”**

Lee teaches or renders obvious this limitation. Lee discloses that client PCs transmit conference attendance requests including personal data to client control section 41, and that client control section 41 prepares an attendant information file using the personal data included in those conference attendance requests. EX1004, ¶¶[0161]-[0162]; EX1003, ¶¶142-143. Lee also discloses that the personal data

includes the “name, mail address and IP address” of the attendants operating the respective client PCs, and that the attendant information file including information of a plurality of individuals is stored in attendant information storage section 42. EX1004, ¶[0122]; EX1003, ¶143.

Lee’s stored attendant information file teaches or renders obvious the claimed destination list. EX1003, ¶144. Lee discloses that the chairman terminal reads out and receives personal data related to client PCs attending the conference, and then displays the attendant icon display screen 61. EX1004, ¶¶ [0235]-[0237]. Lee’s attendant icon display identifies conference attendees and is used to select other client PCs as communication destinations; for example, the first client PC selects an icon indicating the second client PC from attendant icon display screen 61 as the chat-message transmission destination. EX1004, ¶¶[0211]-[0214]. Lee similarly discloses that, for file transfer during the conference, the first client PC selects an icon indicating the second client PC from attendant icon display screen 61 and transmits a file transfer request designating transfer of the file to the second client PC. EX1004, ¶¶[0222]-[0228]; EX1003, ¶145.

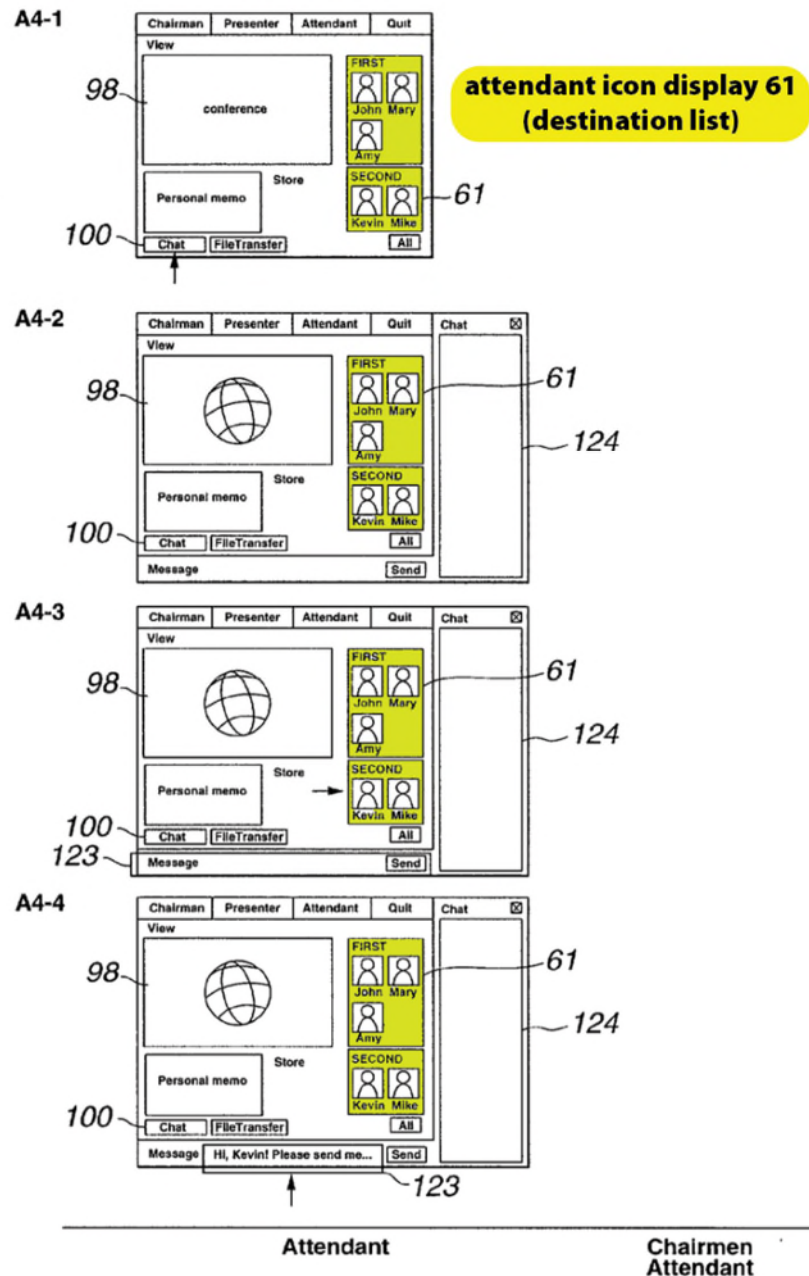


FIG.35

Lee teaches or renders obvious that the destination list is associated with first identification information transmitted from the first transmission terminal. EX1003, ¶146. Lee's first client PC transmits conference attendance requests including

personal data, and Lee stores that personal data in the attendant information file used to identify and communicate with other client PCs attending the conference. EX1004, ¶¶[0161]-[0162], [0122]. The stored attendant information is associated with the first client PC because the file includes information corresponding to the respective client PCs attending the conference, and because Lee uses the displayed attendee information to allow the first client PC to select another client PC as a communication destination during that conference. EX1004, ¶¶[0122], [0211]-[0214], [0222]-[0228], [0235]-[0237]; EX1003, ¶146.

Lee also teaches or renders obvious that the destination list registers at least the second transmission terminal as a destination candidate. EX1003, ¶147. Lee discloses that, during chat, the first client PC selects the second client PC from the attendant icon display screen as the transmission destination and adds address information for the second client PC to the chat message, after which the client control section recognizes the second client PC as the transmission destination and transmits the chat message to the second client PC. EX1004, ¶¶[0211]-[0218]. Lee further discloses that the first client PC can select the second client PC from the attendant icon display screen as the destination for file transfer and transmit a request designating the second client PC as the transfer destination. EX1004, ¶¶[0222]-[0228]. Further, it would also have been obvious to implement Lee's stored attendee information and attendant icon display as a destination list because Lee uses it to

present selectable destination candidates for chat and file transfer among the client PCs in the conference. EX1004, ¶¶[0211]-[0218], [0222]-[0228], [0235]-[0237]; EX1003, ¶¶147-148. Accordingly, Lee renders obvious claims 8/24.

- 16. Claims [11]/[15]/[16] “wherein the management apparatus is configured to: receive an information request signal from the first transformation terminal when the first transmission terminal is in video communication with at least the second transmission terminal, the information request signal indicating a request for information on a transmission terminal, including the second transmission terminal.”**

Lee teaches or renders obvious this limitation. As discussed for limitations [1.d]-[1.f]/[9.d]-[9.e]/[10.d]-[10.g], Lee discloses that the chairman terminal requests information related to conference attendants from client control section 41, and client control section 41 responds by reading out the attendant information file, acquiring personal data, and transmitting personal data related to client PCs attending the conference to the chairman terminal. EX1004, ¶¶[0235]-[0237]; EX1003, ¶¶149-150.

Lee’s inquiry teaches the claimed information request signal because it requests information on other conference terminals, including the second transmission terminal. EX1004, ¶¶[0103]-[0104], [0235]-[0237]; EX1003, ¶150. As discussed for limitation [1.g]/[9.f]/[10.h], Lee teaches video communication between the first and second terminals through its teleconferencing systems, which

transmit and receive video data and audio data. EX1004, ¶¶[0267]-[0270]; EX1003, ¶150.

To the extent Patent Owner argues that Lee expressly describes the inquiry before starting the conference, it would have been obvious to use the same inquiry during the video communication because Lee already updates attendee information and displays it during an ongoing video conference. EX1004, ¶¶[0241]-[0250]; EX1003, ¶¶151-153. Accordingly, Lee renders obvious claims 11/15/16.

17. Claims [12]/[13]/[14] “wherein the transmission management apparatus is composed of one or more computers.”

Lee discloses this limitation. As discussed for claim 1/9/10, Lee’s conference server 11 corresponds to the claimed transmission management apparatus. EX1004, ¶¶[0070]-[0072], [0116]-[0122]. Lee expressly identifies that apparatus as a “conference server,” and discloses that the conference server executes stored programs, including a network interface program, video capture interface program, basic software, proceedings preparation program, equipment recognition program, material transmission/reception program, proceedings control program, and client control program. EX1004, ¶¶[0110]-[0119]; EX1003, ¶¶154-155.

A POSITA would have understood that Lee’s conference server 11 is composed of one or more computers because Lee describes it as a server that executes software programs, stores and reads files, communicates with client PCs, and controls conference communication and management functions. EX1004,

¶¶[0070]-[0072], [0110]-[0124]; EX1003, ¶¶156-157. Accordingly, Lee discloses or renders obvious claims 12-14.

18. Conclusion

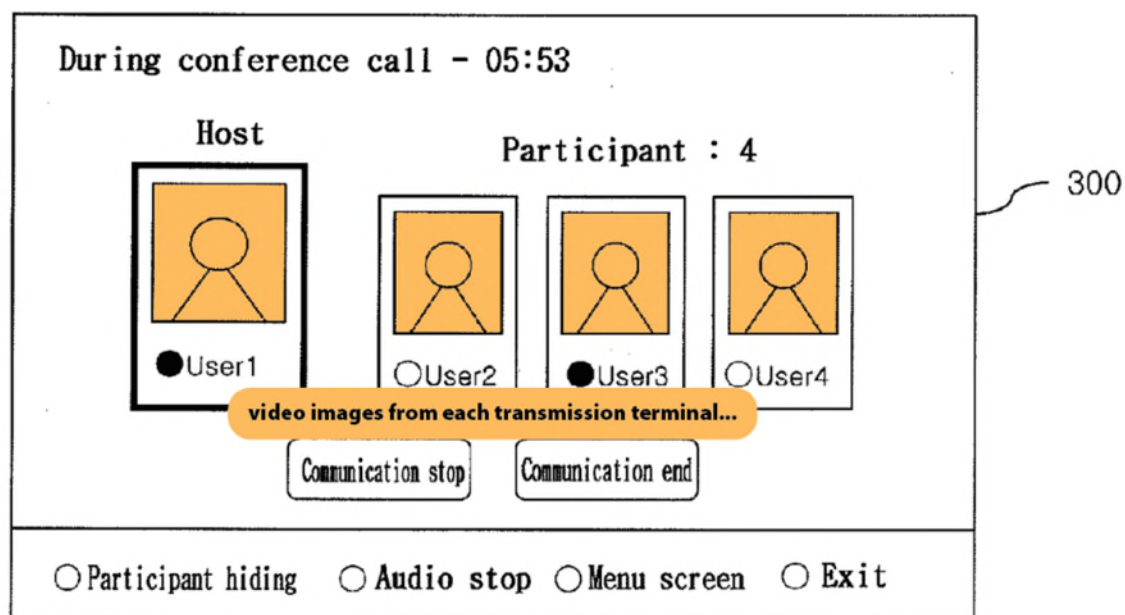
Lee renders obvious independent claims 1, 9, 10, and 17 because it discloses or renders obvious a conference server (transmission management apparatus) that stores attendant names and attendance/authentication information in attendant information section 42 (storage unit), updates that information in response to attendance and leaving events, retrieves and transmits the information for display, and supports teleconferencing video and audio data among attending transmission terminals. Lee also renders obvious dependent claims 2-8, 11-16, and 18-24 for the reasons explained above. Claims 1-24 therefore are unpatentable under 35 U.S.C. §103 over Lee.

B. Ground 2: Lee in View of Nam Renders Obvious Claims 1-24

Lee in view of Nam renders obvious claims 1-24. Ground 1 above explains why Lee teaches the conference-management server, attendance-state updates, attendee-information and identifier storage, name-list transmission, and the remaining video conferencing architecture limitations. To the extent Patent Owner argues Lee does not expressly disclose simultaneously displaying video images from each attending transmission terminal, Nam supplies that teaching. EX1003, ¶¶158-159. Nam discloses a video communication system in which devices transmit and

receive video and audio data over a network, an AV processor that processes the communication image of each involved party for output from the display unit, and simultaneous display of communication images on a single screen. EX1005, ¶¶[0049]-[0054], [0070]-[0074], [0192]-[0194]. Nam also discloses a conference call with a plurality of users simultaneously and a participant-view feature that displays information for each other party participating in the ongoing conference call. EX1005, ¶¶[0198]-[0205], FIG. 33; EX1003, ¶159.

FIG. 33



1. Motivation to Combine

Same Field of Endeavor. A POSITA would have been motivated to combine Lee and Nam because both references are directed to networked conferencing or video communication using terminals connected through wired or wireless

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networks. EX1003, ¶162. Lee discloses a network conferencing system in which client PCs, conference-room equipment, and teleconferencing systems communicate through a conference server, and Nam discloses a video communication system in which display devices, mobile terminals, PCs, and other video communication devices transmit and receive video and audio data. EX1004, ¶¶[0001], [0069]-[0077], [0085]-[0096]; EX1005, ¶¶[0049]-[0056], [0063]-[0065]; EX1003, ¶¶160-161.

Complementary Teachings and Known Benefits. Lee already stores attendant personal data, retrieves and transmits that data for display, and controls teleconference functions through client PCs and teleconferencing systems. EX1004, ¶¶[0119]-[0122], [0169], [0235]-[0240], [0269]-[0275]. Nam supplies the complementary terminal user interface features that make such stored participant information useful to users, including registered contact-address lists, user IDs, login-state indicators, video-call images, conference-call screens, and participant-view information. EX1005, ¶¶[0125]-[0136], [0149]-[0152], [0198]-[0205]. A POSITA therefore would have had a straightforward reason to implement Nam's contact-list, participant-view, and video-display interface features in Lee's conferencing terminals so users could more readily select, identify, and view conference participants. EX1004, ¶¶[0103]-[0106], [0169], [0235]-[0240]; EX1005, ¶¶[0125]-[0136], [0198]-[0205]; EX1003, ¶162.

Predictable Implementation. The combination would have predictably used Nam's known video-communication interface features in Lee's known conferencing system. EX1003, ¶165. Lee already generates, stores, and transmits the attendant information that Nam's contact-address and participant-view screens display. EX1004, ¶¶[0122], [0169], [0235]-[0240]; EX1005, ¶¶[0125]-[0136], [0203]-[0205]. Applying Nam's interface to Lee would have yielded the predictable result of allowing Lee's conference participants to display contact/destination information, participant-identifying information, and communication images in a familiar video-communication interface. EX1004, ¶¶[0119]-[0122], [0169], [0235]-[0240]; EX1005, ¶¶[0125]-[0136], [0149]-[0152], [0198]-[0205]; EX1003, ¶163.

No Change to Lee's Core Architecture. Incorporating Nam's terminal-side contact-list, participant-view, and simultaneous-video display features would not alter Lee's conference server, attendant information file, attendance-request flow, or teleconference-control architecture. EX1004, ¶¶[0119]-[0122], [0161]-[0176], [0235]-[0240], [0269]-[0275]; EX1003, ¶164. The modification would simply present Lee's existing attendant information through Nam's video-communication user interface, and Lee expressly contemplates that conference-server functions may be provided in client PCs and realized by the same hardware. EX1004, ¶[0275]; EX1005, ¶¶[0063]-[0079], [0125]-[0136], [0198]-[0205]; EX1003, ¶164.

2. Independent Claims 1, 9, 10, and 17

For the purposes of Ground 2, for the limitations other than the simultaneous-video display and user interface limitations addressed below, Lee discloses or renders obvious the challenged claims for the reasons set forth in Ground 1. Lee's conference server 11 (transmission management apparatus) includes an attendant information storage section 42 (storage medium), receives conference attendance requests with personal data, stores an attendant information file, updates the file when participants leave, retrieves personal data, and transmits that data to the client PCs (including the chairman terminal) for display. EX1004, ¶¶[0119]-[0122], [0161]-[0176], [0235]-[0240]; EX1003, ¶165.

3. [1.g]/[9.f]/[10.h]/[17.f] “wherein the first transmission terminal is configured to display video images from each transmission terminal attending the video communication simultaneously.”

Nam expressly discloses the limitation “display video images from each transmission terminal attending the video communication simultaneously.” EX1003, ¶¶166-167. Nam discloses that, during video communication, the communication image of the other party and the communication image of the current user may be displayed on the same screen, and that the user may change the type, size, or position of those communication images. EX1005, ¶¶[0149]-[0152]. Nam further discloses PIP and non-overlapping display modes in which the contents image, the other party's communication image, and the user's communication image may be

displayed together on the same screen. EX1005, ¶¶[0181]-[0194]; EX1003, ¶167.

Nam's claims likewise recite simultaneous display of the image received from the camera and the image of another party. EX1005, claims 4, 6, 14, 16. Nam also discloses conference calls with multiple users and a participant-view screen for an ongoing conference call. EX1005, ¶¶[0198]-[0205], Figs. 15-17, 33.

FIG. 17

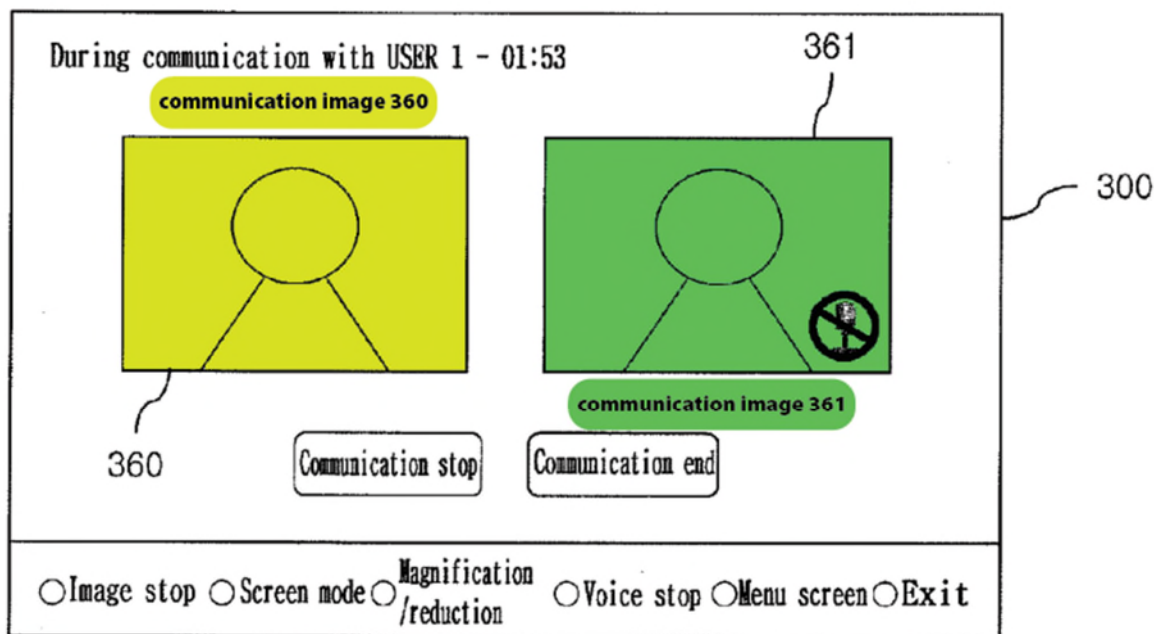
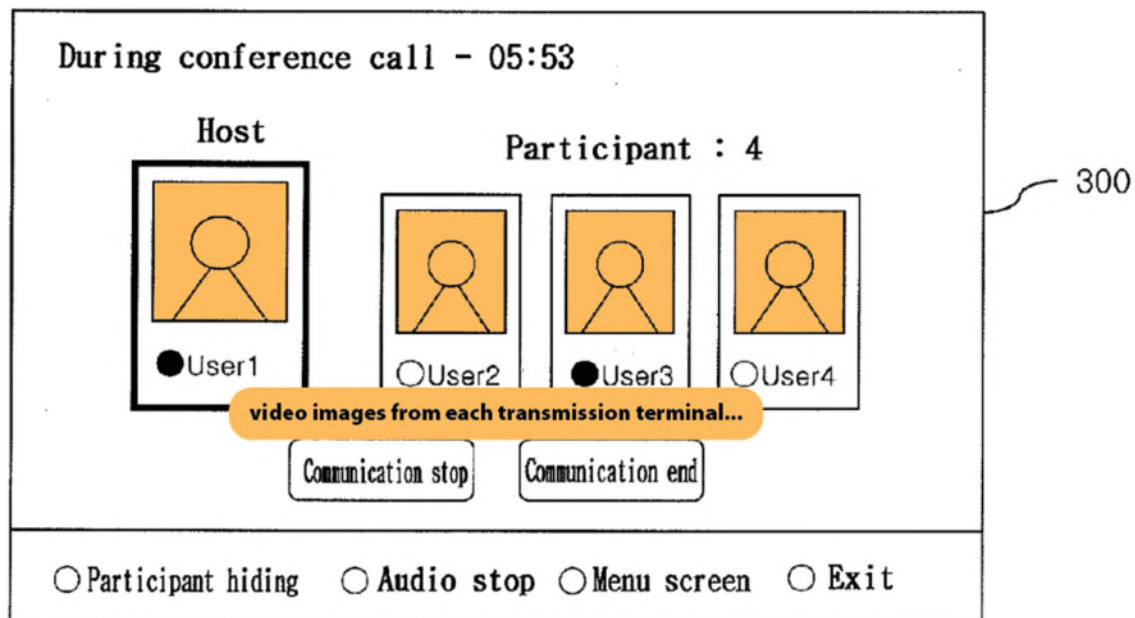


FIG. 33



A POSITA implementing Nam's video-call display features in Lee's network conferencing system would have found it obvious to display video images from attending terminals in Lee's video conference. EX1003, ¶168. Lee already discloses transmitting and receiving video data and audio data in its teleconferencing system, while Nam confirms that video-communication terminals conventionally displayed video images of participants on the same screen. EX1004, ¶¶[0085]-[0096], [0269]-[0274]; EX1005, ¶¶[0149]-[0152], [0181]-[0194], [0198]-[0205]; EX1003, ¶168. A POSITA would have been motivated to make this modification because Lee already seeks to make conference attendants visually recognizable, and displaying each participant's video image would predictably improve that participant-awareness

function, allowing rapid perception of who is attending the conference, and their actions (whether they are raising their hands, whether they appear to be engaged in other activities, etc.), and taking advantage of people's ability to gauge the reactions of other participants in order to improve communications when presenting. EX1004, ¶¶[0103]-[0104], [0241]-[0250]; EX1005, ¶¶[0149]-[0152], [0181]-[0194], [0198]-[0205]; EX1003, ¶168. A POSITA would have had a reasonable expectation of success because both Lee and Nam concern networked video communication systems that exchange video and audio data among multiple devices and present participant-related information on a display. EX1004, ¶¶[0103]-[0104], [0236]-[0237], [0241]-[0250], [0267]-[0270]; EX1005, ¶¶[0049]-[0054], [0070]-[0074], [0198]-[0205]; EX1003, ¶168.

Accordingly, Lee in view of Nam renders obvious the simultaneous-video-display limitation of claims 1, 9, 10, and 17. EX1003, ¶169.

4. Claims [8]/[24] “wherein a destination list associated with first identification information transmitted from the first transmission terminal is stored in the storage medium, and the destination list registers at least the second transmission terminal as a destination candidate.”

Ground 1 above explains why Lee teaches the remaining limitations of claims 8 and 24. Nam expressly discloses a stored destination list associated with first identification information and registering at least the second transmission terminal as a destination candidate. EX1003, ¶170. Nam discloses that, for a selected logged-

in user ID, registered contact addresses for other parties are displayed on the screen as selectable entries. EX1005, ¶¶[0125]-[0134], [0159]-[0161]. Nam further discloses that information on an added user ID is stored in the storage unit and the server, and that when the user selects another party for communication, the contact-address information associated with that user ID is used to request video or audio communication with the selected other party. EX1005, ¶¶[0140]-[0145], [0159]-[0161]. Fig. 9, 19; EX1003, ¶171.

FIG. 9

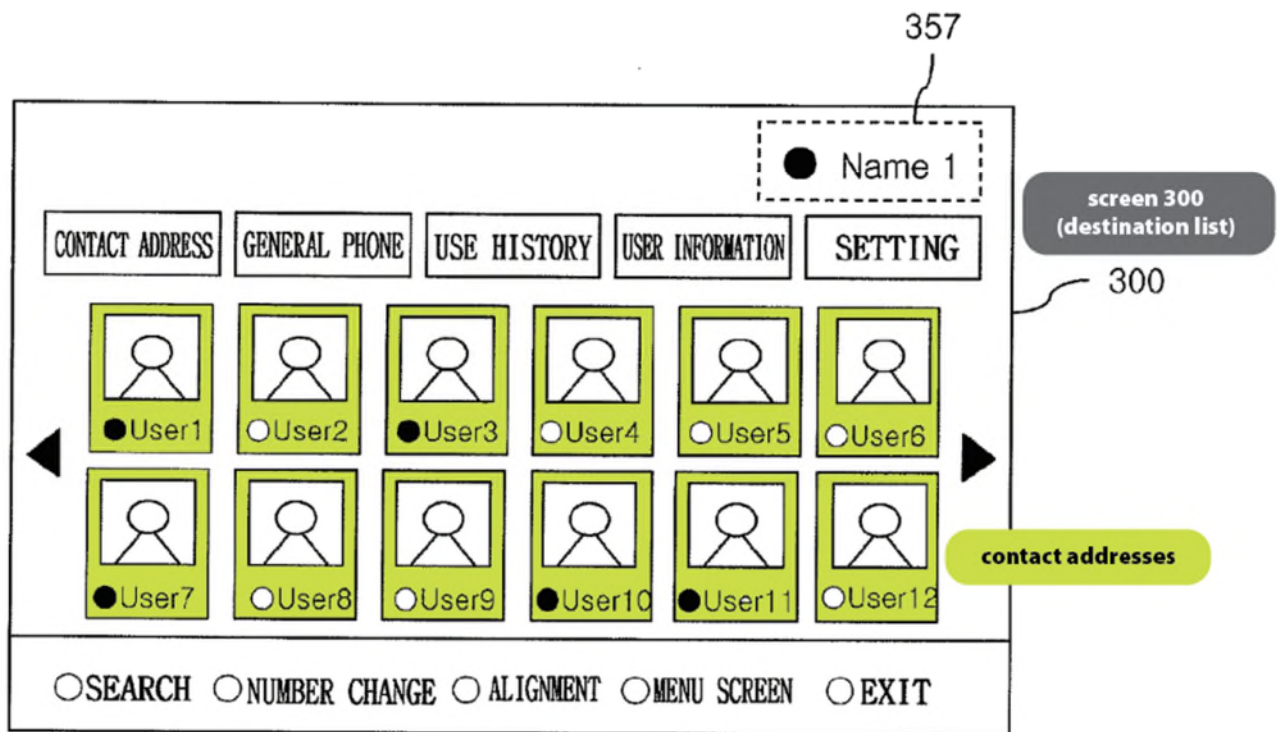
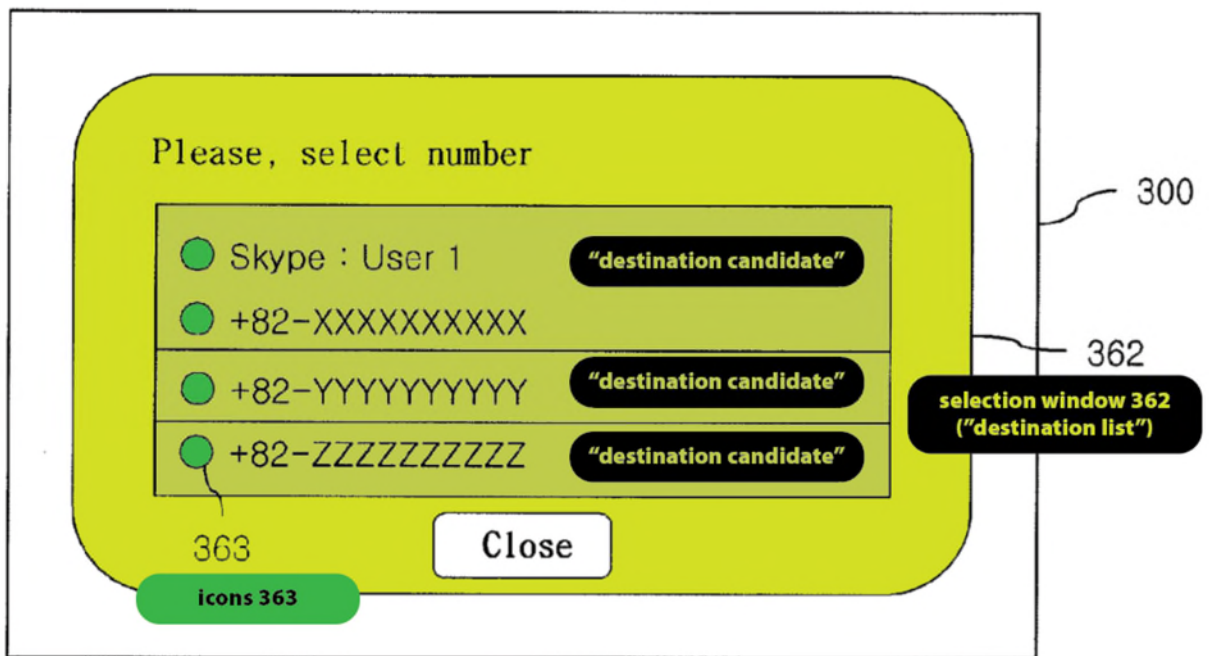


FIG. 19



A POSITA would have understood Nam's registered contact-address list to be a destination list associated with the selected user's identification information, and would have understood the displayed contact addresses to register destination candidates for communication. EX1005, ¶¶[0125]-[0134], [0159]-[0161]; EX1003, ¶172. A POSITA would have been motivated to use Nam's explicit stored contact-address list to implement or clarify Lee's destination-candidate functionality because both references address selecting other communication parties from stored user information in a networked video-communication environment. EX1004, ¶¶[0211]-[0218], [0222]-[0228], [0235]-

[0237]; EX1005, ¶¶[0125]-[0134], [0140]-[0145], [0159]-[0161]; EX1003, ¶172.

Accordingly, Lee in view of Nam renders obvious claims 8 and 24. EX1003, ¶173.

5. **Claims [11]/[15]/[16] “wherein the management apparatus is configured to: receive an information request signal from the first transformation terminal when the first transmission terminal is in video communication with at least the second transmission terminal, the information request signal indicating a request for information on a transmission terminal, including the second transmission terminal.”**

Ground 1 above explains why Lee teaches the server-side inquiry for attendee information. Nam expressly discloses receiving the information request signal while the first transmission terminal is already in video communication with at least the second transmission terminal. EX1003, ¶¶174-175. Nam discloses that, *during an ongoing conference call*, the progressing conference call is displayed on screen and the user may select a “participant view” button. EX1005, ¶¶[0201]-[0203]. Nam further discloses that, in response, information on the other parties participating in the currently progressing conference call is displayed, including information on each of user 1, user 2, user 3, and user 4, and that *such information may include an icon, a name, a user ID, and a log-in state*. EX1005, ¶¶[0203]-[0205], FIGs. 32-33; EX1003, ¶175.

FIG. 32

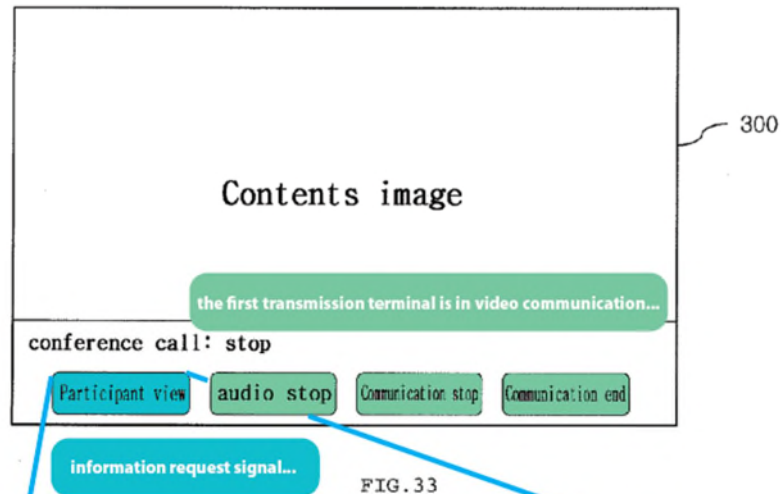
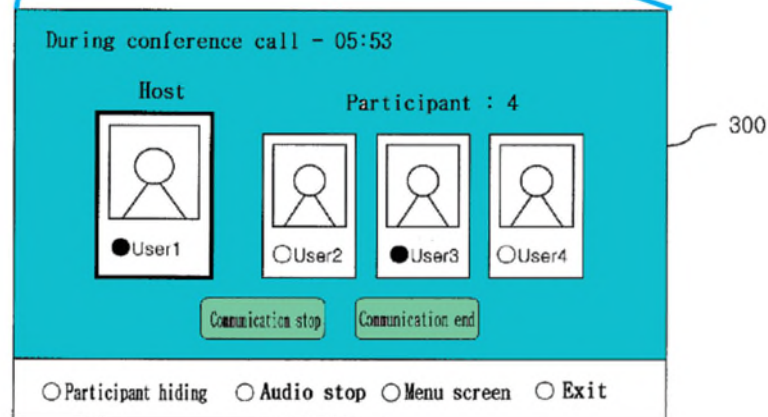


FIG. 33



A POSITA would have found it obvious to use the same kind of during-call participant-information request in Lee's system. EX1003, ¶176. As explained in Ground 1, Lee already retrieves and transmits attendee information in response to a request from the first terminal. EX1003, ¶176. Nam teaches that requesting and displaying participant information during an active multi-party video communication was well known. EX1003, ¶176. Applying Nam's during-call participant-view request to Lee would have predictably allowed Lee's first terminal

to request up-to-date information on the second transmission terminal and other participants while the video communication was ongoing. EX1004, ¶¶[0236]-[0237], [0241]-[0250], [0267]-[0270]; EX1005, ¶¶[0201]-[0205]; EX1003, ¶¶176-177. Accordingly, Lee in view of Nam renders obvious claims 11, 15, and 16. EX1003, ¶177.

6. Conclusion

Lee in view of Nam renders obvious claims 1-24. Ground 1 establishes that Lee teaches the claimed transmission management apparatus, transmission terminals, storage of attendance/name/identifier information, attendance-state updates, acquisition and transmission of attendee information, destination-list functionality, information-request functionality, and the method, system, and computer-readable-medium forms of the claims. Nam confirms and strengthens any disputed display-related aspects by teaching video-communication devices that transmit and receive video/audio data, process communication images of each involved party, display the current user's communication image and another party's communication image on the same screen, use PIP and non-overlapping display modes for communication images, and provide a participant-view interface during an ongoing multi-party conference call. Nam likewise discloses simultaneous display of the image received from the camera and the image of another party.

A POSITA would have been motivated to apply Nam’s multi-party video and participant-display teachings to Lee’s network conferencing system to improve Lee’s attendee-awareness functionality, with a reasonable expectation of success because both references use networked video-communication systems with display interfaces for participant information and video communication. EX1003, ¶¶160-165.

IX. CONCLUSION

Petitioner respectfully requests institution of IPR and cancellation of all claims of the ’548 Patent.

X. MANDATORY NOTICES PURSUANT TO 37 C.F.R. §42.8

A. Real Parties-In-Interest under 37 C.F.R. §42.8(b)(1).

The real party-in-interest is Zoom Communications, Inc. No other parties exercised or could have exercised control over this Petition. No other parties funded or directed the filing of this Petition.

B. Related Matters Under 37 C.F.R. §42.8(b)(2).

The ’548 Patent is asserted in *Ricoh Company, Ltd. v. Zoom Communications, Inc. f/k/a Zoom Video Communications, Inc.*, No. 25-2095 (JCG) (D. Del.).

C. Lead and Back-up Counsel under 37 C.F.R. §42.8(b)(3).

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D. Service Information under 37 C.F.R. §42.8(b)(4).

Please direct all correspondence to lead counsel at the address identified above. Petitioner consents to electronic service on counsel of record.

XI. GROUNDS FOR STANDING

Petitioner certifies that the '548 Patent is available for *inter partes* review and that Petitioner is not barred or estopped from requesting an *inter partes* review of the '548 Patent. 37 C.F.R. §42.104(a).

XII. PAYMENT OF FEES

A fee of \$57,515 charged to Deposit Account 130019 was paid with the filing this petition. 37 C.F.R. §§42.15(a), 42.103. Should any further fees be required by the present Petition, the Board is hereby authorized to charge the above-referenced Deposit Account.

XIII. STATEMENT OF PRECISE RELIEF REQUESTED

Petitioner requests IPR and cancellation of claims 1-24 because they are unpatentable under 35 U.S.C. §103 based on the foregoing grounds.

Date: August 4, 2026

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§42.6 and 42.105, I hereby certify that on August 4, 2026, a copy of the attached PETITION FOR INTER PARTES REVIEW OF U.S. PATENT NO. 11,546,548, together with all exhibits, and all other papers filed therewith, including a Power of Attorney on behalf of Petitioners, was served via Priority Mail Express on the attorneys of record for the patent owner at the following address:

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Patent No. 11,546,548
Petition for *Inter Partes* Review

Counsel for Petitioner

Patent No. 11,546,548
Petition for *Inter Partes* Review

CERTIFICATION PURSUANT TO 37 C.F.R. § 42.11

Pursuant 37 C.F.R. § 42.11, the undersigned certifies that this PETITION FOR INTER PARTES REVIEW OF U.S. PATENT NO. 11,546,548, and accompanying evidence are not being presented for an improper purpose and that all legal contentions, allegations, and denials are warranted and have evidentiary support.

August 4, 2026

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Petition for *Inter Partes* Review

CERTIFICATION PURSUANT TO 37 C.F.R. § 42.24(d)

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that this PETITION FOR INTER PARTES REVIEW OF U.S. PATENT NO. 11,546,548 complies with the type-volume limitation of 37 C.F.R. § 42.24(a). The word count application of the word processing program used to prepare this paper states that the paper contains 12,341 words, excluding the parts of the paper exempted by 37 C.F.R. §§ 42.24(a)(1).

Date: August 4, 2026

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