CyberSecurity and Emerson's SCADA Solutions for Oil & Gas

CyberSecurity starts in the field – the principals of Defense in Depth are that every individual component in your system must protect itself from attack. You cannot trust any individual device, network, or computer to remain secure – so your most critical assets, your field devices, must be able to defend themselves and maintain operations and data integrity throughout any event. At Emerson, we are used to providing this kind of 100% availability to all our customers, but modern CyberAttacks present a new challenge, which we are meeting in several ways.

Secure Devices

Our FB Automation Platform includes the FB3000 RTU and FB1000 and FB2000 Series Flow Computers, and these devices are where security begins. All firmware is digitally signed at the factory, and the devices will not accept any modified or unknown firmware. Each time a device boots it checks its own firmware, and if the device has been compromised or modified, it will revert to a known factory installed image – ensuring that even if all defenses have been breached, the devices themselves will continue to operate.

Secure Protocols

DNP3 has become the de-facto standard for secure communications within the electrical and water industries globally. Emerson is bringing the same protection to the oil and gas industry with the release of support for DNP3 Secure Authentication v5 (SAv5), which guarantees that every device and server on your network is authenticated, while also optimizing the use of your available bandwidth in ways that traditional insecure protocols never could.

Every FB Automation Platform and ControlWave™ device will support a unique DNP3 Update Key that will limit control and configuration actions to the software and servers selected by the end user, ensuring that every individual action is authenticated before it occurs. We are introducing SAv5 across the FB Automation Platform and ControlWave product lines and already support it within both the OpenEnterprise™ and AspenTech's monarch™ SCADA platforms. Together these products provide end to end security that protect your Emerson SCADA system – and as an open industry standard, DNP3 also provides maximum compatibility and interoperability with non-Emerson equipment and software.

Emerson's FB Automation Platform includes the FB3000 RTU, FB1000 and FB2000 Series Flow Computers

AspenTech's monarch™ SCADA Platform

For more information:
www.Emerson.com/SCADAforEnergy

EMERSON™

Security Enhancements

We recognize the investment customers have made in our existing Emerson hardware products. While we are introducing DNP3 SAv5 for the ControlWave platform, the ROC800 and FloBoss™ platforms introduced a different challenge. For these devices, we are introducing new firmware and tools which support longer and more complex usernames and passwords, as well as a significantly more secure version of the ROC and ROC+ protocols.

These enhancements will allow our existing customers to meet and exceed the current TSA Directives for US pipeline operators for securing field devices – and will be made available free of charge to all our existing customers. It is important to understand that these protocol changes also require modifications to SCADA software drivers. We are implementing these changes within the OpenEnterprise and monarch SCADA platforms and working with a wide range of third party vendors to ensure that customers can take advantage of these enhancements.

Credential Management Tools

New security regulations in the US, and good practice, require that credentials are changed quickly when staff leave your organization. With large deployments of 1000's of field devices, this can become a real challenge. We recently introduced Credential Manager – a new tool for managing usernames and passwords across large fleets of RTUs. Credential Manager supports the FB Automation Platform as well as ROC800, FloBoss and ControlWave platforms in a single product. With Credential Manager, you can simplify compliance and reduce costs while meeting your CyberSecurity requirements.

Emerson's Cyber-Secure SCADA Solutions

- FB3000 RTU
- FB Series Flow Computers
- ROC800-Series Controllers
- ControlWave Micro
- ControlWave PAC
- ControlWave Express
- FloBoss 107 Flow Manager
- OSI monarch SCADA System
- OpenEnterprise SCADA System

ROC800-Series Remote Operations Controller

ControlWave™ PAC, Express, and Micro

FloBoss 107 Flow Manager

Emerson Automation Solutions

www.Emerson.com/SCADAforEnergy

EMERSON™