

ICS/PCN Network Services

Security, Performance & Reliability Services



Security & Reliability

Overview

Our team is focused on the security, performance and reliability of industrial control system networks. We consider the system including the industrial process itself prior to network design or vulnerability analysis. Our staff is comprised of recognized experts in industrial control systems and their networks.

Services Include:

ICS Network Design produces an architecture design basis focused on reliability and security for new construction, expansion, remote management, or integration with management systems.

ICS Network Security Assessment is often referred to as a cyber vulnerability assessment and is focused on analysis of procedures, electronic security perimeters, and defense systems. We diagnose the network for problems and provide a roadmap including short-term and long-term solutions.

ICS Network Performance Analysis provides deep analysis of network challenges or issues including timing, throughput, intermittent problems, and reliability issues.

Your Process

It is vital to your success for us to understand your process, including threats to safety, and to understand the operational characteristics of the ICS prior to analysis. Your business challenges, productivity, and cost from the perspective of decreasing any possible threat to your operations are considered in our analysis and recommendations.

Solid Design

Solid network design is the heart of our solution. All the device patches and vendor upgrades in the world won't solve the problem if the devices cannot reliably and securely communicate. A well-designed network may cost slightly more initially, but it will serve the business well with reduced shutdowns, better visibility, secure remote connectivity, and less unexplained downtime due to communications failures.

About Kenexis

Kenexis is an independent engineering consulting firm. We ensure the integrity of instrumented safeguards and industrial networks. Using skills in risk analysis, reliability engineering, and process engineering, we help establish the design and maintenance specification of instrumented safeguards, such as safety instrumented systems (SIS), alarm systems, fire and gas systems. We use the same skills for industrial control systems (ICS) network design, cyber security assessments, and industrial network performance analysis.

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ICS Network Design Analysis

Creates a design basis that a system integrator or engineer can use to create a reliable and secure ICS network. This is an excellent service for a client considering a new facility or an expansion. Additionally, this service can provide for secure remote connectivity and optimize the integration of the shop floor with the top floor for the implementation of reporting and execution systems.

- **Client:** new industrial control system, upgrade, expansion, remote connectivity, or ICS & business network integration
- **Services:** evaluate design requirements, analyze for reliability, throughput, and security, create a design basis including high-level architecture and requirements for a system integrator to implement
- **Product:** ICS network design basis including high-level architecture and requirements

ICS Network Security Assessment

Our team provides independent assessments in several formats. An audit, primarily examines the procedures and network design against good practice. A cyber vulnerability assessment is more comprehensive and includes electronic security perimeters, remote connectivity and integration points, as well as network design. A device audit to verify firmware and security can also be performed as part of the analysis. Depending on the customer's expectation, any or all of these are done as part of the same service, with one or the other getting more emphasis. If customer management desires, a CVA can be further extended into a Penetration Test or a Cyber Risk Assessment, which develops a comprehensive list of threat scenarios, identifies potential negative consequences on the business, and evaluates the robustness of safeguards to prevent or mitigate the risk scenarios. This leads to a profile of cyber risks with appropriate risk priority and recommendations to adequately safeguard the ICS network against the identified threats.

- **Client:** cyber security concerns regarding ICS network, devices, and/or procedures
- **Services:** assess ICS network for cyber security vulnerabilities, procedures, or optional cyber risk assessment
- **Product:** assessment report including findings and practical recommendations

ICS Network Performance Analysis

This Service is designed to analyze and test ICS network timing, throughput, and stability. It will consider industrial (controllers, sensors, etc.) and network devices (switches, firewalls, etc.) and the overall system.

- **Client:** unstable or inconsistent ICS network communications, missing data, stale HMI screens
- **Services:** analyze the ICS network and devices for communications errors and problems
- **Product:** analysis report including findings and recommendations