

CLAIMS

1. A communication management system for managing first and second communication terminals that transmit and receive predetermined communication data using a first communication scheme, the communication management system comprising:

a storage unit configured to store therein destination information representing a destination of the first communication terminal that establishes a ~~first~~ communication session with a relay device that relays the communication data on the basis of the first communication scheme, the destination information including identification information for identifying the second communication terminal~~representing a destination of a conversion system that performs mutual conversion between a communication scheme of communication data transmitted from the first communication terminal and a communication scheme of communication data transmitted from the second communication terminal and establishes a second communication session with the relay device, and destination information representing a destination of the second communication terminal that establishes a third communication session with the conversion system;~~

a receiving unit configured to receive first start request information to start communication between the first communication terminal and the second communication terminal or second start request information to start communication between the first communication terminal and third communication terminal, from the first communication terminal~~;~~, the first start request information including identification information for identifying the second communication terminal, the third communication terminal transmitting and receiving communication data with a fourth communication terminal

using a second communication scheme different from the first communication scheme; and

~~an extracting unit configured to extract destination information of each of the first and the second communication terminals and the conversion system stored in the storage unit, on the basis of the received start request information; and~~

a transmitting unit configured to transmit, the extracted destination information to the relay device, address information of the first communication terminal and address information of the second communication terminal to establish a session on the basis of the first communication scheme between the first communication terminal and the second communication terminal through the relay device when the receiving unit receives the first start request information, and

transmit, to the relay device, the address information of the first communication terminal, address information of the third communication terminal, and address information of a conversion system that performs mutual conversion between the first communication scheme and the second communication scheme, to transmit and receive communication data between the first communication terminal and the third communication terminal through the relay device and the conversion system, when the receiving unit receives the second start request information.

2. The communication management system according to claim

1, wherein

the storage unit includes a conversion managing unit configured to manage identification information for identifying the ~~second-third~~ communication terminal, the ~~destination-address~~ information of the conversion system, and the ~~destination-address~~ information of the ~~second-third~~ communication terminal in association with one another, and

an extracting unit configured to extract address information to be transmitted to the relay device, on the basis of the received first start request information or the received second start request information,

the receiving unit receives the identification information of the ~~second-third~~ communication terminal when receiving the second start request information from the first communication terminal, and

the extracting unit searches the conversion managing unit on the basis of the received identification information of the ~~second-third~~ communication terminal and extracts the corresponding ~~destination-address~~ information of the conversion system and the ~~destination-address~~ information of the ~~second-third~~ communication terminal.

3. The communication management system according to claim

2, further comprising:

a determining unit configured to determine whether a communication scheme used by each of the communication terminals is a predetermined communication scheme,

wherein the storage unit includes a terminal information managing unit configured to manage communication scheme information representing the communication scheme used by each communication terminal in association with identification information of the communication terminal,

the extracting unit searches the terminal information managing unit on the basis of the received identification information of the ~~second~~third communication terminal, and extracts the corresponding communication scheme information,

the determining unit determines whether the communication scheme represented by the extracted communication scheme information is the communication scheme used by the first communication terminal, and

when the determining unit determines that the communication scheme represented by the extracted communication scheme information is not the communication scheme used by the first communication terminal, the extracting unit searches the conversion managing unit on the basis of the identification information of the ~~second~~third communication terminal received by the receiving unit, and extracts the corresponding ~~destination~~address

information of the conversion system and the ~~destination~~
address information of the second communication terminal.

4. The communication management system according to claim 3, wherein

the communication scheme is represented by a call control scheme for establishing or disconnecting a connection with a destination of the communication and a coding scheme for converting the communication data into IP packets, and

when the communication scheme represented by the communication scheme information extracted by the extracting unit is different from the communication scheme used by the first communication terminal in at least one of the call control scheme and the coding scheme, the determining unit determines that the communication scheme represented by the communication scheme information extracted by the extracting unit is not the communication scheme used by the first communication terminal.

5. The communication management system according to any one of claims 1 to 4,

wherein the storage unit includes a terminal status managing unit configured to manage the destination information representing the destination of the first communication terminal in association with identification

information for identifying the first communication terminal,

the receiving unit receives the identification information of the first communication terminal from the first communication terminal when receiving the first start request information, and

the extracting unit searches the terminal status managing unit on the basis of the received identification information of the first communication terminal, and extracts the corresponding destination information of the first communication terminal.

6. A communication system, comprising:

the communication management system according to any one of claims 1 to 5; and

the relay device,

wherein the relay device transmits an instruction to start the ~~second communication session~~ and the ~~destination~~ address information of the ~~second~~ third communication terminal to the ~~address~~ destination represented by the ~~destination~~ address information of the conversion system transmitted by the transmitting unit.

7. The communication system according to claim 6, further comprising the conversion system,

wherein the conversion system transmits an instruction to start a ~~the third communication session~~ based on the

second communication scheme, to the ~~destination address~~ represented by the ~~destination address~~ information of the ~~second~~ third communication terminal transmitted by the relay device.

8. A communication management method for managing first and second communication terminals that transmit and receive predetermined communication data using a first communication scheme in a communication management system that includes a storage unit configured to store therein destination information representing a destination of the first communication terminal that establishes a first communication session with a relay device that relays the communication data on the basis of the first communication scheme, the destination information including identification information for identifying the second communication terminal~~representing a destination of a conversion system that performs mutual conversion between a communication scheme of communication data transmitted from the first communication terminal and a communication scheme of communication data transmitted from the second communication terminal and establishes a second communication session with the relay device, and destination information representing a destination of the second communication terminal that establishes a third communication session with the conversion system~~, the communication management method comprising:

receiving first start request information to start communication between the first communication terminal and the second communication terminal or second start request information to start communication between the first communication terminal and third communication terminal, from the first communication terminal, the first start request information including identification information for identifying the second communication terminal, the third communication terminal transmitting and receiving communication data with a fourth communication terminal using a second communication scheme different from the first communication scheme;

~~extracting destination information of each of the first and the second communication terminals and the conversion system stored in the storage unit, on the basis of the received start request information; and~~

transmitting the extracted destination information to the relay device, address information of the first communication terminal and address information of the second communication terminal to establish a session on the basis of the first communication scheme between the first communication terminal and the second communication terminal through the relay device when the receiving unit receives the first start request information, and

transmitting, to the relay device, the address information of the first communication terminal, address information of the third communication terminal, and address information of a conversion system that performs

mutual conversion between the first communication scheme and the second communication scheme, to transmit and receive communication data between the first communication terminal and the third communication terminal through the relay device and the conversion system, when the receiving unit receives the second start request information.

9. The communication management method according to claim 8,

wherein the storage unit includes a conversion managing unit that manages identification information identifying the ~~second~~-third communication terminal, the ~~destination~~-address information of the conversion system, and the ~~destination~~-address information of the ~~second~~-third communication terminal in association with one another, and

an extracting unit configured to extract address information to be transmitted to the relay device, on the basis of the received first start request information or the received second start request information,

the receiving of the second start request information includes receiving the identification information of the ~~second~~-third communication terminal when receiving the second start request information from the first communication terminal, and

the extracting of the destination information includes searching the conversion managing unit based on the received identification information of the ~~second~~ third communication terminal and extracting corresponding ~~destination-address~~ information of the conversion system and ~~destination-address~~ information of the ~~second~~ third communication terminal.

10. The communication management method according to claim 9, further comprising determining whether a communication scheme used by each of the communication terminals is a predetermined communication scheme,

wherein the storage unit includes a terminal information managing unit configured to manage communication scheme information representing the communication scheme used by each communication terminal in association with identification information of the communication terminal,

the extracting includes searching the terminal information managing unit on the basis of the received identification information of the ~~second~~ third communication terminal, and extracting the corresponding communication scheme information,

the determining includes determining whether the communication scheme represented by the extracted communication scheme information is the communication scheme used by the first communication terminal, and

the extracting includes, when it is determined that the communication scheme represented by the extracted communication scheme information is not the communication scheme used by the first communication terminal, searching the conversion managing unit on the basis of the identification information of the ~~second~~third communication terminal received at the receiving, and extracting the corresponding ~~destination~~address information of the conversion system and the ~~destination~~address information of the second communication terminal.

11. The communication management method according to claim 10,

the communication scheme is represented by a call control scheme for establishing or disconnecting a connection with a destination of the communication and a coding scheme for converting the communication data into IP packets, and

the determining includes, when the communication scheme represented by the communication scheme information extracted by the extracting unit is different from the communication scheme used by the first communication terminal in at least one of the call control scheme and the coding scheme, determining that the communication scheme represented by the communication scheme information extracted at the extracting is not the communication scheme used by the first communication terminal.

12. The communication management method according to any one of claims 8 to 11,

wherein the storage unit includes a terminal status managing unit configured to manage the destination information representing the destination of the first communication terminal in association with identification information for identifying the first communication terminal,

the receiving includes receiving the identification information of the first communication terminal from the first communication terminal when receiving the first start request information, and

the extracting includes searching the terminal status managing unit on the basis of the received identification information of the first communication terminal, and extracting the corresponding destination information of the first communication terminal.

13. A computer-readable recording medium with an executable program stored thereon, wherein the program instructs a computer to perform the communication management method according to any one of claims 8 to 12.

14. A maintenance system that performs maintenance of the communication management system according to any one of claims 1 to 5.