DESCRIPTION

Title of Invention: REMOTE MANAGEMENT APPARATUS AND REMOTE MANAGEMENT SYSTEM

Technical Field

A remote management apparatus and a remote management system for remotely managing one or more devices

Background Art

As disclosed in PTL 1 (Japanese Unexamined Patent Application Publication No. 2004-184068), a system of the related art is known in which setting information for the operation of devices installed in customers' properties can be registered at a remote location via a network.

Summary of Invention

Technical Problem

When the initial setting of devices, which is performed when the devices are installed in customers' properties, is performed manually by a person in charge visiting each property, there is a problem in that man-hours required for the person in charge increase.

Solution to Problem

According to a first aspect, there is provided a remote management apparatus for remotely managing one or more

devices via a communication device which is to be incorporated in or connected to each of the one or more devices via a network, wherein, after establishing communication with the communication device, the remote management apparatus is configured to identify, based on information received from the communication device, a model of each of the one or more devices and a property in which the device is to be installed, characterized in that: the remote management apparatus is configured to store in advance, for each type of property, property setting information that includes initial setting information of the device; and the remote management apparatus is further configured to select, on the basis of the property that is identified, the property setting information corresponding to the type of the property, select, on the basis of the property setting information that is selected, the initial setting information of the device whose model is identified, and transmit the initial setting information of the device that is selected, to the communication device.

In an embodiment of the remote management apparatus, the initial setting information includes at least one of identification information of the device, information concerning an installation location of the device, and information specific to an environment in which the device is to be installed.

In an embodiment, the remote management apparatus is configured to determine, based on an identification result

of the property, whether to transmit initial setting information of each of the one or more devices to each of the one or more devices via the communication device.

In an embodiment of the remote management apparatus, each of the one or more devices includes at least one of an air conditioner, a ventilator, and a refrigerator.

According to a second aspect, there is provided a remote management system for remotely managing one or more devices, including: a control terminal to be connected to each of the one or more devices; and a management apparatus which is to be connected to the control terminal via a network and configured to remotely manage the device via the control terminal, wherein after establishing communication with the control terminal, the management apparatus is configured to identify, based on information received from the control terminal, a property in which the device is to be installed, and the control terminal is configured to identify a model of each of the one or more devices based on information received from each of the one or more devices, characterized in that: the management apparatus is configured to store in advance, for each type of property, property setting information that includes initial setting information of the device; the management apparatus is further configured to select, on the basis of the property that is identified, the property setting information corresponding to the type of the property, and transmit the property setting information that is selected, to the

control terminal; and the control terminal is further configured to identify each of the devices on the basis of the identified model of the device, and transmit, on the basis of the property setting information received from the management apparatus, the initial setting information of the device, to each of the devices that are identified.

In an embodiment of the remote management system, the management apparatus is configured to determine, based on an identification result of the property, whether to transmit initial setting information of the one or more devices to the control terminal or the one or more devices.

In an embodiment of the remote management system, the initial setting information includes at least one of identification information of the device, information concerning an installation location of the device, and information specific to an environment in which the device is to be installed.

In an embodiment of the remote management system, each of the one or more devices includes at least one of an air conditioner, a ventilator, and a refrigerator.

In an embodiment of the remote management system, the management apparatus is configured to transmit operation setting information of the one or more devices to the control terminal or the one or more devices. The operation setting information includes at least one of information concerning a schedule of operating the device, information concerning permission and prohibition of operation of the

device, and a parameter related to operation of the device.

In an embodiment of the remote management system, the management apparatus is configured to present, for each property, at least information concerning whether a person in charge needs to visit the property.

Brief Description of Drawings

[Fig. 1] Fig. 1 is a conceptual diagram of an air conditioning control system 100 according to a first embodiment.

[Fig. 2] Fig. 2 is a detailed configuration diagram of the remote management system 100 according to the first embodiment.

[Fig. 3] Fig. 3 is a flowchart of a test operation of a control terminal 30 according to the first embodiment.

[Fig. 4] Fig. 4 is a detailed configuration diagram of a remote management system 200 according to a second embodiment.

[Fig. 5] Fig. 5 is a flowchart of a test operation of a device 120 according to the second embodiment.

[Fig. 6] Fig. 6 illustrates an example of property management information displayed on a display of a

CLAIMS

[Claim 1]

A remote management apparatus (140) for remotely managing one or more devices (120) via a communication device (130) which is to be incorporated in or connected to each of the one or more devices via a network (150), wherein,

after establishing communication with the communication device (130), the remote management apparatus is configured to identify, based on information received from the communication device, a model of each of the one or more devices and a property (110) in which the device is to be installed,

characterized in that:

the remote management apparatus is configured to store in advance, for each type of property, property setting information that includes initial setting information of the device; and

the remote management apparatus is further configured to

select, on the basis of the property that is identified, the property setting information corresponding to the type of the property,

select, on the basis of the property setting information that is selected, the initial setting information of the device whose model is identified, and

transmit the initial setting information of the device that is selected, to the communication device.

[Claim 2]

The remote management apparatus according to Claim 1, wherein

the initial setting information includes at least one of identification information of the device, information concerning an installation location of the device, and information specific to an environment in which the device is to be installed.

[Claim 3]

The remote management apparatus according to Claim 1 or 2, wherein

the remote management apparatus is configured to determine, based on an identification result of the property, whether to transmit initial setting information of each of the one or more devices to each of the one or more devices via the communication device.

[Claim 4]

The remote management apparatus according to any one of Claims 1 to 3, wherein

each of the one or more devices includes at least one of an air conditioner, a ventilator, and a refrigerator.

[Claim 5]

A remote management system (100) for remotely managing one or more devices (20), comprising:

a control terminal (30) to be connected to each of the one or more devices; and

a management apparatus (40) which is to be connected to the control terminal via a network (50) and configured to remotely manage the device via the control terminal, wherein

after establishing communication with the control terminal, the management apparatus is configured to identify, based on information received from the control terminal, a property (10) in which the device is to be installed, and

the control terminal is configured to identify a model of each of the one or more devices based on information received from each of the one or more devices,

characterized in that:

the management apparatus is configured to store in advance, for each type of property, property setting information that includes initial setting information of the device;

the management apparatus is further configured to

select, on the basis of the property that is identified, the property setting information

corresponding to the type of the property, and

transmit the property setting information that is selected, to the control terminal; and

the control terminal is further configured to

identify each of the devices on the basis of the identified model of the device, and

transmit, on the basis of the property setting information received from the management apparatus, the initial setting information of the device, to each of the devices that are identified.

[Claim 6]

The remote management system according to Claim 5, wherein

the management apparatus is configured to determine, based on an identification result of the property, whether to transmit initial setting information of each of the one or more devices to the control terminal or each of the one or more devices.

[Claim 7]

The remote management system according to Claim 5 or 6, wherein

the initial setting information includes at least one of identification information of the device, information concerning an installation location of the device, and information specific to an environment in which the device is to be installed.

[Claim 8]

The remote management system according to any one of Claims 5 to 7, wherein

each of the one or more devices includes at least one of an air conditioner, a ventilator, and a refrigerator.

[Claim 9]

The remote management system according to any one of Claims 5 to 8, wherein

the management apparatus is configured to transmit operation setting information of each of

the one or more devices to the control terminal or each of the one or more devices, and

the operation setting information includes at least one of information concerning a schedule of operating the device, information concerning permission and prohibition of operation of the device, and a parameter related to operation of the device.

[Claim 10]

The remote management system according to any one of Claims 5 to 9, wherein

the management apparatus is configured to present, for each property, at least information concerning whether a person in charge needs to visit the property.