The learning unit 132 learns, for each virtual setting, a set of the virtual setting and the simulation result (data set). Hence, a learned model is generated.

[0094] The type of the learned model is arbitrary.

Specifically, the type of the learned model is a neural network, a random forest, an SVR, or the like.

Note that SVR stands for Support Vector Regression.

[0095] In step S320, for each candidate setting, the result acquisition unit 130 obtains a simulation result of the candidate setting with using the learned model.

[0096] Specifically, the substitute computation unit 133 takes each candidate setting as input and computes the learned model. Hence, a simulation result of each candidate setting can be obtained.

[0097] *** Effect of Embodiment 3 ***

The equipment control device 100 can calculate an energy consumption and an indoor environment at a high speed by the learned model that substitutes for a simulation.

The equipment control device 100 causes the model to learn an input/output relationship of the simulation in advance. This enables high-speed calculation of the energy consumption and indoor environment. As a result, good candidate setting can be acquired at a high speed.

Further, even when a required satisfaction level is added or changed due to a change of the stakeholder such as a change of a tenant moving in the building, a good candidate setting can be acquired at a high speed and can be applied to building equipment control.

[0098] *** Examples of Embodiment 3 ***

*** Example (3-1) ***

*** Example (6-1) ***

A technique that enables appropriate superiority/inferiority judgment differs depending on the index of the satisfaction level or constraint level. Depending on technique to be used, appropriate superiority/inferiority judgment is not performed, and accordingly a candidate setting having a good satisfaction level may not be acquired.

In view of this, the candidate optimization unit 160 may rank the plurality of candidate settings by using each of the plurality of superiority/inferiority judgment algorithms.

Referring to Fig. 27, the calculation unit 111 is provided with a plurality of superiority/inferiority judgment units (161A, 161B).

The first superiority/inferiority judgment unit 161A performs ranking with using a first superiority/inferiority judgment algorithms. The first optimization unit 162A performs optimization on a basis of a result of ranking performed by the first superiority/inferiority judgment unit 161A.

The second superiority/inferiority judgment unit 161B performs ranking with using a second superiority/inferiority judgment algorithms. The second optimization unit 162B performs optimization on a basis of a result of ranking performed by the second superiority/inferiority judgment unit 161B.

Note that each of the first optimization unit 162A and the second optimization unit 162B may perform optimization on a basis of the result of ranking performed by the first superiority/inferiority judgment unit 161A and the result of ranking performed by the second superiority/inferiority judgment unit 161B.

A number of superiority/inferiority judgment units 161 (that is, a number of superiority/inferiority judgment algorithms to be used) may be 3 or more, and a number