

Optimizing IT Infrastructure in the Energy Sector: PROSE MDC Implementation for Chinese Central State-Owned Enterprises

■ Background

In today's dynamic energy landscape, a robust, secure, and scalable IT infrastructure is essential for maintaining operational efficiency and supporting continuous growth. Recognizing this critical need, two Chinese central state-owned enterprises in the energy sector sought a comprehensive solution to modernize their existing IT setups. Both companies opted to implement a Micro Data Center (MDC) solution provided by PROSE at one of their key operational sites, aiming to achieve better scalability, higher security, increased efficiency, and simplified remote management.



■ Challenges

The enterprises faced several significant issues with their legacy IT infrastructure, including:

- **Scalability Constraints:** Existing IT resources lacked flexibility to accommodate rapid data growth and evolving workloads, limiting expansion potential.
- **Security Vulnerabilities:** Growing cybersecurity threats created an urgent need for enhanced protection mechanisms to safeguard sensitive operational data.
- **Operational Inefficiency:** High energy consumption and outdated cooling systems increased operational costs and negatively impacted sustainability.
- **Limited Remote Management Capability:** Geographic dispersion of certain facilities in remote regions complicated on-site management, making administration costly.

■ Solutions

To comprehensively address these challenges, the two state-owned enterprises deployed PROSE's integrated MDC solution, featuring:

- **Compute and Storage:** High-performance servers and robust storage arrays capable of reliably handling large data volumes.
- **Networking Infrastructure:** Advanced networking equipment ensuring consistent and reliable connectivity throughout operations.
- **Efficient Power and Cooling Systems:** Smart and energy-efficient power distribution and cooling technologies that maintained optimal environmental conditions and significantly reduced energy usage.

- **Robust Security Measures:** Integrated security features effectively protected against unauthorized access, while remaining upgrade-ready for advanced encryption technologies.
- **Remote Management System:** An integrated, 24/7 EMS (Energy Management System) and cloud-based platform enabling remote monitoring and management, minimizing physical interventions.

■ Benefits and Results

The adoption of PROSE MDC delivered measurable outcomes for these two state-owned enterprises:

- **Enhanced Scalability:** MDC's modular design allowed straightforward expansion or downsizing to meet changing operational demands, ensuring agile infrastructure management.
- **Improved Security:** Comprehensive security protocols provided reliable protection against unauthorized access, significantly mitigating cybersecurity risks.
- **Significant Energy Savings:** Advanced power and cooling efficiency substantially reduced energy consumption and operational costs.
- **Streamlined Remote Management:** The EMS cloud platform enabled easier and more efficient remote administration, significantly decreasing the frequency and necessity of on-site visits.
- **Substantial Cost Reductions:** Compact design and increased operational efficiency resulted in notable savings related to energy use, space management, and routine maintenance expenses.



The successful implementation of PROSE MDC has addressed immediate operational challenges and provided a solid foundation for future innovation and sustained growth. This secure, efficient, and reliable solution actively supports the strategic objectives of the two Chinese central state-owned enterprises in the energy sector, positioning them as leaders in industry transformation.

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