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Multi-national gas supplier thwarts cyber attackers with ABB System 800xA v6 and ABB Security Update Service

End-of-life issues and aging equipment left this major gas supplier vulnerable to cyber attack.

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01 As the only supplier of natural gas to an entire country, updating aging control system hardware and software became critical after the WannaCry and Petya cyber attacks in 2017.

Cyber threats drive needed change
After learning of the WannaCry and Petya cyber attacks in 2017, a large multi-national natural gas transportation and supply company with operations on three continents realized they needed to modernize their control systems' cyber security defenses.

The first 800xA system running Windows XP to manage the compressor stations and the extended pipeline network was installed in 2006. Even though it was updated over the years, when Microsoft ended support for XP in early 2014, the company realized it was time to upgrade again. Losing XP support from Microsoft imperiled the efficiency of their control systems and exposed them to greater risk of cyber attack because the underlying operating system would no longer receive regular security updates.

Because so many people and businesses depend on the company for their energy needs, a cyber attack that interrupted operations could rise to the level of national security in at least one of the countries they operate. For that reason alone, avoiding unplanned downtime of this critical infrastructure – especially due to cyber attack – was critically important.

Challenge
Modernize control systems and improve control systems cyber defenses.

Solution

To solve this problem, ABB's oil and gas industrial automation business unit (IAOG), upgraded the existing 800xA control system to the latest ABB Ability™ 800xA version 6. Specifically developed to support upgrades of older control systems running on unsupported operating systems, System 800xA v6 provides customers with a secure automation platform that lowers total cost of ownership while improving productivity.

Designed with cyber security in mind, System 800xA v6 provides a comprehensive set of embedded mechanisms to manage cyber security risks such as advanced access control, whitelisting, and remote monitoring and management of the control system's security integrity. Operators and plant management can now access detailed information about installed system software, system health status, safety and security reports, field alerts and service contacts through myABB/My Control System, a secure web-based platform that supports System 800xA control systems.

To ensure the upgraded control system remained secure day-to-day, the client added a three year Automation Sentinel Lifecycle Management Program - Maintain Plus service agreement, which not only provides access to the latest control system software and enhancements, it better protects their control system from malware and cyber-attacks. Additionally, ABB's Security Update Service automatically distributes ABB tested and validated updates directly to the customer site.

The Security Update Service eliminates the risk of introducing an errant patch that could crash a running control system. It also removes the need for control system operators to manually install and configure daily updates.

Results

Since the changeover to the new system, the customer has achieved higher productivity and improved performance through enhanced software functionality and system availability, leading to less unplanned downtime. Their systems run Microsoft's latest patches and upgrades, and McAfee anti-virus signatures.

Now that plant personnel are no longer installing control systems upgrades and patches manually, the customer's cyber security is greatly improved. ABB's Security Update Service relieves them of this burden while ensuring their control system defenses are always up-to-date. This service saves maintenance staff hundreds of hours of manual work per year. Following the success of this pilot project, the company is now deploying the ABB Security Update Service to all their gas compressors.

Benefits
- Enhanced security against cyber-attacks and cyber threats
- Anti-virus and operating system software updated with ABB-approved patches
- Minimal user effort evaluating, installing and testing patches
- Increased time for maintenance staff to focus on core mission
- Peace of mind knowing their systems are up-to-date
- Lower total cost of ownership
- Increased productivity through enhanced software functionality and improved system availability, performance and reliability
- Improved cost predictability

Featured Solutions
ABB Ability™ System 800xA v6
System 800xA v6 is the sixth generation of the
industry's leading distributed control system (DCS).
This release was developed to support upgrades of
older DCS systems running on unsupported operating
systems such as Microsoft XP. System 800xA v6
provides customers with a more secure automation
environment that lowers the total cost of ownership,
while providing countless opportunities to improve
operational productivity through consolidating
process, electrical, safety, and telecoms in one
system, providing the ultimate high performance
operator control room environment featuring the
Extended Operator Workplace.

Automation Sentinel
Automation Sentinel is ABB's multi-service lifecycle
management and support program for distributed
control systems like the ABB Ability™ System 800xA.
Automation Sentinel keeps control systems up-to-
date with ABB approved security patches, upgrades
to new software versions, access to relevant
information related to your installed control system
via the myABB/My Control System portal and more
services to support and extend the life and reliability
of your ABB control systems.

Security Update Service
ABB Security Update Service distributes approved
security patches and security updates in a secure,
automated and controlled way directly to customer
control systems. Microsoft security updates and
Microsoft Service packs are reviewed, tested and
validated by ABB for relevance and system
compatibility before release. Depending on the Anti-
virus software in use, scan engines and virus
definition files are also verified by ABB for relevance
and system compatibility with ABB control system
software prior to release.

This service is only offered in conjunction with an
Automation Sentinel subscription and is available for
the System 800xA, Symphony Plus and Freelance
control system product families.

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