

Using Kentrox for Emergency Management and Disaster Preparedness

Natural and man-made disasters can occur at any time. Some disasters are expected a short time in advance, such as flooding, hurricanes, and blizzards while other disasters occur without a warning, such as earthquakes, volcanic eruptions, arson, or a structural collapse. All emergency situations rely on the ability to communicate (via phone, email, or SMS, for example.). Service providers such as telecommunication providers and utility and transportation companies must be able to manage their networks when an emergency arises.

Disasters usually cause widespread network disturbances or outages at sites such as substations, roadside cabinets, cell sites, and communication huts and can last for extended periods of time. Having an emergency management solution is critical for improving communication, access, and availability to power and transportation.

The Kentrox solution for emergency management includes the Optima management system and Remote suite of products to maximize network availability and performance. The solution enables service providers to remotely monitor, manage, and control critical site elements which are imperative during disasters. This includes power, energy, and fuel management, security, environmental management, and remote access.

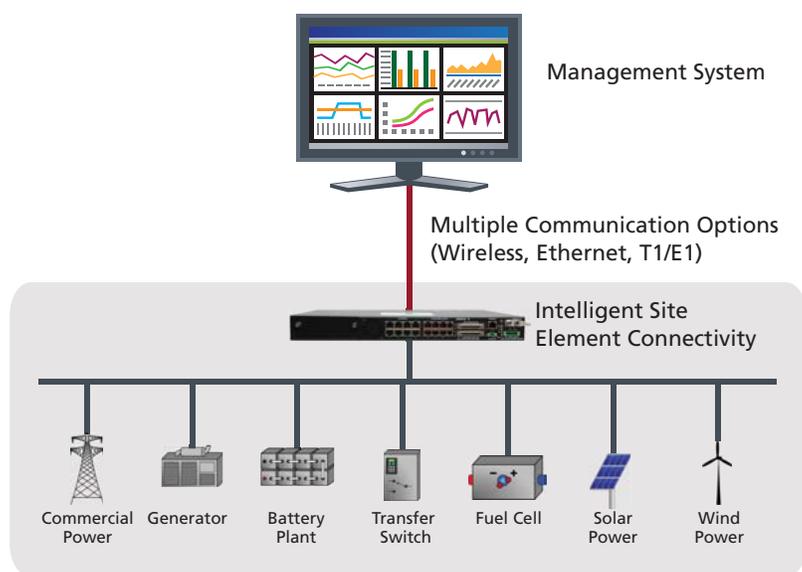


The Optima management system provides complete visibility and control of network infrastructure sites and gives immediate operational cost reductions for organizations that need to access, monitor, and manage large numbers of sites. The Remote suite of products provides IP management to remote sites and equipment and site alarm monitoring, protocol conversion, and equipment connectivity. It also acts as an intelligent extension of your Operations Support Systems (OSS).

Power, environmental, and energy management

During emergency situations, power is often affected. Optima and the Remote suite of products enables service providers to proactively receive notification of commercial power failures with specific site-affecting conditions. Batteries are monitored, and weak or underpowered battery plants are identified using remote battery life analysis. Generator management is also critical. The Kentrox solution can monitor fuel levels and other backup power resources to prioritize critical sites based on the amount of fuel remaining, facilitating refuels as needed. Understanding power status and utilization helps service providers identify which sites to focus attention to ensure the network is available when required.

Environmental monitoring helps maintain critical infrastructure at un-staffed locations that require strict control over environmental site conditions. Kentrox provides a full range of remote environmental monitoring and control features



Kentrox emergency management solution overview



Optima dashboard showing remote site status

to ensure normal operation, provide notification of poor conditions, and enable remote management to reduce costly site visits, especially important when transportation is affected by a disaster. The Kentrox solution allows technicians to:

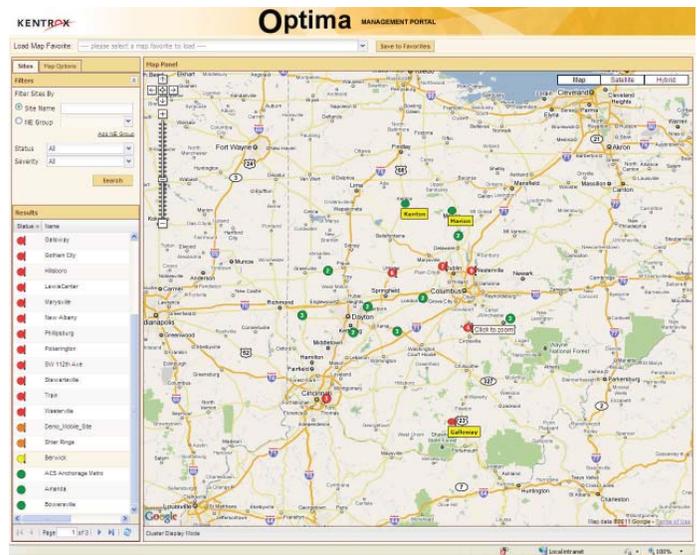
- Immediately receive notification of equipment failures
- Receive alarms on events such as abnormal temperature or humidity or smoke, gas, and water detection
- Monitor and control heating, ventilating, and air conditioning (HVAC) equipment automatically and remotely
- Automate maintenance reminders
- Trend temperature and HVAC efficiency

Monitoring and managing energy usage is also important during emergency situations. Kentrox enables service providers to prolong service availability by optimizing energy consumption. Backup power can be automatically leveraged to reduce unnecessary generator runtime, and conserve fuel for prolonged outages. Additionally, HVAC settings can be optimized and automated for continued energy savings. By ensuring the systems are running efficiently, service providers can save energy and extend network availability.

Site security

The security of remote sites is important 24 hours a day/7 days a week but is often more important during disasters when theft is common and security systems are often unavailable. The Kentrox solution gives technicians remote access from any laptop to a consolidated view of alarms associated with cameras, doors, and other remote site equipment and allows access to camera images. The service provider can control site access to protect critical infrastructure and monitor for fuel, copper, and other theft of valuable assets. Remote video surveillance can also provide safety benefits for technicians who must visit potentially dangerous sites.

For more information, visit www.kentrox.com, email info@kentrox.com or call 800 733 5511 or +1 614 798 2000.



Optima regional map

Alarm monitoring and fault management

Alarm monitoring and fault management Detecting, isolating, and resolving problems during emergency situations improves network quality and minimizes downtime. Kentrox enables service providers to monitor status and alarms of multiple sites across a network. The Remote suite of products collects equipment, environmental, security, and service-impacting alarms in real-time using SNMP and other protocols depending on the equipment. All alarms are logged in Optima and displayed on a map and in an event list, and Optima can automatically email alarms to the designated personnel for research and resolution.

Service providers can view the live status of sites. For example, the Optima Map View can show sites "turning red" or critical. The Event List shows alarms that are issued and threshold alarms that have been raised on severe conditions. Alarm monitoring and fault management provides intelligent dispatches when an issue can't be fixed remotely to leverage the limited resources available.

Effective emergency management

Monitoring and managing remote sites during emergency situations caused from natural or man-made disasters is critical for service providers. Implementing the Kentrox solution provides valuable information on the current situation. Power, environmental, and energy management, site security, and alarm monitoring and fault management provides the information and tools necessary to improve network availability and reliability while reducing operating costs.