

Magnum Secure Networking Framework (MSNF)

NERC CIP Compliance Solutions

Electronic Security Perimeter -- CIP-005

WAN Firewall	<ul style="list-style-type: none"> ▪ IP / TCP Filters (address/port access control) ▪ IPsec VPN ▪ Frame relay link encryption
Ethernet Port Security	<ul style="list-style-type: none"> ▪ Static MAC security ▪ 802.1x port security ▪ Port groups and tagged VLANs
Serial Port Security	<ul style="list-style-type: none"> ▪ Static Serial-IP and port filtering ▪ Serial-port SSL authentication and encryption ▪ Serial-port VLAN assignment

System/IED Access Control -- CIP-007, -4, -5

Individual Profiles	<ul style="list-style-type: none"> ▪ Central administration of individual user profiles ▪ One place to suspend or edit access rights ▪ Easy navigation / organization of permitted applications for end-user ease-of-use
Strong Authentication	<ul style="list-style-type: none"> ▪ 2-factor authentication via integration w. RSA and/or Enterprise active directory systems ▪ Enforceable strong form passwords and aging ▪ User-to-server security via SSL ▪ Server-to-IED authentication/encryption via SSL or IPsec
Session Logging	<ul style="list-style-type: none"> ▪ Logging of all sessions and access authentication events ▪ Log options for session, transaction, or keystroke ▪ Collection of remote network logs for end-to-end audits

Network Management Security -- CIP-007

Console Security	<ul style="list-style-type: none"> ▪ Strong forms passwords and aging ▪ SSH and HTTPS for authentication/encryption ▪ RADIUS support for authentication
System Security	<ul style="list-style-type: none"> ▪ SNMPv3 for encrypted system management ▪ FTP secured via SSL or IPsec
Event Logging	<ul style="list-style-type: none"> ▪ System logging for port status, access and change events ▪ syslog and SNMP traps for remote event reporting

System Recovery -- CIP-009

Backup Networking	<ul style="list-style-type: none"> ▪ Multi-master, multicast support for Serial SCADA applications ▪ Resilient networking w. frame relay redundancy/backup, dynamic IP routing and VRRP, and Ethernet RSVP
Configuration Backup	<ul style="list-style-type: none"> ▪ Remote backup of all software and configuration files ▪ Scripting support for configuration management

Asset Classification -- CIP-002

“Critical Asset” Transition Options	<ul style="list-style-type: none"> ▪ “SCADA Frame Forwarding” provides ‘non-routable’ alternative for remote SCADA consolidation ▪ Provides transition planning option to avoid classification as Critical Cyber Assets
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For additional information, see also: [Substation Products Overview](#), [latest cyber security software](#), and Utility Automation & Engineering T&D article: [“NERC CIP Compliance, Headache or Opportunity?”](#)