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Tanigawa et al.

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(54) **COMMUNICATION SYSTEM AND COMMUNICATION METHOD**

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(30) **Foreign Application Priority Data**

Jun. 4, 2002 (JP) 2002-162940

(51) **Int. Cl.**

H04L 12/66 (2006.01)

(52) **U.S. Cl.** **370/352; 370/493**

(58) **Field of Classification Search** None
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2002/0073142	A1*	6/2002	Moran	709/203
2003/0021290	A1*	1/2003	Jones	370/466
2003/0126213	A1*	7/2003	Betzler	709/206
2003/0149774	A1*	8/2003	McConnell et al.	709/227
2003/0210770	A1*	11/2003	Krejcarek	379/88.17

OTHER PUBLICATIONS

Nikkei Communication, Nov. 5, 2001, pp. 106-113.
 R. Perera, "Instant Messaging Gets Down to Business", PC WORLD.COM, (http://www.pcworld.com), Nov. 15, 2001.
 Mahy et al, "A Multi-Party Application Framework for SIP", SIPING Working Group Internet Draft, Feb. 2002.
 "Instant Messaging", PC WORLD.COM, (http://www.pcworld.com), May 22, 2000.
 M. Goldberg, "Generation IM", Yahoo ! Internet Life, Apr. 2002, pp. 1-6.
 D. Willmott, "Which IM Program Is for You?", Yahoo ! Internet Life, Apr. 2002.
 J. Caplan, "amazing IM Tricks !", Yahoo ! Internet Life, Apr. 2002.
 J. Caplan, "Amazing IM Tricks !", Yahoo ! Internet Life, Apr. 2002.
 * cited by examiner

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(57) **ABSTRACT**

The usage of communication systems is improved. An IM server 4 manages presence information regarding each of IM clients and usable media and user information such that each of the IM clients can obtain these kinds of information. In order to perform text chatting, the IM server 4 manages a connection between each of the IM clients participating the chat and the IM server 4, merges text from each of the participating IM clients and distributes the result to each of the participating IM clients. In order to perform voice chatting, an AP server 5 manages a connection between each of the IM clients participating the chat and an MD server 6, mixes voice from each of the participating IM clients except for a focused IM client and distributes the result to the focused participating IM clients. This processing is performed for each of the participating IM clients.

12 Claims, 19 Drawing Sheets

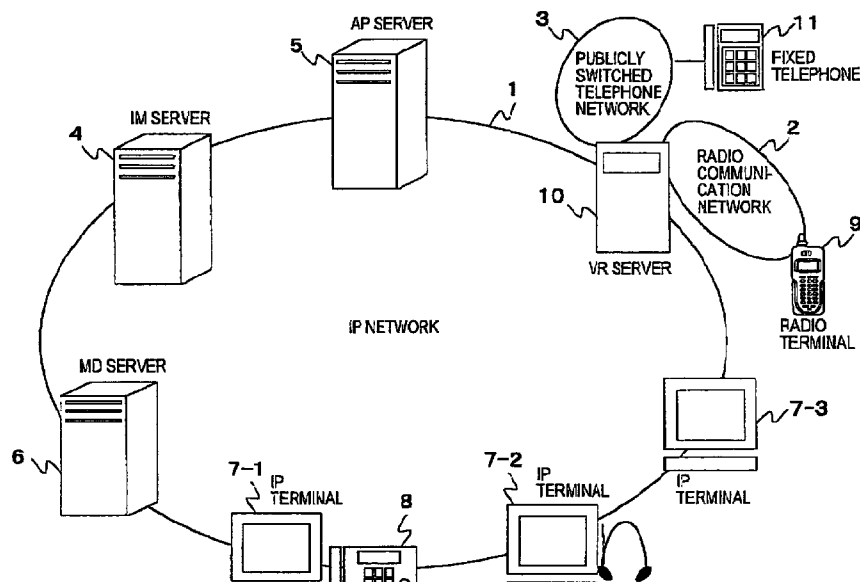


FIG. 1

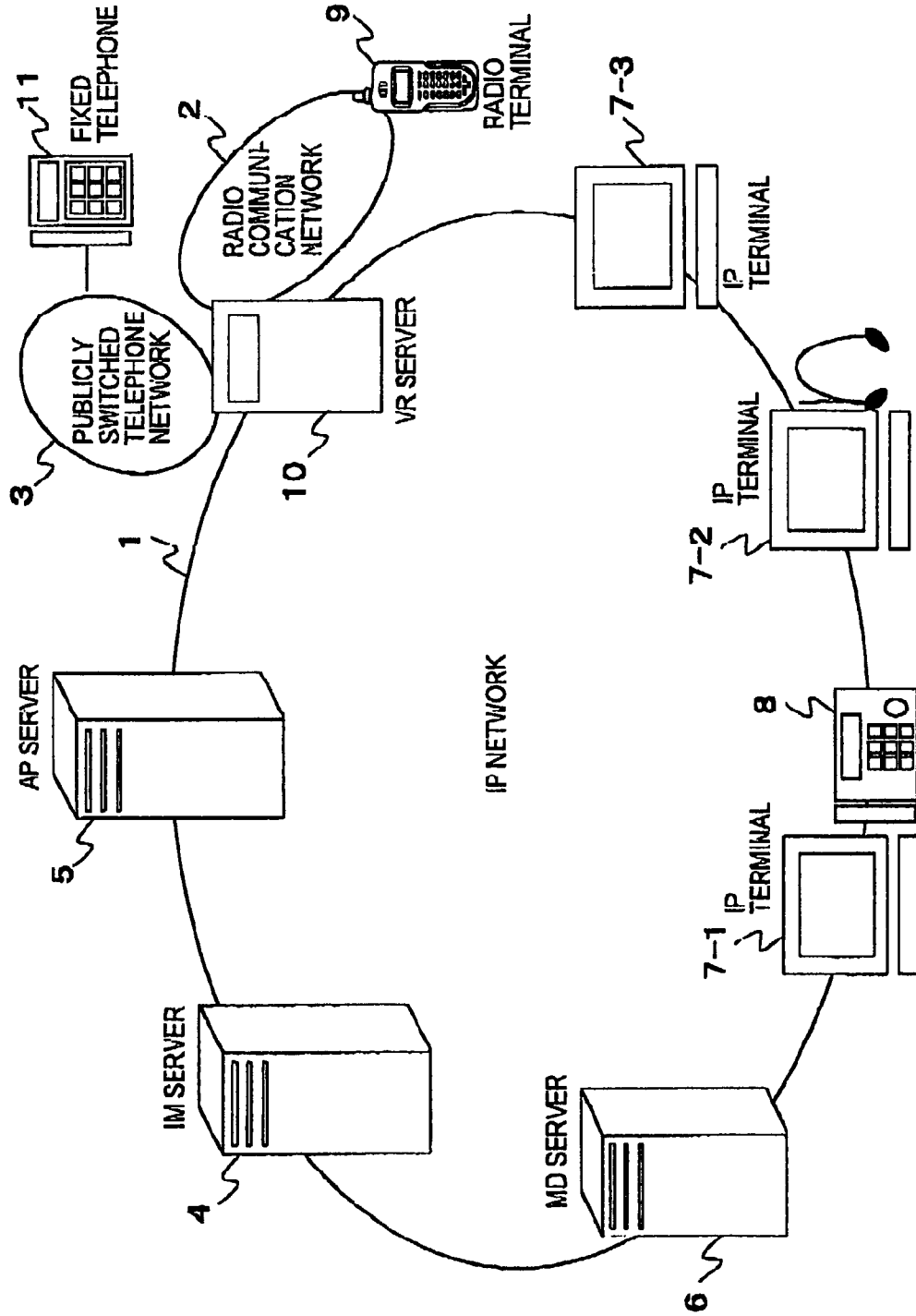


FIG. 2

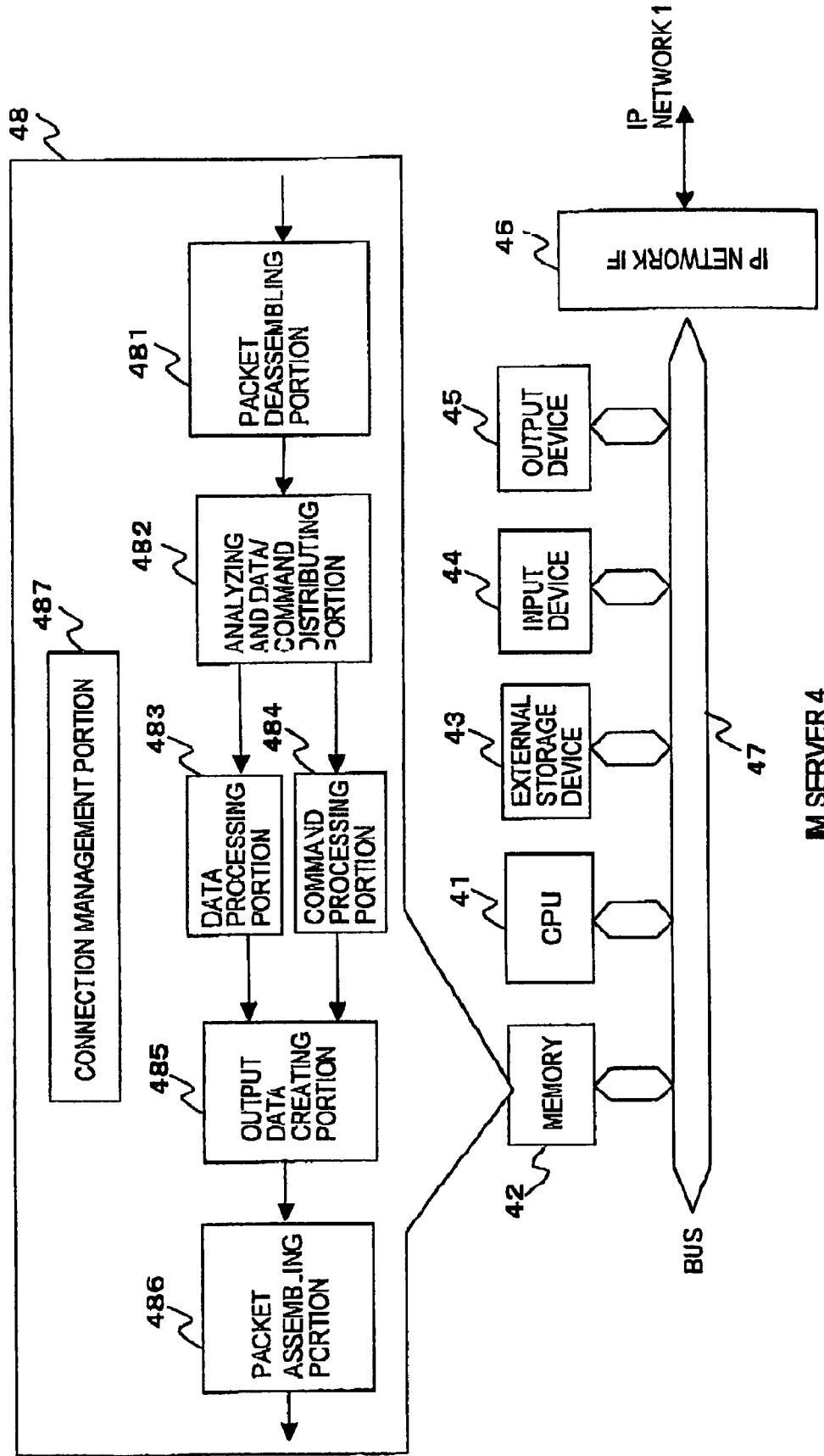
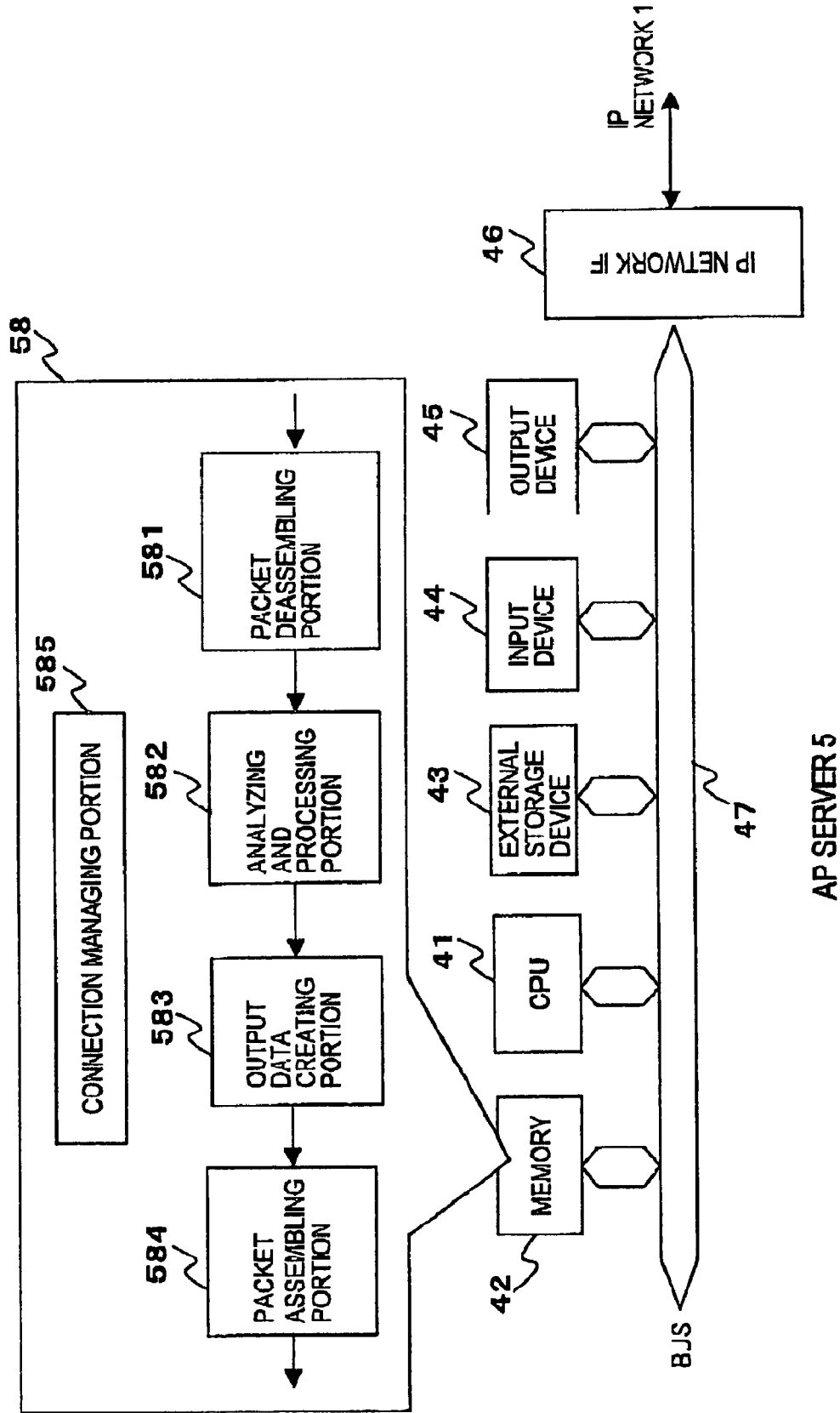


FIG.3

431	432	433	434	435	436	437	438	439
ACCOUNT NAMES	CLIENT ADDRESSES	CLIENT NICKNAMES	AUTHENTI-CATION KEYS	PRESENCE	USABLE MEDIA	CONFERENCE ADDRESSES	CONFERENCE NICKNAMES	BUDDY LIST
Client A	**.*.*.*.*.*.*.*	taro	***	text/voice	text/voice	*.*.*.*.*.*.*.* *.*.*.*.*.*.*.*	room1	A,B,C,D,E,F,G...
Client B	*.*.*.*.*.*.*.*	jiro	***	off	text/voice	*.*.*.*.*.*.*.*		A,B,C,D,E,F,G...
Client C	*.*.*.*.*.*.*.*	ichiro	*.*.*	idle	text	*.*.*.*.*.*.*.*		A,B,C,D,E,F,G...
Client D	*.*.*.*.*.*.*.*	hanako	*.*.*	text	text	*.*.*.*.*.*.*.*	room1	A,B,C,D,E,F,G...
Client E	*.*.*.*.*.*.*.*	hanako	*.*.*	voice	voice	*.*.*.*.*.*.*.*	room1	A,B,C,D,E,F,G...
Client F	*.*.*.*.*.*.*.*	yoshi	***	text	text	*.*.*.*.*.*.*.*	room1	A,B,C,D,E,F,G...
Client G	*.*.*.*.*.*.*.*	yoshi	*.*.*	voice	voice	*.*.*.*.*.*.*.*	room1	A,B,C,D,E,F,G...
.....

PRESENCE INFORMATION MANAGEMENT TABLE 488

FIG. 4



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