

Using SMS to Augment Data Network Connectivity

Service providers are continually managing issues such as lost or intermittent connection to the data network, which create challenges to effectively and efficiently manage the network. It is critical to have a comprehensive site management solution that promotes quality and reliability, especially when network interruptions occur.

Monitoring and managing remote site equipment effectively requires that remote sites are always able to communicate with the network operations center (NOC) even when the primary data connection fails. As part of the Kentrox site management solution, Optima and the Remote suite of products work together to provide a secondary route of communication for site management data when the primary connection is unavailable.

Communication between the Kentrox Remote suite of products and Optima primarily utilizes SNMP messaging supported over GSM/GPRS connections on a service provider's network. With sites that are located in rural areas or areas of poor coverage, data communication methods such as GSM/GPRS may be unreliable or unavailable. When communications are unreliable, the most viable transport method at these locations is to utilize SMS as either a full-time or backup/failover connection to the primary GSM/GPRS SNMP solution for communicating site events and alarms.

As shown in Figure 1, the Remote RMX-3200 or Remote RMM-1400 resides at the remote (sending) site. The Remote suite of products uses SNMP as the primary mode of sending GPRS data to the Optima management system. If the primary data connection is lost, the RMM-1400 or RMX-3200 from the

sending site will switch to SMS mode. The alarms sent via SMS from remote sites are received by the Remote RMX-3200 (the SMS collector for this example) that resides at the Optima server (receiving) location. The alarms and events are then forwarded to Optima as SNMP traps for site monitoring.

In order to accommodate the 160 character limitation of SMS, the Remote suite of products will use multiple SMS messages when necessary to communicate all important alarm information. This ensures a seamless transition between GPRS and SMS when a failover scenario exists and avoids any loss of critical site information that could result from truncated messages.

Because the Kentrox solution uses SMS as a backup for SNMP traffic when the data network is not available, a dynamic failover process is supported for switching from SNMP to SMS and back to SNMP. The process includes configurable timeouts to manage varying network performance around the world and as a method for alerting the wireless modem to reattempt an IP data network connection (see Figure 2).

Comprehensive remote site management

The ability to continue data communication via SMS when networks are unavailable is one feature of the Kentrox site management solution. Kentrox offers a comprehensive solution to monitor, manage, and control remote sites. Providing a complete view of all remote locations, service providers can manage all critical site elements remotely, including security and power systems, environmental equipment and conditions, network transport equipment such as generators, heating and cooling systems, rectifier systems, microwave radios, and IP video cameras, regardless of the technology or manufacturer. This reduces network and operating costs while improving network availability and performance.

The Kentrox solution is vendor-neutral, so service providers can automatically monitor and manage all critical site elements remotely. With this

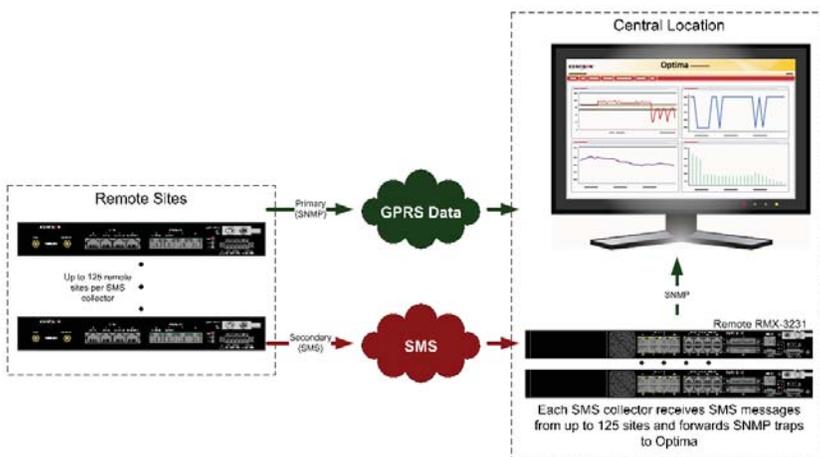


Figure 1: Site-originated SMS solution overview

