Process Control Network Security

Process Control System has evolved from isolated networks based on proprietary technologies to “OPEN” standards-based networks connected to the rest of the enterprise. The rewards of using “OPEN” standards come in terms of lower costs due to economies of scale, access to a wide variety of IT technologies and skill sets. The flipside is that the control systems are also exposed to the same security threats associated with it.

As Control System are critical business system, protecting them from the harmful effects of these security threats are important as failures may result in severe health and safety implications beyond the costs of lost production.

These threats include:

- Worms & Virus attacks that could potentially destroy the information residing on the system.
- Denial of Service that may cause severe performance degradation.
- Unauthorized Access by individuals with malicious intent, tampering with control system data, modifying control settings.

New security risks are dynamic and emerging at an unprecedented pace, the time difference from when security vulnerabilities become known till exploits are created to take advantage of those flaws has diminished significantly. Without proactive risk mitigation, enterprises are exposed to significant risks posed by these “day-zero” attacks.

Professional Delivery

Security implementation for Process Control System is different from IT system. Management of IT System are typical done by corporate IT organization. For Process Control System, you need people with IT expertise and the knowledge to manage Process Control System applications. Yokogawa has a team of professionals with certifications in a broad spectrum of IT technologies. Our team has been involved in various engineering projects providing IT related consultation services. We have integral knowledge of our control system and its related processes and technologies.

By bridging the gap between IT and Plant Automation, we are able to offer integrated services and solution that meets process safety requirements and at the same time mitigates risks associated with network security.

Service Offering

Similar to physical security where we build a wall and install alarm to protect our personal assets, to effectively protect plant control system, we need to build layers of defense around them.

Our range of service and solution are as follows:-

**PCN Network Design** - We will gather and analyze customer’s requirement to integrate Process Control Network and Business Network. Based upon the requirement, the proposed design will contain documentation of with details of physical network topology, list of hardware, software use and a complete configuration guide.

**Security Assessment** - We provide tools to assess security vulnerabilities and determine security risks both from internal and external threats. Once identified, we work with you to close the vulnerabilities.
Firewall Management - We help our customer review and design new or existing Firewall System. Only specific system and services are allowed access from Business to Plant Control network and vice versa.

Network Intrusion Detection and Prevention System (IDS/IPS) - A Network IDS/IPS system constantly monitors any virus, denial of service activities or break-in attempts on a network. When any suspicious activity is detected, it blocks the connection and sends an alert to plant operations.

Anti-virus Solution - Our Anti-virus solution is an advanced server based solution to centrally manage, hold and distribute virus signatures. Our Anti-Virus Solution is adapted to ensure that it will not degrade Yokogawa control system performance.

Data Backup and Recovery - Backup is the last line of defense to ensure that your valuable information are protected. Our solutions are based on the recovery objective of our control system. It can also be customized to meet your unique backup needs.

Benefits

Improve Safety and Security - Enhanced security reduces downtime and translates into safer and reliable system. Plant managers have the peace of mind that their control systems are secure by multi-layers of defense and available at all times.

Improve Operational Efficiency - Alleviates the load of process engineers and operators allowing them to focus on core operations. Reduce operating costs by effective allocation of resources.

Professional Service Delivery - Our engineers are familiar with security issues and its impact on plant operations. We understand the unique challenges that can arise and how to apply industry best practices to deliver quality solution.