DESCRIPTION
AIR CONDITIONING MANAGEMENT SYSTEM

TECHNICAL FIELD

The present disclosure relates to an air conditioning management system that manages a plurality of air conditioners as management targets.

BACKGROUND ART

There has been provided an air conditioning management system for comprehensively managing (monitoring, controlling, and the like) air conditioners such as an outdoor unit and an indoor unit. In such an air conditioning management system, a data center connected to a network such as the Internet or a public network provides a controller with a management program, and the controller executes the management program (Patent Literature 1: JP 2004-234176 A). The management program in Patent Literature 1 is selected in accordance with device information as information unique to an air conditioner and is provided from the data center.

SUMMARY OF THE INVENTION

<Technical Problem>

A different program for management of an air conditioner may be applied to each air conditioner as a management target. In an exemplary case where a new air conditioner is introduced, the existing management program included in the controller may fail to achieve sufficient management. Patent Literature 1 needs development of a corresponding management program for management of a newly introduced air conditioner. Development of a management program problematically requires enormous work time and processes.

<Solution to Problem>

An air conditioning management system according to an aspect is configured to manage a plurality of air conditioners as management targets. The air conditioning management system includes a controller and a server apparatus. The controller is connected to the air conditioners. The controller executes a management program for management of the air conditioners. The server apparatus is connected to the controller. The server apparatus provides the controller with an air conditioner data model. The air conditioner data model is a collection of data on the air conditioners to be referred to in the management program); wherein the air conditioner data model is information on the air conditioners to be referred to in the management program, the air conditioner data model is provided for each type of the air conditioners, and the air conditioner data model stores information on the air conditioners for each of data items.

In the air conditioning management system according to the above aspect, the server apparatus provides the air conditioner data model to enable management with use of an

identical management program even when a new air conditioner is introduced.

In an embodiment of the above aspect, the information on the air conditioners includes information on attributes of the air conditioners.

In an embodiment of the above aspect, the information on the attributes includes information on a possible maximum value and a possible minimum value of numerical value data.

In an embodiment of the above aspect, the data items are set for each type of the air conditioners.

In an embodiment of the above aspect, the data items include an item of start and stop, set temperature, or suction temperature.

In an embodiment of the above aspect, the controller is connected to the server apparatus via a network.

The air conditioning management system can thus manage a new type of the air conditioners introduced to the air conditioning management system with use of the identical management program.

In an embodiment of the above aspect, when the air conditioner data model is registered at the server apparatus, the server apparatus provides the controller with the air conditioner data model.

In an embodiment of the above aspect, the air conditioner data model includes information on a conversion function for interconversion between data acquired from the air conditioners and data recognizable by the server apparatus.

The controller and the server apparatus can thus achieve data conversion in a recognizable language.

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BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic view depicting a configuration of an air conditioning management system.

FIG. 2 is a schematic view depicting a configuration of an air conditioner.

FIG. 3 is a schematic view depicting functional blocks of devices constituting the air conditioning management system.

FIG. 4 indicates an exemplary air conditioner data model.

FIG. 5 indicates another exemplary air conditioner data model.

FIG. 6 indicates still another exemplary air conditioner data model.

DESCRIPTION OF EMBODIMENTS

(1) Entire configuration

CLAIMS

1. An air conditioning management system (1) configured to manage a plurality of air conditioners (10) as management targets, the system comprising:

a controller (60) connected to the air conditioners (10) and configured to execute a management program (3) for management of the air conditioners (10); and

a server apparatus (40) connected to the controller (60) and configured to provide the controller (60) with an air conditioner data model (4) as a collection of data on the air conditioners (10) to be referred to in the management program (3); wherein

the air conditioner data model (4) is information on the air conditioners (10) to be referred to in the management program (3),

the air conditioner data model (4) is provided for each type of the air conditioners (10), and

the air conditioner data model (4) stores information on the air conditioners (10) for each of data items.

2. The air conditioning management system (1) according to claim 1, wherein

the information on the air conditioners (10) includes information on attributes of the air conditioners (10).

3. The air conditioning management system (1) according to claim 2, wherein

the information on the attributes includes information on a possible maximum value and a possible minimum value of numerical value data.

4. The air conditioning management system (1) according to any of claims 1 to 3, wherein

the data items are set for each type of the air conditioners (10).

5. The air conditioning management system (1) according to any of claims 1 to 4, wherein

the data items include an item of start and stop, set temperature, or suction temperature.

6. The air conditioning management system (1) according to any of claims 1 to 5, wherein

the controller (60) is connected to the server apparatus (40) via a network (50).

7. The air conditioning management system (1) according to any of claims 1 to 6, wherein

when the air conditioner data model (4) is registered at the server apparatus (40), the server apparatus (40) provides the controller (60) with the air conditioner data model (4).

8. The air conditioning management system (1) according to any of claims 1 to 6, wherein

the controller (60) acquires type data on the air conditioners (10), and

the server apparatus (40) provides the controller (60) with the air conditioner data model (4) corresponding to the type data.

9. The air conditioning management system (1) according to any of claims 1 to 8, wherein

the air conditioner data model (4) includes information on a conversion function for interconversion between data acquired from the air conditioners (10) and data recognizable by the server apparatus (40).