Visibility into Serial SCADA Traffic

Data Track Technology has developed a Secure SCADA Gateway (SSG) to capture serial SCADA data flowing between serial ports of Critical Infrastructure (CI). The data is encapsulated into UDP packets, encrypted and transmitted onto the network where a security appliance sensor connected to a SPAN port or Network Tap of a local network switch passively captures the serial SCADA data and performs a deep packet inspection for SCADA protocols.

Virtually 90% of Electric Utility substations deploy a serial SCADA network as do other critical infrastructure (CI) sectors such as: -

- Natural Gas
- Oil and Gas
- Water and Wastewater Systems
- Critical Manufacturing
- Chemical
- Transportation

Stuxnet malware along with its newly discovered successor, Crash Override (aka Industroyer), has demonstrated that a targeted attack on non-critical, serial-based SCADA field equipment can knock out visibility to all CI.

Currently, with limited visibility, asset health monitoring solutions with effective anomaly detection for serial SCADA networks is critical. A secure, local capture, encapsulation and transmission of serial data can guarantee broad visibility and effective anomaly detection. This is what Data Track delivers with the Secure SCADA Gateway (SSG).

Secure SCADA Gateway (SSG) Data Sheet 2019

Dimensions	482.6 mm wide x 43.7 mm high x 160mm deep (19 x 1.72 x 6.3 inches)
Form Factor	Fanless design, rack mount
Weight	1.78kg (3.92 lbs)
Operating System	Debian 6 - Linux kernel version 3.2.94 – fully updated and supported
Serial SCADA Protocols	DNP3, Modbus
Serial Ports	RS-232 with fail-safe termination
Memory	1GB
Storage	Data NV storage: 32GB SD standard, higher options available
I/O	2, 4 & 6 serial subnets 2 x Ethernet ports (10/100/1000 BaseT) 1 x USB serial console port (mini) Peripheral connectivity: 1 USB port (2.0)
Remote Access	SSH (v2), SFTP, SNMPv3
Power Supply	+12V DC (external mains adapter included)
Power Consumption	6 W typical operation
Accessories	Custom cables for serial capture plus standard cables for Ethernet and console
Temperature	10°C to 40°C (50°F to 104°F)
Humidity	5% to 95% relative humidity, non-condensing
EMC	Tested to meet CE for immunity and emissions
Security	Fully configurable firewall. Dual Ethernet (TCP/IP v4 and v6) enables routing between networks. Supports IPSEC VPN.
Warranty	12 months
OEM	Available

SSG SCADA Serial Data Flow Diagram