another task. Therefore, in the case of using RTS, it is necessary to take an efficient processing procedure.

SUMMARY

According to one aspect, there is provided an elevator-group management system which is provided with a group management controller and a plurality of car controllers, and controls a plurality of cars with the car controllers under a control of the group management controller, the group management controller comprising: assignment request issuing means for issuing an assignment request to the car controllers when a new hall call is made, assigning an assignment request call and virtual calls to each of the car controllers when the assignment request is issued, the assignment request call corresponding to the new hall call, the virtual calls being assumed to be made and causing the car controllers to execute respective parts of assignment evaluation processing for assigning the new hall call to any of the cars; evaluation result acquiring means for acquiring evaluation results obtained by the car controllers in accordance with the assignment request; and assignment evaluating means for finally determining to which of the cars the new hall call is to be assigned by using an algorithm which combines the evaluation results acquired from the car controllers by the evaluation result acquiring means, limits virtual assignment patterns to be evaluated to likely ones and evaluates the likely virtual assignment patterns, wherein the algorithm selects a node having a smallest evaluation value as a base node for development from the virtual assignment patterns by comparing evaluation values among nodes corresponding

to the virtual assignment patterns, repeats a node development process of adding a virtual call not yet subjected to virtual assignment, generating a new node for each of the cars from the base node for development, and removing the base node for development from nodes to be compared with each other, corrects each evaluation value on a presumption that a no-response time for a virtual call not yet subjected to virtual assignment is a predetermined time when the nodes to be compared with each other differ from each other in the number of virtual assignments, and finally extracts a node having a smallest evaluation value by limiting the number of repetitions of the node development process, and the car controllers each comprises: assignment request receiving means for receiving the assignment request along with the assignment request call and the virtual calls; virtual assignment pattern making means for making a plurality of virtual assignment patterns for an associated one of the cars based on the assignment request call and the virtual calls received by the assignment request receiving means; operation prediction evaluating means for evaluating operation predictions of the virtual assignment patterns made by the virtual assignment pattern making means to obtain evaluation values of the virtual assignment patterns; and evaluation result transmitting means for transmitting as evaluation results of the associated car, the evaluation values of the virtual assignment patterns obtained by the operation prediction evaluating means to the group management controller.

There is also disclosed an elevator elevator-group management system which is provided with a group management controller and a plurality of car controllers, and controls a plurality of cars with the car controllers under a control of the group management

controller, includes assignment request issuing means for issuing an assignment request to the car controllers when a new hall call is made, and causing the car controllers to execute respective parts of assignment evaluation processing for assigning the new hall call to any of the cars, evaluation result acquiring means for acquiring evaluation results obtained by the car controllers in accordance with the assignment request, and assignment evaluating means for making a comprehensive evaluation of the evaluation results acquired from the car controllers by the evaluation result acquiring means to finally determine to which of the cars the new hall call is to be assigned.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a view showing virtual assignment patterns of an RTS;

FIG. 2 is a view showing a processing procedure in the case of applying an algorithm A to RTS;

FIG. 3 is a view showing virtual assignment patterns in the case of applying the algorithm A to RTS;

FIG. 4 is a view showing a procedure of a centralized control of RTS;

FIG. 5 is a view showing how processing according to the algorithm A applied to RTS is distributed to control boards for cars;

FIG. 6 is a view showing a procedure of a distributed control of RTS;

WHAT IS CLAIMED IS:

1. An elevator-group management system which is provided with a group management controller and a plurality of car controllers, and controls a plurality of cars with the car controllers under a control of the group management controller, the group management controller comprising:

assignment request issuing means for issuing an assignment request to the car controllers when a new hall call is made assigning an assignment request call and virtual calls to each of the car controllers when the assignment request is issued, the assignment request call corresponding to the new hall call, the virtual calls being assumed to be made, and causing the car controllers to execute respective parts of assignment evaluation processing for assigning the new hall call to any of the cars;

evaluation result acquiring means for acquiring evaluation results obtained by the car controllers in accordance with the assignment request; and

assignment evaluating means for finally determining to which of the cars the new hall call is to be assigned by using an algorithm which combines the evaluation results acquired from the car controllers by the evaluation result acquiring means, limits virtual assignment patterns to be evaluated to likely ones and evaluates the likely virtual assignment patterns, wherein

the algorithm

selects a node having a smallest evaluation value as a base node for development from the virtual assignment patterns by comparing evaluation values

among nodes corresponding to the virtual assignment patterns,

repeats a node development process of adding a virtual call not yet subjected to virtual assignment, generating a new node for each of the cars from the base node for development, and removing the base node for development from nodes to be compared with each other,

corrects each evaluation value on a presumption that a no-response time for a virtual call not yet subjected to virtual assignment is a predetermined time when the nodes to be compared with each other differ from each other in the number of virtual assignments, and

finally extracts a node having a smallest evaluation value by limiting the number of repetitions of the node development process, and

the car controllers each comprises:

assignment request receiving means for receiving the assignment request along with the assignment request call and the virtual calls;

virtual assignment pattern making means for making a plurality of virtual assignment patterns for an associated one of the cars based on the assignment request call and the virtual calls received by the assignment request receiving means;

operation prediction evaluating means for evaluating operation predictions of the virtual assignment patterns made by the virtual assignment pattern making means to obtain evaluation values of the virtual assignment patterns; and

evaluation result transmitting means for transmitting as evaluation results of the associated car, the evaluation values of the virtual assignment patterns obtained by the operation prediction evaluating means to the group management controller.