

EMS monitoring and secondary operations system



Every day, utilities rely on the integrity and availability of their energy management system (EMS) and supervisory control and data acquisition (SCADA) network for generation, transmission and delivery of reliable power. Recent attacks in the Ukraine have demonstrated that SCADA defenses are not invincible to a determined adversary, and EMS and SCADA networks are high-value targets. Ratepayers, investors and regulators expect utilities to vigilantly monitor the performance, consistency and trustworthiness of EMS/SCADA systems and be prepared to continue operations if primary system telemetry is interrupted.

Here's what utilities need to fulfill that trust:

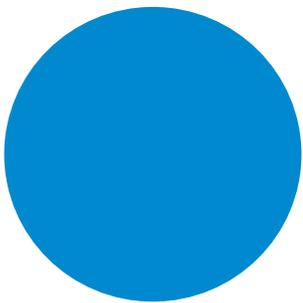
- A real-time system to quickly detect, troubleshoot and remediate telemetry and telecom issues before system operations are impacted
- A lightweight, secondary telemetry and human-machine interface (HMI) system to validate primary telemetry and enable emergency operations
- A cybersecurity analysis system that corroborates various sources of telemetry to identify inconsistencies and perform anomaly root cause analysis

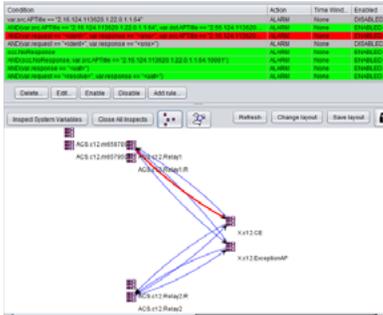
Introducing EMS monitoring and secondary operations system (EMSOS)

EMSOS from Perspecta Labs, part of the SecureSmart™ critical infrastructure solution line, is the single answer to these three needs. EMSOS is a unique blend of monitoring, cybersecurity and secondary operations systems that not only provides a daily benefit to maintain the integrity and availability of EMS/SCADA systems, but also provides support for emergency energy operations and defends utilities against sophisticated protective relay, remote terminal unit and automation controller cyberattacks.

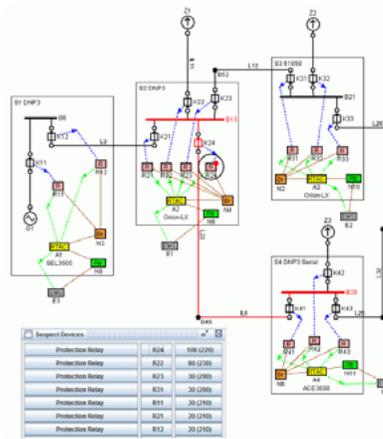
This industry-changing solution applies intelligent analytics developed under federal government research programs with ground-truth measurements acquired from independent network and energy sensors, including advanced metering infrastructure (AMI). EMSOS' real-time key indicator dashboard monitors service level performance of primary telemetry. Traffic and protocol analysis detects irregularities in EMS/SCADA communications to uncover hidden problems, misreporting and configuration errors. Continuous SCADA traffic capture and a historical traffic repository enable, troubleshooting, system tuning and forensics similar to an energy historian.

EMSOS' advanced grid state analysis technology detects inconsistencies in real-time energy measurements via Bayesian Inferencing and circuit logic deduction logic and performs automated telemetry reconciliation across multiple controllers and substations. Its secondary HMI provides independent present-state conditions based on independent telemetry and consistency analysis to facilitate utility decision-making even when EMS or primary telemetry is unavailable.

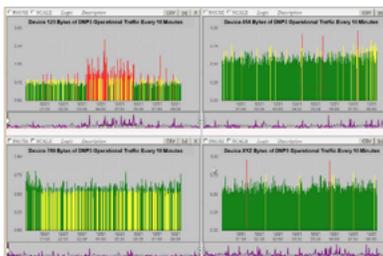




SCADA monitoring and anomaly detection dashboard



Detecting deceptive real-time automation controller with out-of-band reporting



Example TrafficProfiler time series SCADA indicators

SecureSmart critical infrastructure solution line

The SecureSmart critical infrastructure solution line helps defend critical infrastructure and smart energy systems with comprehensive integrated operations, engineering, security monitoring, anomaly detection, protection, analysis and troubleshooting capabilities for EMS, SCADA and distribution automation field networks.

The full line-up of SecureSmart services and products includes:

- **AMI/DA Continuous Monitoring as a Service(CMaas):** A managed service using patented wireless field probe technology to provide real-time network health monitoring, anomaly detection, threat analysis and visualization of advanced metering, distribution automation (DA) and smart city infrastructure
- **SCADA Continuous Monitoring as a Service(CMaas):** A managed service using passive network probe technology to provide real-time network health monitoring, anomaly detection, grid state consistency analysis, network mapping and visualization of substation energy controllers and protective systems
- **EMSOs:** A monitoring, cybersecurity and secondary operations solution that provides daily benefit to maintain the integrity and performance of EMS/SCADA systems, but also supports emergency secondary operations
- **Wireless field analysis** consulting services using SecureSmart field probes and tools to troubleshoot and remediate persistent problems in AMI and DA field networks
- **4-Quadrant security assessment** consulting services to assess the SCADA and IT system vulnerabilities across the domains of software, network, wireless and hardware/firmware

About Perspecta Labs

At Perspecta Labs, we refuse to think inside the box. As the innovation hub of Perspecta, we are molding the future of emerging technologies. Our experts conduct leading research into cybersecurity machine learning, artificial intelligence, mobile communications and internet of things technologies that provides customers with transformative insights and real-time situational intelligence. With our finger on the pulse of next-gen technology, you'll gain an essential edge. Drawing on our Bell Labs and Applied Communication Sciences heritage, Perspecta Labs creates innovative technologies and services to solve the most difficult and complex information and communications challenges.