CUSTOMER

Wind turbines manufacturer (OEM)

Headquartered in the U.S. with customers worldwide

30,000+ employees worldwide

OBJECTIVES

Supply wind farms with required SCADA rack products

Finding a partner to offload the manufacturing work and simplify supply chain

RESULTS

Ability to meet the market's growing demand

Continuous improvement of the products

Saving time and resources

MAJOR U.S. WIND TURBINE MANUFACTURER PROVIDES SCADA RACK PRODUCTS TO END-CUSTOMERS THANKS TO FOXGUARD

A major U.S. wind turbine manufacturer had been managing the procurement, stocking, and assembly of their SCADA Rack product for the control room environments of wind farms from their facility in California.

However, following 2007, the increasing demand for renewable energy led to a surge in the volume of the SCADA rack product, overwhelming the company's factories. As a result, they sought assistance from Foxguard to alleviate this burden.

The customer challenges

The OEM required SCADA racks for the control rooms of wind stations serving the North and South American markets.
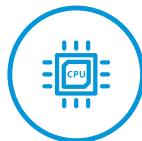
Engineering Complexity

Designing this type of equipment involves a high level of engineering due to the numerous components involved. When faced with so many combinations of hardware and software, management becomes challenging; an update from one manufacturer or software vendor can invariably impact the others. The more components included, the greater the potential for variation.

Lifecycle and Supply Planning

Additionally, these racks have a long lifecycle and require ongoing maintenance, which necessitates anticipating the supply of the components used in their design

foxguard

The solution

Collaborating with the OEM's engineering, sourcing, and quality teams, Foxguard developed a turnkey customized solution that met their requirements, alleviating the burden of managing all project elements in-house.

The first generation of the product was a three-server solution: a primary high-end server that housed the database and other core applications, two servers for remote access and additional customer applications, external storage in the form of a Mass Storage Array (MSA) directly attached to the main server, and a tape drive for backup and archiving.

In addition to the servers and storage, the typical rack infrastructure necessary to support this functionality was included, such as an uninterruptible power supply (UPS), environmental monitoring (ERM), a KVM switch, and a display console. The rack also featured a network switch and fiber patch panel to accommodate incoming connections from the Wind farm.

In recent generations, the inclusion of redundant firewalls and core switches has enhanced security while also introducing a layer of network complexity that Foxguard has effectively managed and maintained. This flexible, scalable, and secure architecture positions the product well for future growth and enhancement.

The results

The wind turbine manufacturer gained the capability to meet the market's growing demand and provide their end-customers with customized products that align with their specific requirements.

This shift allowed them to save time and resources by transitioning from managing multiple suppliers, handling the in-house manufacturing of SCADA racks, and sending personnel to customer sites to having Foxguard as a single point of contact for all their needs. Foxguard relieved the manufacturer's teams of the burdens associated with engineering, drafting, troubleshooting, and more. This resulted in providing a comprehensive integration of hardware, documentation, software deployment, and security packages.

Foxguard was able to reduce the overall cost of the solution by accurately aligning performance requirements with the appropriate server hardware and collaborating directly with manufacturers to effectively manage the supply chain.

More recently, Foxguard, in collaboration with the OEM teams, developed the first Secure Edition SCADA Racks, which combine the traditional architecture of the Wind SCADA product with elements of the Nexus security solution. This integration creates a comprehensive virtual solution that addresses customer security needs without compromising the functionality they expect from their existing control products.

The SCADA Rack technology has evolved from a multi-server hardware-based solution with additional storage and tape backup, to a virtualized dual-server solution that allows for the scalability of adding virtual machine instances as needed.

The OEM and their end-customers have also benefitted from continuous improvement, as Foxguard has produced and shipped hundreds of SCADA racks over the past 20 years, spanning eight generations of server hardware and adapting to new requirements along the way. The product portfolio has expanded to include solutions for a diverse range of applications varying scales, establishing Foxguard as the OEM's supplier of wind SCADA solutions for all North and South America.