

Optimizing Earthquake Monitoring Systems with GPRS IO

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Location / Country : Spain

Product Solutions:

[ioLogik W5340-HSDPA](#)

HSDPA Micro RTU Controller with 4 AIs, 8 DIOs, and 2 relay outputs

Introduction

Project Introduction

The system integrator provides earthquake-monitoring systems for collecting earthquake information. In this project, 18 remote earthquake-monitoring stations positioned throughout the nation are to be monitored from a control center. The remote stations are spread out and in the middle of nowhere, and consequently the wiring for communication is extremely difficult and too expensive. GPRS communication is the best choice for this type of application. Previously, the earthquake monitoring system consisted of a GPRS modem, a single board computer, and an RS-485 I/O module, but this combination had many compatibility issues because of all the different components. For this reason, the customer wanted an all-in-one solution to integrate GPRS communication, configurable DIO channels, and serial ports into their new and improved earthquake monitoring system.

System Requirements

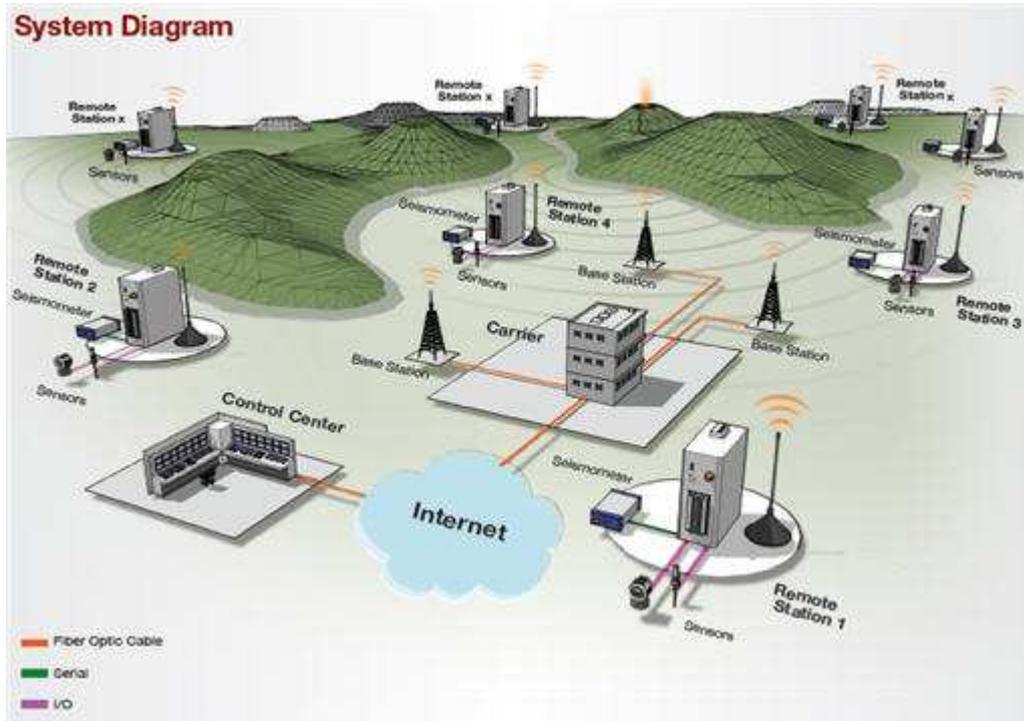
- GPRS communication to save wiring and maintenance costs
- All-in-one solution for better reliability
- Serial port for seismometer and DIO channels for connecting sensors
- Sending alarm messages proactively to save bandwidth

Moxa Solution

This project involves 18 remote earthquake-monitoring stations spread out in the middle of nowhere. Moxa's ioLogik W5340 Active GPRS I/O is used for connecting seismometers via serial port for earthquake monitoring. The ioLogik utilizes GPRS communication to transmit the data from the remote stations to the control center, saving a sizeable amount on wiring costs. The ioLogik I/O channels are connected to sensors, and when there is a status change, the ioLogik will send out an alarm message to the control site by TCP/UDP/e-mail/SMS. The ioLogik comes fully equipped with GPRS communication and serial interface capabilities, and AI/DIO channels in a single device fulfill all the needs of the customer. In addition, the ioLogik's all-in-one design reduces the total number of failure points.

The ioLogik W5340 features report-by-exception, which can efficiently lower the transmission traffic of bandwidth-critical GPRS communication applications. When data transmission is not required, the ioLogik's GPRS communication function will automatically switch to sleeping mode to save power, and the ioLogik will operate as usual and continue to

collect data from the remote stations. Only when a pre-defined event is triggered will the ioLogik resume GPRS communications and send out an alarm message. In addition, the ioLogik's built-in "if-then-else" Click&Go™ control logic provides local control capabilities to enable effortless programming and cuts down on labor costs.



Why Moxa

- Moxa's all-in-one solution combines GPRS communications, serial connection, and configurable DIO channels to reduce failure points and save cabling and maintenance costs
- Active report function to save bandwidth and transmission costs
- The automatic Sleep-mode feature saves power
- Built-in Click&Go™ logic for easy programming

Product

ioLogik W5340 Active GPRS I/O with 4 AIs, 8 DIOs, and 2 relay outputs

- GPRS, Ethernet LAN, RS-232/422/485 supported
- Low power consumption
- Unicode Active Messaging with real-time stamp, including SMS, SNMP Trap with I/O status, TCP, and email
- Click&Go™ control logic and Active OPC Server supported
- Data logging with SD card