The most common method used for controlling data center cooling devices employs the return air temperature from the data center. This method provides a blended air temperature regime from the data center to the cooling devices that masks the actual needs of the servers. Consequently, the cooling devices will operate inefficiently because they do not accurately anticipate cooling requirements.

However, by retrieving server inlet air temperature from the server's manageability network and linking this information to the building management system to control the cooling system in the data center, energy reductions can be achieved by more precisely controlling the amount of cooling required.

To achieve this goal it requires communication between the server information and the cooling controls. The Information and Communications Technology (ICT) management network can feed the server temperature information to the Intel Facility Management System (FMS). Data is then presented to the Cimplicity HMI software where it is available to the data center cooling system devices.

A GE Fanuc Series 90-70 PLC system provides the process control through the GE Fanuc Cimplicity HMI. In order to interface to the Liebert Computer Room Air Handlers (CRAH) the user needed to convert between the Ethernet Global Data (EGD) on the GE PLC and the Liebert CRAH which utilized Modbus RTU protocol. The FieldServer FS-B2010 was the gateway of choice to accomplish this interface.

The user stated that, "The FieldServer gateway was chosen due to the flexibility to adapt to alternate protocols on both the controller and the CRAH, providing a flexible solution for future units/sites."

This interoperability capability enabled the center to reduce both chiller-plant and pumping energy by 30 to 40 percent.