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[Summary]

[0005]

However, even when any one of the apparatuses disclosed in PTL 1 and PTL 2 is used, specification of a communication network is difficult in case that configuration information relating to a configuration in a communication network is not acquired necessarily and sufficiently. The reason is that even any of the apparatuses executes processing as described in Background Art, based on information relating to a configuration in a communication network.

[0006]

One of objectives of the present disclosure is to provide a communication network determination apparatus and the like capable of accurately specifying a communication network monitorable by a monitor apparatus even when it is difficult to necessarily and sufficiently acquire configuration information relating to a configuration of a communication network.

[Solution to Problem]

[0007]

As an aspect of the present disclosure, a communication network determination apparatus comprising:

calculation means for calculating a number of types of communication identifier associated with a certain apparatus identifier in monitoring information generated based on communication information communicated via a first

communication network, the monitoring information associating a communication identifier allocated to a first information processing apparatus that executes the communication in a second communication network with an apparatus identifier of a second information processing apparatus that relayed the communication in the first communication network; and

determination means for determining that the first communication network is the same as the second communication network when the calculated number of types is one, and determining that the first communication network is different from the second communication network when the calculated number of types is two or more wherein,

the monitoring information further associates a destination communication identifier allocated to a third information processing apparatus in a third communication network with a determination apparatus identifier of a fourth information processing apparatus that relayed communication to the third information processing apparatus, the third information processing apparatus being a destination communicated by the first information processing apparatus, and

the determination means determines that the first communication network is the same as the second communication network when the destination apparatus identifier indicates a plurality of information processing apparatuses. In an embodiment, a communication network determination apparatus including:

calculation means for calculating a number of types of

communication identifier associated with an apparatus identifier of a second information apparatus in monitoring information where a communication identifier allocated to a first information

apparatus in a second communication network and an apparatus identifier of a second information apparatus that relays a communication in a first communication network, the monitoring information generated based on communication network via the first communication network; and

determination means for determining that the first communication network is the same as the second communication network when the calculated number of types is one, and determining that the first communication network is different from the second communication network when the calculated number of types is two or more.

[0008]

In addition, as another aspect of the present disclosure, a communication network determination method by a calculation processing apparatus, comprising:

calculating a number of types of communication identifier associated with a certain apparatus identifier in monitoring information generated based on communication information communicated via a first communication network, the monitoring information associating a communication identifier allocated to a first information processing apparatus that executes the communication in a second communication network with an apparatus identifier of a second information processing apparatus that relayed the communication in the first communication network; and

determining that the first communication network is the same as the second communication network when the calculated number of types is one, and determining that the first communication network is different from the second communication network when the

calculated number of types is two or more wherein,

the monitoring information further associates a destination communication identifier allocated to a third information processing apparatus in a third communication network with a determination apparatus identifier of a fourth information processing apparatus that relayed communication to the third information processing apparatus, the third information processing apparatus being a destination communicated by the first information processing apparatus, and

in determining, determining that the first communication network is the same as the second communication network when the destination apparatus identifier indicates a plurality of information processing apparatuses. In an embodiment, a communication network determination method including:

calculating a number of types of communication identifier associated with an apparatus identifier of a second information apparatus in monitoring information where a communication identifier allocated to a first information apparatus in a second communication network and an apparatus identifier of a second information apparatus that relays a communication in a first communication network, the monitoring information generated based on communication network via the first communication network; and

determining that the first communication network is the same as the second communication network when the calculated number of types is one, and determining that the first communication network is different from the second communication network when the calculated number of types is two or more.

[0009]

In addition, as another aspect of the present disclosure, a communication network determination program making a computer achieve:

a calculation function for calculating a number of types of communication identifier associated with a certain apparatus identifier in monitoring information generated based on communication information communicated via a first communication network, the monitoring information associating a communication identifier allocated to a first information processing apparatus that executes the communication in a second communication network with an apparatus identifier of a second information processing apparatus that relayed the communication in the first communication network; and

a determination function for determining that the first communication network is the same as the second communication network when the calculated number of types is one, and determining that the first communication network is different from the second communication network when the calculated number of types is two or more wherein,

the monitoring information further associates a destination communication identifier allocated to a third information processing apparatus in a third communication network with a determination apparatus identifier of a fourth information processing apparatus that relayed communication to the third information processing apparatus, the third information processing apparatus being a destination communicated by the first information processing apparatus, and

the determination function determines that the first communication

network is the same as the second communication network when the destination apparatus identifier indicates a plurality of information processing apparatuses. In an embodiment, a communication network determination program makes a computer achieve:

a calculation function for calculating a number of types of communication identifier associated with an apparatus identifier of a second information apparatus in monitoring information where a communication identifier allocated to a first information apparatus in a second communication network and an apparatus identifier of a second information apparatus that relays a communication in a first communication network, the monitoring information generated based on communication network via the first communication network; and

a determination function for determining that the first communication network is the same as the second communication network when the calculated number of types is one, and determining that the first communication network is different from the second communication network when the calculated number of types is two or more.

[0010]

Furthermore, an embodiment is also achieved by a computer-readable recording medium that records the program.

[Advantageous effects of Invention]

[0011]

With the communication network determination apparatus and the like according to the present invention, a communication network monitorable by a monitor apparatus can be accurately specified even when it is difficult to necessarily and sufficiently

acquire configuration information relating to a configuration of a

CLAIMS

[Claim 1]

A communication network determination apparatus comprising:

calculation means for calculating a number of types of communication identifier associated with a certain apparatus identifier in monitoring information generated based on communication information communicated via a first communication network, the monitoring information associating a communication identifier allocated to a first information processing apparatus that executes the communication in a second communication network with an apparatus identifier of a second information processing apparatus that relayed the communication in the first communication network; and

determination means for determining that the first communication network is the same as the second communication network when the calculated number of types is one, and determining that the first communication network is different from the second communication network when the calculated number of types is two or more wherein,

the monitoring information further associates a destination communication identifier allocated to a third information processing apparatus in a third communication network with a determination apparatus identifier of a fourth information processing apparatus that relayed communication to the third information processing apparatus, the third information processing apparatus being a destination communicated

by the first information processing apparatus, and

the determination means determines that the first communication network is the same as the second communication network when the destination apparatus identifier indicates a plurality of information processing apparatuses.

[Claim 2]

The communication network determination apparatus according to claim 1 further comprising:

identifier generation means for generating a network identifier configured to determine communicably connectability to the first communication network based on the destination communication identifier when the destination apparatus identifier indicates a plurality of information processing apparatuses, wherein

the determination means determines, based on the generated network identifier, whether or not the first information processing apparatus identified by the communication identifier in the monitoring information is able to communicably connect to the first communication network, determines that the first communication network is the same as the second communication network when determining that communicably connection is possible, and determines that the first communication network is different from the second communication network when determining that communicably connection is impossible.

[Claim 3]

The communication network determination apparatus according to

claim 1 further comprising:

identifier generation means for generating a network identifier configured to determine communicable connectability to the first communication network based on the destination communication identifier when the determination apparatus identifier indicates a plurality of information processing apparatuses, wherein

the determination means determines, based on the generated network identifier, whether or not the third information processing apparatus identified by the destination communication identifier in the monitoring information is able to communicably connect to the first communication network, determines that the third communication network is the same as the second communication network when determining communicably connection is possible, and determine that the third communication network is different from the second communication network when determining communicably connection is impossible.

[Claim 4]

The communication network determination apparatus according to any one of claims 1 to 3 further comprising:

function specification means for specifying the second information processing apparatus as a relay apparatus communicably connecting between the first communication network and the second communication network different from the first communication network when determining that the first communication network is different from the second communication network.

[Claim 5]

The communication network determination apparatus according to any one of claims 1 to 4 further comprising:

function specification means for specifying the fourth information processing apparatus as a relay apparatus communicably connecting between the second communication network and the third communication network different from the second communication network when determining that the third communication network is different from the second communication network.

[Claim 6]

The communication network determination apparatus according to claim 5, wherein

the monitoring information further includes a port number configured to identify a program executed in the third information processing apparatus, wherein

the function specification means specifies a function of the first information processing apparatus or a function of the third information processing apparatus based on the port number.

[Claim 7]

The communication network determination apparatus according to claim 5, wherein

the monitoring information further includes processing content indicating processing regarding the communication in association with the communication identifier, and

the function specification means specifies a function of the first information processing apparatus or a function of the third information processing apparatus based on code sequence included in the processing content.

[Claim 8]

The communication network determination apparatus according to any one of claims 1 to 6 further comprising:

display control means for controlling a user interface to display the communication identifier included in the monitoring information in accordance with a display mode depending on determined difference between the first communication network and the second communication network.

[Claim 9]

The communication network determination apparatus according to any one of claims 4 to 7 further comprising:

display control means for controlling a user interface to display the communication identifier included in the monitoring information in accordance with a display mode depending on determined difference between the first communication network and the second communication network, the display mode connecting communication network determined to be the same, communication network determined to be different, and the communication identifier allocated to an information processing apparatus specified as a relay apparatus communicably connecting different communication networks.

[Claim 10]

The communication network determination apparatus according to claim 6 of claim 7 further comprising:

display control means for controlling a user interface to display the communication identifier included in the monitoring information in accordance with a display mode depending on determined difference between the first communication network and the second communication network, the display mode associating the function which is specified for an information processing apparatus identified by the communication identifier with the communication identifier.

[Claim 11]

A communication network determination method by a calculation processing apparatus, comprising:

calculating a number of types of communication identifier associated with a certain apparatus identifier in monitoring information generated based on communication information communicated via a first communication network, the monitoring information associating a communication identifier allocated to a first information processing apparatus that executes the communication in a second communication network with an apparatus identifier of a second information processing apparatus that relayed the communication in the first communication network; and

determining that the first communication network is the same as the second communication network when the calculated number of types

is one, and determining that the first communication network is different from the second communication network when the calculated number of types is two or more wherein,

the monitoring information further associates a destination communication identifier allocated to a third information processing apparatus in a third communication network with a determination apparatus identifier of a fourth information processing apparatus that relayed communication to the third information processing apparatus, the third information processing apparatus being a destination communicated by the first information processing apparatus, and

in determining, determining that the first communication network is the same as the second communication network when the destination apparatus identifier indicates a plurality of information processing apparatuses.

[Claim 12]

A communication network determination program making a computer achieve:

a calculation function for calculating a number of types of communication identifier associated with a certain apparatus identifier in monitoring information generated based on communication information communicated via a first communication network, the monitoring information associating a communication identifier allocated to a first information processing apparatus that executes the communication in a second communication network with an apparatus identifier of a second

information processing apparatus that relayed the communication in the first communication network; and

a determination function for determining that the first communication network is the same as the second communication network when the calculated number of types is one, and determining that the first communication network is different from the second communication network when the calculated number of types is two or more wherein,

the monitoring information further associates a destination communication identifier allocated to a third information processing apparatus in a third communication network with a determination apparatus identifier of a fourth information processing apparatus that relayed communication to the third information processing apparatus, the third information processing apparatus being a destination communicated by the first information processing apparatus, and

the determination function determines that the first communication network is the same as the second communication network when the destination apparatus identifier indicates a plurality of information processing apparatuses.