How Mitsubishi Electric's extensive solutions satisfy customers

Mitsubishi Electric leverages technology and experience to offer solutions for more efficient data center operation.

The substantial increase in recent years in the use of digital data over the Internet and via ICT (Information and Communication Technology) systems make efficient operation of data centers integral to network integrity. As digital transformation leverages the IoT (Internet of Things), data growth itself becomes a crucial asset—not just for the IT industry, but also for other industries, including agriculture, manufacturing, and service sectors.

Data centers facilitate the storage and stable operation of many different types of IT components, which manage the transmission of ever-increasing digital data, requiring robust security measures and high-performance equipment. As such, system integrators and engineers involved in building and running data centers must possess a great deal of specialized knowledge.

Enter Mitsubishi Electric, a company that manufactures a wide variety of electrical equipment and integrates it all into numerous systems across multiple business sectors. Leveraging decades in the field and cutting-edge knowhow, Mitsubishi Electric is positioned to support the establishment and optimal operation of data centers that can meet the demands of today's data-driven economy and do so while complying with environmental pressures.

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Changes for the Better

Equipment and security measures are crucial for high performance

Running a data center requires supplying IT equipment with a stable flow of electricity and a power failure could lead to significant losses. Accidents and temporary outages must be considered, as well as momentary drops in voltage and power fluctuations caused by weather events and natural disasters. Adopting uninterrupted power supply (UPS) units is the key to protecting IT equipment from such power failures. Mitsubishi Electric's UPS systems for data centers do not merely serve as backups for the loss of power supply; by constantly drawing power through inverters, these systems provide a supply of high-quality electricity at high levels of efficiency with reduced noise.[1]

IT equipment consumes high levels of power and generates large amounts of heat. While temperatures must be kept even and uniform throughout a data center, the pressing issue of environmental protection cannot be neglected.

Mitsubishi Electric's air conditioners for data centers are equipped with an automatic restart function as a standard feature to ensure stable operation when recovering from a power failure.

Staunch security measures are also indispensable for data centers to protect the valued data. These measures are crucial in preventing tailgating and other unauthorized building access. To address this, Mitsubishi Electric offers various methods of identity verification that is compliant with the safety measure standards set by Japan's Center for Financial Industry Information Systems ("Security Guidelines on Computer Systems for Banking and Related Financial Institutions"). One such solution is Mitsubishi Electric's Destination Oriented Allocation System (DOAS), which serves to restrict where data center visitors can go by linking up visitor information verified at security gates with elevator systems.[2]

A new solution: linking multiple components

Merely increasing the performance of a component does not equate to a data center's capability to provide high reliability and performance. A Mitsubishi Electric solution permits the lining of data center equipment and drawing out the maximum capacities of each individual component. In manufacturing and infrastructure businesses, SCADA (Supervisory Control And Data Acquisition) systems are often deployed to facilitate this linkage. These systems are structured to gather data from operational status signals transmitted from each piece of equipment, data from sensors installed on devices, and information from warnings and the monitoring system. These elements are then leveraged to control equipment and analyze operational status.

Mitsubishi Electric's GENESIS64™ is a SCADA software. Aside from having a customizable graphical user interface to match the structure of data centers, the interface comes with a security camera video feature that enables uniform monitoring and control of facility conditions. Also, GENESIS64™ is compatible with many industry-standard protocols, such as OPC™, MODBUS® and BACnet, providing flexibility when it comes to building equipment networks.[3]

To link data center equipment, Mitsubishi Electric's leverages its technology in the factory automation(FA) system business, which involves the automation of production processes through the control of elements such as machine tools at manufacturing plants. The MELSEC series of sequencers produced by Mitsubishi Electric commands 20% of the global market share.[4] These sequencers make it easy to implement a dual structure that uses controlled CPUs and standby CPUs, meaning that they continue to serve as control centers with no suspension of operations even during an abnormal event.[5] The system supports Modbus and BACnet, and can be used to build a flexible and reliable centralized control room system.

Mitsubishi Electric provides a wide range of solutions to address the issues faced by system integrators and data center operators and keep them happy by making full use of the company's know-how cultivated in the data center business and track record of being a leader in the power systems, factory automation and air conditioner industries.

Notes

(1). Mitsubishi Electric's Total Solution Catalog for Data Centers

(2). Mitsubishi Electric News Release (Mitsubishi Electric Delivers Taiwan's First
Double-deck Elevators with Destination Oriented Allocation System that
Integrates with Building Access Control Systems)

(3). GENESIS64™ Product Catalog (for Mitsubishi Electric's SCADA Software)

(4). Mitsubishi Electric Corporate Strategy (November 2009)

(5). Mitsubishi Electric MELSEC Consolidated Catalog