

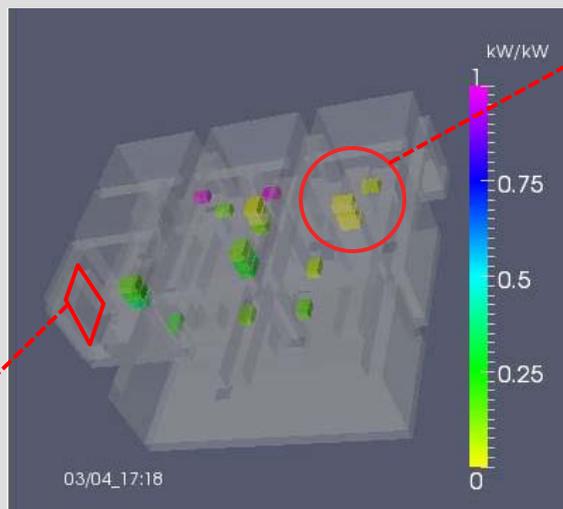
## Information and communications field

Central Research Laboratory  
Green IT Platform Research Laboratory

Hitachi, Ltd., web site [8<sup>th</sup> Sep 2010 News Release] <http://www.hitachi.co.jp/New/cnews/month/2010/09/0908b.html>

### Real-time IT facilities collaborative control for reducing power consumption in air conditioning for energy-conscious data centers

Reduction of power consumption by 18%~34% in a small-scale experimental system using two air conditioners



Area of air conditioning with high efficiency

Air conditioner in operation

Hitachi, Ltd. has developed a technology to reduce power consumption in data centers by controlling air-conditioner operation in accordance with computer systems operation.

When applied to a small-scale experimental system of two air conditioners, this technology demonstrated a reduction of 18% to 34% in power consumption compared to uncontrolled operation.

This is a key technology in the “Environment-conscious Data center Project”.

#### ■ Characteristics

##### ◆ Real-time analysis of thermal sensitivity

The temperatures of supply and exhaust air in IT facilities and from air conditioners were tabled using a three-dimensional thermo-hydrodynamic simulation to analyze the temperature distribution of a data center in real-time operation.

##### ◆ Collaborative operation control between air conditioning and IT facilities

Based on the rise in temperature of IT facilities predicted from past operation history, the number of operation units and temperature of air conditioners are adjusted to an optimal range to minimize power consumption.

#### ■ Conference presentation

This achievement was awarded the “Funai Best Paper Award “ at the Forum on Information Technology 2010, held from the 7<sup>th</sup> Sep 2010.

#### ■ A word from the development team



Pilot tests will be conducted at the data center in Yokohama from Oct 2010.