China General Nuclear Power Group Case Study

About China General Nuclear Power Group

Established in 1994, China General Nuclear Power Group (CGN), is a state-owned, clean energy corporation that constructs and operates nuclear power plants in China. Since its inception, CGN has evolved to become the largest nuclear company in China, consisting of more than 30 subsidiaries and affiliates.

The company operates in industries such as wind and solar energy, and hydroelectricity, and has made great strides in distributed energy, nuclear technology application, and energy conservation technical services.

CGN is continuously striving to fulfil its mission of "developing clean energy to benefit mankind." To accomplish this goal, the company established six nuclear power Research & Development centers that support its efforts to build, operate, and manage multiple nuclear and other clean energy projects simultaneously in different regions.

PANDUIT®

Company
China General Nuclear Power Group

Country
Shenzhen, China

Industry
Nuclear Energy

Business Challenges
To build a cost-effective data center that scales with the company's expansion, improves network performance, and delivers business agility.

Panduit Solution
Panduit Integrated Data Center Solution which includes Category 6 copper cabling, OM3 fiber, Net-Access™ Cabinets, FiberRunner® Routing Systems, a 4-post rack system, and Easy-Mark™ Labeling Software.

Business Benefits
A new, scalable data center with enhanced network reliability, maximum space utilization and improved operational and energy efficiencies, allowing CGN to accommodate China's growing nuclear energy needs.

Delivering an Upgraded Data Center to Simplify Business Operations.

Panduit enables CGN to build an updated data center that improves network performance while delivering energy efficiency, network reliability, and scalability

Business Challenges

As China's largest nuclear power company, it is a priority for CGN to keep pace with the increasing demand for renewable energy to address the tremendous growth potential of a much-needed alternate energy source in China.

To accommodate the high-volume capacity levels associated with nuclear power, the company decided to replace the existing data center which was struggling with network reliability, scalability, and capacity issues.

The new data center would increase operational and energy efficiencies, simplify maintenance, and provide room for expansion. CGN also needed to improve its network performance to support the increasingly large amounts of data being transmitted.

In addition, CGN wanted a secure network solution to ensure that confidential data was protected against unauthorized access.

Strategic Objectives

CGN wanted the new data center, which would be the biggest data center in the nuclear power group, to manage all of its business operations in south China. It was also important for CGN to maintain consistent, reliable service to internal and external customers.

The upgraded network infrastructure would help reduce costs and drive the commercial deployment of clean energy technology, which is experiencing an increase in demand and subsequent development.

CGN continues to focus on optimizing operations, transforming IT to be more sustainable, and collaborating for an environmentally sustainable world. This commitment to a new data center represents the company's dedication to place innovation at the forefront of its goals to support the continuous growth of renewable energy while improving business operations.
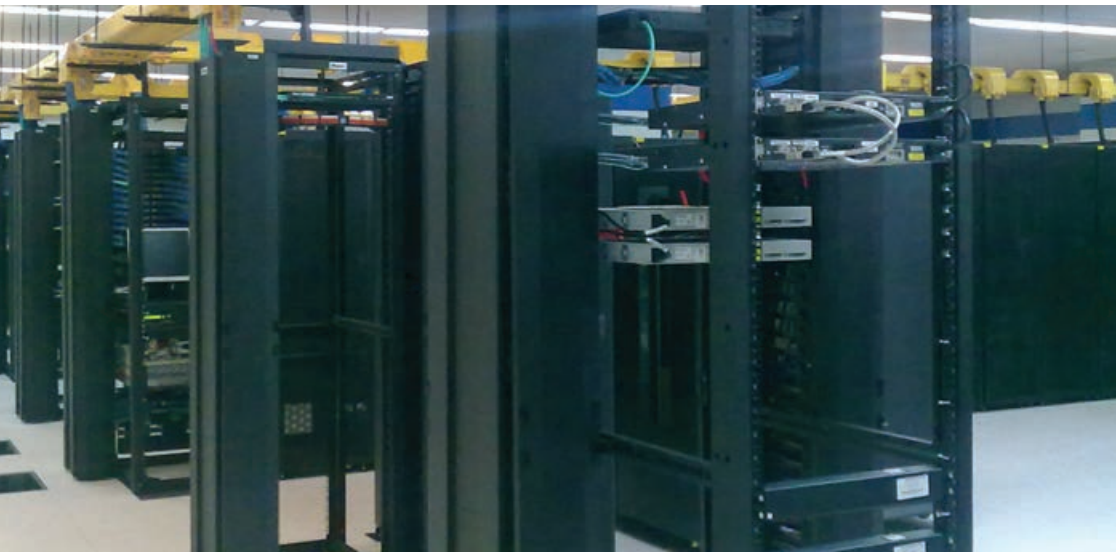
Panduit Solution

CGN chose the Panduit Integrated Data Center Solution to leverage Panduit expertise, help execute its physical infrastructure plan, and facilitate improvements. CGN deployed this solution within its 2,000m² data center.

The upgraded data center includes twelve Panduit energy efficient Net-Access™ Cabinets for CGN's network and communications equipment, which provides efficient space utilization and reduces the air leakage typical in competitive cabinets by as much as 80%. These cabinets ensure proper airflow to reduce CGN's energy consumption and enhance network reliability. The energy efficient data center cabinet system offers containment, in-cabinet ducting, and provides total separation, allowing higher data center set points and reduced cooling system energy consumption by up to 40%.

CGN implemented the Panduit PatchRunner™ High Capacity Vertical Cable Manager for aesthetically pleasing, efficient organization and protection of its high performance Category 6 copper, fiber optic cables, and patch panels, enhancing network reliability and reducing operational expenses. The vertical cable manager also enables the maximum amount of cables to be managed in the minimum amount of space, improving space utilization by up to 36% compared to traditional racks and vertical managers. This is the highest capacity in the industry to support current and future trends in equipment and network architecture.

CGN deployed 12,000m² of the Panduit OM3 fiber optic transport system, which combined with Category 6 copper, delivers consistent performance and network reliability to accommodate the company's network performance needs. In addition, the Panduit 2 and 4 post rack systems with cable management provide improved accessibility and efficient space utilization, and streamline moves, adds and changes. The angled patch panels enable higher density by allowing cables to flow to each side of the rack, thus allowing patch cords to be routed directly into vertical cable managers, optimizing the cable management structure and reducing patching space by 50%.

CGN also deployed 450m² of the FiberRunner® Routing System to improve cable routing and management for copper data cables, fiber optic cables, and power cables. The system installs up to two times faster than competitive modular systems, which allowed CGN to experience reduced installation costs and faster deployment. The FiberRunner® Routing System also ensures quick moves, adds, and changes, and long-term performance.

Panduit Easy-Mark™ Labeling Software was used to simplify label creation for specific application needs and ensure that CGN can quickly and accurately identify system components and connections.

Business Benefits

Panduit understood the particular challenges surrounding CGN's data center infrastructure and helped the company manage mission-critical operations across the entire CGN organization to increase functionality and reduce operational expenses.

The new data center has allowed CGN to quickly accommodate customer demands, which increases productivity and customer satisfaction.

CGN now has improved network reliability and energy efficiency, and a solution that utilizes space more effectively. The Panduit Integrated Data Center Solution has allowed the company to realize its goals of growing its business throughout south China with a data center that is equipped to optimize data center operations and manage continuing growth.

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