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 7th Sep 2010.

- **A word from the development team**
  Pilot tests will be conducted at the data center in Yokohama from Oct 2010.