

Optima Management System®

Westell's Optima Management System is a web-based, multi-site network management system for remote site monitoring, management, control, and remote access to critical site elements. Optima is vendor-neutral, allowing network operators to monitor and manage all critical site elements remotely, including power, security, environmental, and communication assets.

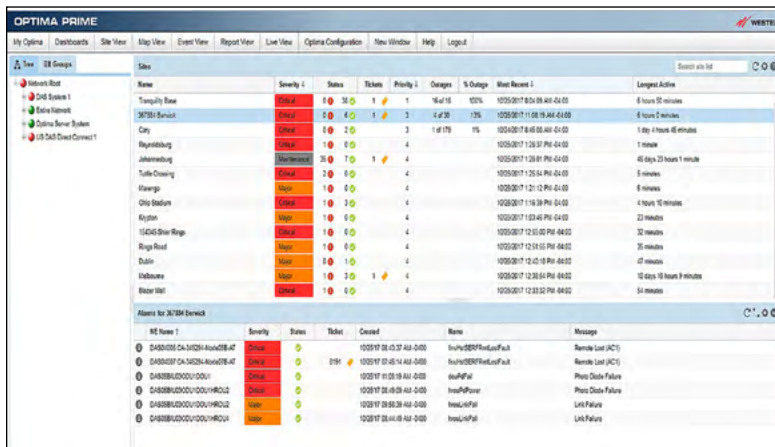
Optima provides a complete, real-time view of critical site component conditions. This visibility often enables technicians to address problems remotely without any expensive truck rolls. This improved efficiency and productivity significantly reduces maintenance-related operating expenses and improves network quality and customer satisfaction.

The Optima platform is tailored to the demands of telecom carriers, neutral-host site and tower owners, and DAS system operators. Optima's massively scalable architecture is designed to support tens of thousands of sites, hundreds of thousands of network elements, and many simultaneous users.

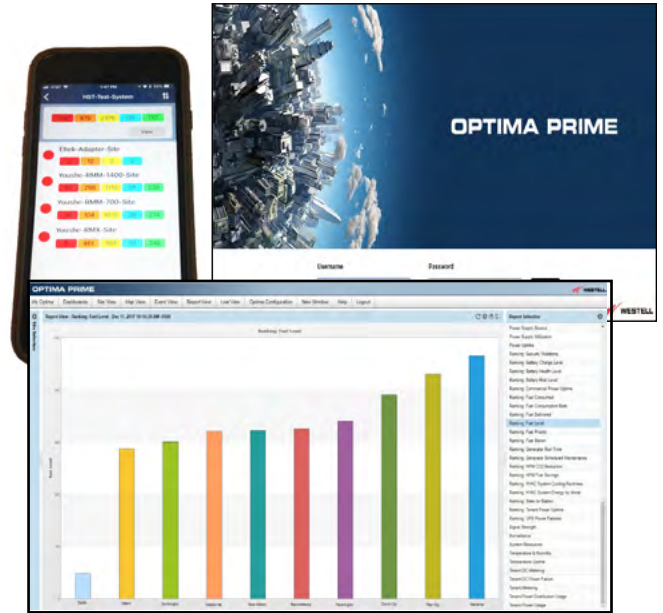
Key Optima Features

Alarm and Event management:

- Capture and record all events and alarms at every site
- Consolidated event and site information with alarms displayed in priority order
- Alarm details and integrated fix action recommendations
- Immediate view of interrelationships among network equipment, remote site devices, power and security systems
- Event/alarm notification/escalation via SNMP, email, or SMS
- Integration with northbound OSS and NOC systems



Optima Site View



Element management and control:

- Control and view health, status, and software version of all network elements
- Complete element management including scheduled software downloads
- Backup Westell hardware configurations and manage firmware
- Control actions to start/stop generator, initiate lighting tests, and adjust thermostat or other HVAC controls

Performance management:

- Collect and examine key performance indicators
- Customize reports and dashboards illustrating network performance, power utilization, trends, etc.
- View scheduled or on-demand reports
- Correlate measurements from multiple network elements to focus on key issues (Examples: Temperature impact on fuel level or HVAC usage)

Remote equipment access:

- Connect directly to native Web interfaces of managed equipment
- Launch proprietary 3rd party software or standard packages to access managed equipment

Optima Management System



Benefits

Remote access to network elements:

- Single point of access across network of sites
- Faster, more efficient service for hard-to-reach sites
- Enhanced troubleshooting and diagnosis so field technicians take the right tools on the first trip

Reduced operating costs:

- Centralizes and automates routine and preventative maintenance

Increase network availability and quality:

- Reduces Mean Time to Repair with remote corrective actions and detailed troubleshooting

Improved site security:

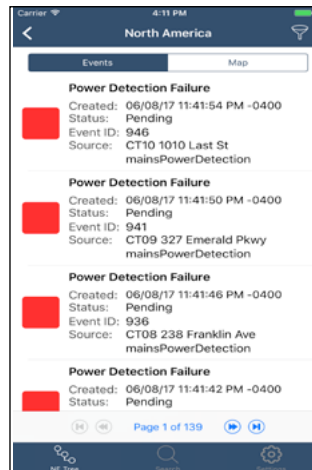
- Provides real-time alarms for asset tampering

Improved technician efficiency:

- Remote troubleshooting and diagnostics enable intelligent dispatching

Minimize energy consumption:

- Optimizes HVAC utilization



Alarms displayed on Optima mobile app

Open integration capabilities

Data collection protocols:

SNMP TCP/IP FTP and SFTP Telnet Modbus and Modbus/TCP

Alarm forwarding protocols: SNMP Email SMS via SMTP

Performance data export: Email FTP

Hosted Management Option

Westell's Hosted Optima Management System provides a reliable, scalable, low-cost solution for monitoring, managing and controlling networks of 100 sites or fewer

- No dedicated IT resources needed
- Minimal front-end deployment cost
- System footprint can expand as required to meet customer needs

Westell Intelligent Site Management solutions provide important management of the network infrastructure:

Tower management:

- Aircraft warning lights (AWL)
- Heating, ventilation, and air conditioning (HVAC)
- Environmental monitoring
 - Temperature and humidity
 - Water detection
 - Smoke/poison gas detection

Security management:

- Access/surveillance management
- Asset tampering detection
- Real-time alarms for open doors/gates, motion, etc.
- Copper theft/fuel loss detection

Power management:

- AC & DC power management
- Rectifier management
- Battery management
- Generator management
- Fuel management
- Hybrid power management
- Tenant power monitoring

DAS management:

- Distributed Antenna Systems (DAS)
- Repeaters, microwave systems, and local loop equipment
- Uptime monitoring by carrier

