

# Optima Cloud Management System



Westell's Optima Cloud Management System provides a reliable, scalable, and low cost solution for site monitoring, management, and control of networks consisting of 100 or less sites. The Optima Cloud Solution allows customers to focus on the monitoring of critical power, security, environmental and communication assets at remote sites (including cell sites, substations and remote communication huts) while Westell handles the administration and hosting of the system.

The Optima Cloud offers the same great features as the traditional Optima Management System including:

- Performance management
- Event management
- Site management
- Remote equipment access
- Comprehensive data collection

Visibility into the network through the Optima Cloud solution, allows all users immediate and convenient access to critical event and performance data from a desktop, laptop or mobile device. All upgrades, general maintenance, and data is collected at the remote location via Westell's Intelligent Site Devices and sent securely to the Optima Cloud System - improving efficiencies and reducing operational expenses by eliminating the need for a dedicated onsite resource to manage and host the Optima software.

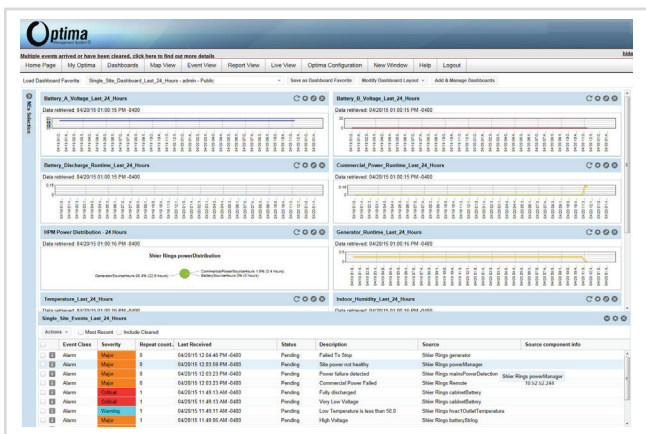


Optima Cloud also provides a model whose footprint expands as the customer's network infrastructure grows. Additional advantages include:

- Low Cost of Entry: No dedicated IT resources are needed to manage the Optima system and the front-end deployment cost is minimal.
- Low Cost of Ownership: Allows for more efficient use of IT resources and no increase in back-end maintenance cost
- Reliability: 24/7 availability - Always On
- Scalability: Resource expansion and software updates are transparent to the customer.

## Reduce Energy Usage

Today, most companies are looking for ways to reduce energy consumption to save money and lessen their carbon footprint. Using Optima to monitor remote locations can help reduce energy usage by cutting technician travel time and improving equipment efficiency. Optima's remote monitoring and troubleshooting capabilities reduce or eliminate diagnostic site visits. Maintenance and repairs can often be done remotely, without an expensive site visit. Proactive performance management helps operators ensure that energy-consuming equipment, such as air conditioning and generators, run more efficiently.



Optima Dashboard



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## Improve Site Security

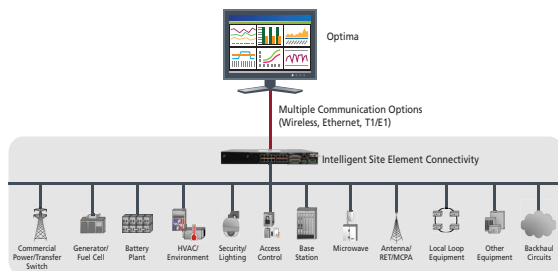
Site security has gained importance for remote sites due to theft of items such as copper, aluminum, pipes, and fuel. Safety concerns are also increasing because of weather and technician visits to unfriendly areas. Optima monitors activity, notifies personnel, and enables remote diagnostics when problems occur at a site. Optima also helps carriers manage third party security issues, such as fuel delivery, to ensure suppliers deliver what is expected.

## Manage Power Effectively

Power is essential to maintain the level of network availability that subscribers demand. Whether it comes from commercial service, solar panels, generators (diesel or propane), batteries, or hydrogen fuel cells, power is a critical component, required 24 hours a day, 7 days a week. Optima reduces the need for physical site visits and enables structured and routine preventative maintenance for power related equipment. Additionally, Optima supports hybrid power sources where commercial power has either failed or is unreliable. It provides an intuitive, easy-to-use interface displaying critical alarm status and runtime reports from a central console or a technician's laptop enabling commercial power and battery monitoring, generator management, a complete network view, and history reporting.

## Mobile and Desktop Accessibility

Network Operations Center (NOC) user and technicians need a complete view and control of their networks from anywhere. Optima's mobile applications allow easy access to monitor the functionality of site infrastructure from virtually any Apple iOS and Android device. Power, security, communications, and environmental management are critical applications that can be managed on a mobile device or a desktop - wherever the user demands it.



## Interfaces and Platforms

- Thin client user interface: User access via web browser, Dynamic alert and event lists, Real-time view of site alarm and performance data status, Navigable Geographical Information System map view, Scheduled or on-demand reports Standard reports for every application, Customizable reports and executive dashboards
- Platform: Distributed scalable architecture, Red Hat Linux, Embedded Oracle Enterprise Edition DB Support for database clustering for high availability

## Management Functionality

- Alarm and event management: Capture and record all events and alarms at sites. Immediate view of interrelationships among network equipment, remote site devices, power and security systems. Notification and escalation of events and alarms via SNMP, email, or SMS Monitor IP and non-IP devices
- Performance management: Collect key performance indicators, Automatically store conditions and analog performance thresholds, create reports and dashboards that illustrate network performance, correlate measurements from multiple network elements to focus on key issues
- Element management: View health, port status, or software management of Westell products. Complete element management including scheduled software download
- Remote access: Provide access to network elements from anywhere at any time, use proprietary third party software or standard package

## Open Integration Capabilities

- Data collection protocols: SNMP TCP/IP FTP and SFTP Telnet Java Message Service (JMS)
- Alarm forwarding protocols: SNMP Email Pager (TAP) SMS via SMPP or SMTP
- Performance data export: Email FTP
- Network element adapters: Off-the-shelf adapters available for many common network elements

