

Muse™

Facilitates NERC CIP Compliance



Meeting a New Generation of Critical Infrastructure Cyber Security Standards

Critical infrastructures, and power utilities in particular, have become a primary target of cyber attacks. Many attacks have been successful causing disruptions to tens of thousands of customers.

To harden CI entities against cyber-attacks, regulatory authorities initiated the creation of cyber-security standards. The North American Electric Reliability Corporation Critical Infrastructure Protection (NERC CIP) standards Version 5, which came into effect in 2016, represents a major increment in the breadth of coverage and depth of requirements from its decade old predecessor. Under CIPv5, all bulk electrical system (BES) generating facilities must meet certain requirements.

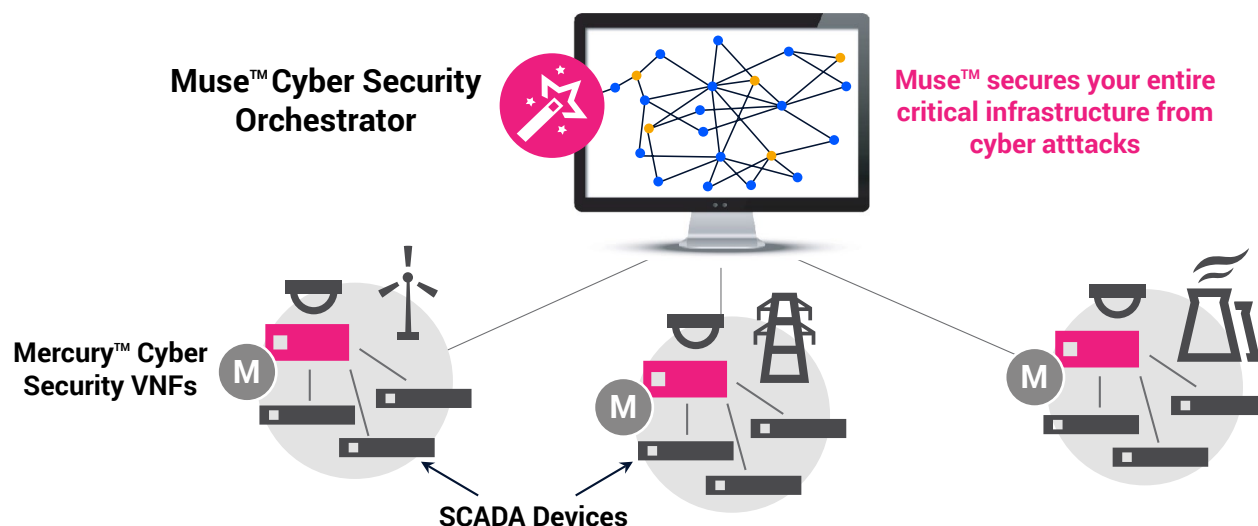
Ribbon's Muse CI cyber security solution for CI facilitates compliance with NERC and similar standards. It accomplishes this by combining distributed IT + OT attack mitigation, which prevents attacks where and when they occur, at all your facilities, with centralized advanced threat detection and reporting.

Industry-Leading
SCADA protection

Centralized Alerts
and threat maps

Prevention
of attack propagation

Encryption
against MITM attacks



Tools for NERC CIP V5 Compliance

Based on two complementary subsystems, Muse provides a holistic cyber security solution for power utilities that facilitates NERC CIPv5 standards compliance.



Mercury unifies multiple cyber security functions into a consolidated form factor and prevents IT and OT cyber-attacks at the communications point-of-access to any facility before they can cause harm.

- Best-of-breed SCADA protection and anomaly detection against zero-day attacks and site infiltration
- A secure gateway that includes a next gen firewall and applications control to segregate OT networks and prevent attack propagation
- L2/L3 encryption against man-in-the-middle attacks



Muse Cyber Security Orchestrator is an intelligent, centralized system that eliminates the guesswork in identifying and managing CI cyber security threats. Muse collects, validates, correlates, and analyzes information from IT and OT cyber security systems and sensors, and presents threat insights in a visually intuitive and actionable manner.

Mercury VNFs feed Muse Cyber Security Orchestrator with events, logs, and Deep Packet Inspection (DPI) information. In return, Muse directs the VNFs' policies. Together they provide a rich set of tools to facilitate complying with NERC cyber security standards, or those from other regulatory bodies.

CIPv5 Reference	Covers	Muse Facilitation
CIP-002	BES Cyber System Categorization	Complete system mapping including all SCADA assets
CIP-003	Security Management Controls	Roles authorization for different levels of management control
CIP-004	Personnel & Training	User training and awareness
CIP-005	Electronic Security Perimeters	Distributed attack mitigation at the point of entry to each facility
CIP-006	Physical Security of BES Cyber Systems	Asset management and monitoring, and SCADA commands anomaly detection
CIP-007	Systems Security Management	Centralized management and reporting, and updating of attack mitigation settings based on analysis of threat profiles
CIP-008	Incident Reporting and Response Planning	Centralized incident reporting and event logging in support of internal workflows
CIP-009	Recovery Plans for BES Cyber Systems	Centralized software management enables fast updates and recovery of distributed attack mitigation systems
CIP-010	Configuration Change Mgmt and Vulnerability Assessments	Asset management and network analytics
CIP-011	Information Protection	Monitoring, detection, and analysis of modifications to assets

About Ribbon

Ribbon Communications (Nasdaq: RBBN) delivers communications software, IP and optical networking solutions to service providers, enterprises and critical infrastructure sectors globally. We engage deeply with our customers, helping them modernize their networks for improved competitive positioning and business outcomes in today's smart, always-on and data-hungry world. Our innovative, end-to-end solutions portfolio delivers unparalleled scale, performance, and agility, including core to edge software-centric solutions, cloud-native offers, leading-edge security and analytics tools, along with IP and optical networking solutions for 5G. We maintain a keen focus on our commitments to Environmental, Social and Governance (ESG) matters, offering an annual Sustainability Report to our stakeholders. To learn more about Ribbon visit rbbn.com.

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