

PulseNET and PulseNET Enterprise

The MDS PulseNET platform was developed in two versions - MDS PulseNET and MDS PulseNET Enterprise in order to serve a wide variety of customer needs and environments. Both versions incorporate important performance parameters including management by exception, intuitive work flows and MDS network expertise.

PulseNET

MDS PulseNET provides for the fundamental system needs of device discovery, proactive monitoring and early warning for radio networks consisting of less than 500 MDS radios.

PulseNET Enterprise

MDS PulseNET Enterprise version is designed for enterprise type network with greater than 500 devices and which require more robust monitoring that includes third party devices.*

Common Platform Capabilities

PulseNET and PulseNET Enterprise

Standard Operations

Supports MDS iNET and Mercury series wireless radios

- Out-Of-The-Box pre-loaded data collection settings with recommended alert levels.

Exception-Based Alert System via Color Coded Icons

- Warns when out-of-bounds alert levels are exceeded
- Intuitive and color-based icons provides rapid evaluation of alert

Security

User ID and Password logins

User forced out when inactive for extended periods

Multiple Levels of User Access Control

- Limits screen and configuration access by user type

Ease-of-use

Single User Interface Installation Program Download

- Simplifies installation and reduces level of technical expertise

Upgrade Wizard for Configuration, Diagnostic and Firmware*

- Ease of configuration, device software & firmware upgrade

Consolidates Performance Metrics and Displays Via Device Dashboards

- Intuitive graphical presentation of data and alerts

Automatic system discovery based on range of IP addresses

- Simplifies network deployment

Communication

Supports Polling of SNMP Version 1, 2c and 3 Network-wide Diagnostics - current and most legacy MDS devices

- Built-in support for GE MDS proprietary communication protocol

Forward Alerts to 3rd Parties - SNMP Traps, API & Email

- Capability to communicate alerts via multiple mediums

Remote Access Via Telnet, SSH and HTTP(S)

- Several options to communicate remotely to network and devices

MDS PNE simplifies work-flows by utilizing configuration information to automate radio maintenance. Configuration changes become a point and click user interface for bulk provisioning firmware upgrades. MDS PulseNET Enterprise can also apply its work flows and warning capabilities to non-MDS equipment. Through MDS PulseNET Enterprise, a complete end-to-end view of network performance is available from the field location to the operations facility including attached meters and Remote Terminal Units (RTUs). This provides a consistent view for management and operations to understand the root cause of current incidents, and allows proactive avoidance of potential new incidents.

Advanced Platform Capabilities

PulseNET Enterprise

Enterprise Operations

External Databases

- Allows use of customer database or PulseNET supplied database

Self-Monitoring

- Self-monitoring: providing complete end to end support

Security

Supports Remote Authentication Dial In User Service (RADIUS) Protocol

Provides centralized Authentication, Authorization, and Accounting (AAA) management for network services*

Configuration Management

Centralized Configuration Management

- Streamline security, auditing, storage and controls

Track and document changes to configurations

3rd Party Integrations

Allows customers to manage non MDS devices

- GE will continue to incorporate additional Out-Of-The-Box 3rd party device as requested by customers
- Customers can opt to incorporate non-MDS devices as a generic devices type for collections and reporting

Notification Application Programming Interface (API) to 3rd party manager of managers, i.e. HP, Dell, IBM, etc.*

- Software communications via standard interface
- Flexibility to use and interface with other manager of managers

Product Function - PulseNET vs PulseNET Enterprise			Product Function - PulseNET vs PulseNET Enterprise		
Function	PulseNET		Function	PulseNet	
System	Standard	Enterprise	Fault (Continued)	Standard	Enterprise
Web based platform for easy user access	✓	✓	Root cause correlation based on network dependencies	✓	✓
Windows & Linux installations supported	✓	✓	Alert integration of 3rd party Out-of-the-box (OOTB) & customizable		✓
Single graphical user interface installation program	✓	✓	Notification API to 3rd party manager of managers, I.e. HP, Dell, IBM, etc		✓
Downloadable software and updates	✓	✓	Fully integrated graphical interface for SNMP trap receiving*		✓
Automated discovery of IP based devices	✓	✓	Configuration	Standard	Enterprise
Automated network topology maps	✓	✓	Installation wizard for configuration and firmware per MDS device basis*	✓	✓
Purpose built work flows for mission critical networks	✓	✓	Scheduling of updates within graphical user interface*	✓	✓
Supports SNMP versions 1, 2c and 3	✓	✓	Configuration dashboard for central repository and controls*	✓	✓
OPC integration (alerts only via Northbound SNMP traps)		✓	Full audit of configuration changes*		✓
Integrated database supplied with installation	✓	✓	Deploy updates to MDS devices on a global basis *		✓
Predefined best practices management for MDS devices	✓	✓	Remote configuration of MDS radios (iNET, TransNet)**		✓
Supports redundancy for Mercury, SD and x790 implementations		✓	Performance	Standard	Enterprise
Can leverage external database repositories for storage vs. integrated		✓	Performance dashboard with purpose built prescriptive diagnostic work flows	✓	✓
Predefined best practices management for 3rd parties (i.e. Itron)*		✓	Inherited performance collections based on vendor / model / configuration	✓	✓
Custom Integrations for 3rd parties onsite that are not yet available		✓	Performance collections for diagnostics (I.e. RSSI, SNR, bandwidth, etc)	✓	✓
High availability server installation capable		✓	Scheduled reporting of availability, lowest performers, etc.	✓	✓
GPS aware mapping - Automatic or manually located on GPS aware maps*		✓	Retains collections for comparison year over year	45 Day Limit	✓
LAN Monitoring - basic fault/performance monitoring of network devices		✓	Performance dashboards for 3rd parties OOTB		✓
Custom rules capable		✓	Self-monitoring of PulseNET Enterprise system		✓
Fault	Standard	Enterprise	Security	Standard	Enterprise
Automated & intelligent alerting for MDS devices	✓	✓	Tracking of configuration and firmware for MDS devices	✓	✓
Real-time & historical display of exception alerts with severity indicators	✓	✓	User forced out when inactive for extended periods	✓	✓
Alert notation capability for searchable historical notes		✓	Remote access shortcuts to devices for Telnet, SSH and HTTP(s)	✓	✓
Configurable filtering based on criteria, I.e. severity, status, location, etc.	✓	✓	Centralized management - to streamline security and control	✓	✓
Configurable notification alerts - email/SMS & SNMP	email/sms	✓	User level accounting	✓	✓
			Role based security (admin vs. operator)	✓	✓
			LDAP/ Radius support		✓

Out of the box capability for monitoring 3rd party devices is enhanced in each release. Please consult with MDS to determine if a specific 3rd party device is supported by the current version of PulseNET Enterprise.

* These features are planned for a future release of PulseNET/PulseNET Enterprise.

** Additional radios and configuration items to be added in future versions.

PulseNET System Requirements

Recommended System:

- Dual Core CPU at 1.6 GHZ
- 4 GB of RAM available
- 30 GB of Disk

Supported Operating Systems:

- Windows Vista or Windows 7
- Windows Server 2003 and 2008
- Red Hat Linux AS/ES 5.x, SuSE9 and 10, CentOS AS/ES 5.3/5.4
- Virtualized environments supported

PulseNET Enterprise System Requirements

Recommended System:

- Quad Core CPU at 2.2 GHZ
- 16 GB of RAM available
- 160 GB of Disk

Supported Operating Systems:

- Windows Server 2003 and 2008
- Red Hat Linux AS/ES 5.x, SuSE9 and 10, CentOS AS/ES 5.3/5.4
- Virtualized environments supported

Supported Web Browsers

(Both Products)

- Microsoft Internet Explorer - 9.x, 10.x+
- Mozilla Firefox 3.6.4+