Safeguarding real-time change management and cyber-breaches in ICS environments

Industrial Control Systems (ICS) consist of a myriad of networking devices, industrial controllers and operating protocols, typically provided by multiple vendors. The scope and complexity of ICS networks pose the challenges of cost-effectively protecting and managing the process-critical assets that operates the organization's industrial processes.

Now, Asset Guardian and Radiflow introduce a synergetic solution for a single point of management for all assets that is dynamically updated and protected against unauthorized changes.

THE ASSET GUARDIAN SOFTWARE MANAGEMENT SOLUTION

Designed to manage PLC, DCS and HMI/SCADA software assets, Asset Guardian provides a single point of reference to current and archived asset information, including operational status, location and controller logic version. Asset Guardian facilitates compliance with industry standards and government regulations, including ISO 9001 Tickit and 21 CFR Part 11.

Asset Guardian safeguards the entire change management process: source code version control and ownership, change requests, code verification, auditing and fault logging.

The system serves as a repository for all user content, and also provides obsolescence management (governed by IEC 62402:2019), which is a major security concern (assuring all devices are still within the manufacturer-defined operating life cycle so that patches can be applied).

RADIFLOW iSID - ENHANCED RISK MITIGATION

The combination of Asset Guardian and Radiflow's iSID Industrial Threat Detection System brings ICS asset management to a new level. iSID provides real-time visibility of all changes in networked assets, ports and protocols, based on self-learning of the SCADA network through passive scanning of all data transactions.

Subsequently, by continuously analysing all data traffic, iSID can detect and alert against abnormal activity such as changes in the sequence of the SCADA process, abnormal network access and asset changes. Furthermore, iSID's advanced attack vector analysis and business process risk scoring capabilities allow users to continually improve their cyber security capabilities in protection, monitoring and mitigation procedures, and optimising the operator's investment in cybersecurity.

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USE CASES FOR THE RADIFLOW-ASSET GUARDIAN JOINT SOLUTION

Securing an ICS system requires thorough understanding of each and every asset on the network as well as the interplay between the assets within different business processes.

Asset Enrichment – improved asset risk score

Cyber-alerts, as well as risk scoring for each asset produced by iSID are combined with asset information (logic version, ownership, geo-location, etc) stored in the AG database, including asset information for dormant devices that haven't been detected by iSID, patching status and details, life-cycle/obsolescence information and additional asset characteristics.

Operational Commands - detection, verification and validation of changes to assets

Changes to assets, e.g. new firmware or PLC logic, are detected on the network in real-time by iSID based on its self-learned network topology model. These changes are sent to Asset Guardian for verifying whether they had authorized, and for validation against the ‘golden image’ of the binary stored in the Asset Guardian database.

Improved structure and risk scoring for business processes

By meshing the information from Radiflow's real-time discovery and monitoring of networked assets and properties with Asset Guardian's asset management inventory, the integrated solution is able to construct a comprehensive model of the business process and its underlying supporting assets and topology.

Business processes are defined by criticality (availability), as well as by vulnerability and attack-vector exploitability within the business process. Alerts are assigned risk scores derived from the predefined criticality of the business process. This enables users to prioritise incident handling and optimise their cyber-security investment, based on a risk matrix.

The result is a much more granular risk score that takes into consideration not just the risk associated with a specific industrial device/controller, but also the context the device operates in.

About Asset Guardian

Asset Guardian Solutions Limited (AGSL) is dedicated to protecting the integrity of process control systems software that is used to control operations and production processes. The Asset Guardian software solution provides a convenient, cost-effective way to reduce risk of unauthorised entry and software corruption that could lead to system failure, loss of confidential data and valuable assets. Since 2004, AGSL has been serving the needs of Blue Chip organisations around the world that operate within the Oil & Gas, Utilities, Power Generation, Chemical, Pharmaceutical, Transportation and Food & Beverage industries. More at assetguardian.com.

About Radiflow

Radiflow is a leading provider of industrial cyber security solutions for critical business operations. Our comprehensive portfolio of cybersecurity solutions empowers critical infrastructure and industrial enterprises to maintain visibility, control and security of their operational environment. Our intelligent threat management for Industrial cybersecurity minimizes potential business interruption and loss within your OT environment. The Radiflow team consists of professionals from diverse backgrounds, from veterans of military cyber and communications units to former employees of leading players in the industry. Founded in 2009, Radiflow first solutions were launched in late 2011, validated by leading research labs and successfully deployed by major utilities worldwide. More at www.radiflow.com.