

McAfee Drives Next-Generation SCADA Security

McAfee® Professional Services provides advanced protection for a Japanese power company and its global customers and partners



TEPCO Power Grid, Inc.

Customer profile

An independent power transmission and distribution operator delivering power to the Kantō region and Shizuoka Prefecture of Japan and a developer of next-generation SCADA systems for partners and customers worldwide.

Industry

Energy

A global provider of electrical energy and developer of advanced critical infrastructure systems looks to McAfee Professional Services to optimize security for in-house operational technology used in-house and in power stations all over the world.

CASE STUDY

In business for 30 years, TEPCO Power Grid, Inc. in Japan specializes in electrical power transmission and distribution to the Kantō region and Shizuoka Prefecture. As the world's most stable and highly rated electrical energy company, TEPCO is renowned for its high rate of service continuity. The system TEPCO uses to support its power supply is an advanced supervisory control and data acquisition system (SCADA). The company has recently been focusing on building a more efficient, low-cost next-generation SCADA that would guarantee better security and quality of service for its own organization and for customers and partners all over the world.

Incorporating Technology to Support International Security Standards

The damaging 9.0 magnitude earthquake of 2011 off the northeast shore of Japan triggered a renewed sense of purpose at TEPCO. To reconstruct the afflicted areas of the country, TEPCO launched new initiatives that aim to achieve further cost reductions, enhance profitability, and improve electrical infrastructure security. Looking ahead to the 2020 Tokyo Olympics, TEPCO's goal is to establish the Tokyo power system as a model for the world to emulate.



TEPCO Power Grid, Inc.
Technology/Business Innovation
Promotion Office Next-Generation
SCADA Development Group
Manager
Koichi Takeuchi

“Conventional control systems are the result of operational technology, or OT. We believe it’s necessary to create lower-cost, higher-quality specifications for power systems by incorporating generic and standard IT technology. Security measures also need to be implemented for the sake of physical stability and safety, but costs are rising due to geographic dispersion,” declares Koichi Takeuchi, group manager for the Technology/Business Innovation Promotion Office Next-Generation SCADA Development. “We were well aware that incorporating IT and OT increases the risk of cyberattacks and that critical infrastructures are an easy target. While we have solid expertise in OT technology, we needed a partner to help us secure the next-generation SCADA systems we are developing. That’s why we engaged McAfee® Professional Services.”

Junya Yamamoto, from the Technology/Business Innovation Promotion Office IT/OT Technical Strategy Group, was impressed with the depth of understanding the McAfee Professional Services staff has about both IT and OT. “The experts at McAfee accurately identified our issues. Most importantly, along with the introduction of countermeasure technologies, they studied security matters specific to our industry from the perspective

Challenges

- Developing security measures for next-generation SCADA
- Enhancing security measures for internal operations and customers and partners

McAfee Solution

- McAfee Professional Services

Results

- Comprehensive application of security measures meeting international standards—from design to deployment and operation
- Implementation of organizational reform within the company, including involvement of a CISO and CSIRT

CASE STUDY

of predicting what may occur,” says Yamamoto. TEPCO was so much in alignment with the view that IT and OT should be thought of together, not separately, that the organization established new planning teams to address relevant security concerns associated with these areas.

An Organization that Embraces Innovation

After McAfee Professional Services conducted risk assessments, TEPCO became aware of the need for new company-wide security initiatives, so the leaders approached the issue at the organizational level. According to Takeuchi, one of the most valuable aspects of the engagement with McAfee Professional Services was the opportunity to communicate with electric power operators in the US. “We learned that leading global operators have proper security systems at the organizational level, and this knowledge fueled the implementation of our structural reforms,” he relates. Following the advice of the McAfee Professional Services team, TEPCO took steps to enhance security in two ways.

First, security enhancements were implemented on a technical level. TEPCO assembled a project team that included McAfee and TEPCO development partners. The goal was to incorporate international standards at the planning and design stage for next-generation SCADAs and carry out infrastructure planning and development based on potential risk.

“To guarantee security, we found it was necessary to take the initiative to implement countermeasures. We applied optimized security technologies in areas that required customization and received excellent technical support from McAfee during this process,” explains Takeuchi.

The second step was to make security improvements on an organizational level, which, according to Takeuchi, had “great results.” The planning team established a road map for improving security that looked out to 2020.

The company also came to realize that proper leadership was required for success, so they hired a CISO and set up a Computer Security Incident Response Team (CSIRT). “The McAfee Professionals Services team pointed out that if the role of the CIO is to step on the accelerator, the role of the CISO is to step on the brake—so the two functions should be separate,” Takeuchi observes.

A TEPCO officer who was previously in charge of disaster prevention and support was installed as CISO. As Takeuchi suggests, the same principles are at play when responding to a power outage, regardless of whether the cause is a natural disaster or a cyberattack. Organizational reforms have now been implemented across all departments, with the Technology/Business Innovation Promotion Office IT/OT Technical Strategy Group driving planning and development.

“The two years with McAfee Professional Services has been an extremely rich experience. They have made a big contribution to our business development and organizational structure. The results were even better than we could have imagined. They have strong expertise in OT and showed great interest in our business and technology. We were fortunate to be able to collaborate with them.”

—Koichi Takeuchi
Manager Technology/Business
Innovation Promotion Office
IT/OT Technical Strategy Group
Development Group
TEPCO Power Grid, Inc.

CASE STUDY

Initiatives Are Clarified

Existing TEPCO Power Grid security measures have been enhanced and optimized with the help of McAfee Professional Services. Now, the approach for deploying advanced security measures is consistent from the executive level to the site level. After-sales response from customers—from users in the workplace to their managers—has been extremely positive.



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Junya Yamamoto

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