CRITICAL CONTROL | Energy Services

Summary
- Required Remote Communication with Automation Equipment (Meters, PLC, Etc)
- Previous Solution not dependable, often locked up
- Required additional hardware for RS485 based devices
- Required rugged solution with extended temperature ratings

IPn3G Highlights
- Fast 3G, HSPA
- 2 - RS232/485 Serial Ports
- 10/100 Ethernet, USB
- Integrated Netflow feature
- NMS Compatible
- Integrated GPS
- SMS Alerts
- Data Usage Alerts
- Carrier & Network watchdogs/ Keepalives to prevent lockups
- Extended Industrial Temperature (-55°C - +85°C)

Oil & Gas Automation

Many corporate clients outsource **Critical Control Energy Services** to provide innovative automation services and expertise, which include the collection, monitoring and analysis of Oil & Gas fluid measurements remotely using cellular modems connected to flow meters and automation equipment.

The Issue

Critical Control Energy Services was no stranger to using Cellular Modems to provide remote connectivity to remote automation equipment. Their previous solution provided the remote visibility they required, but had several dependability issues, including service affecting modem lockups that required personnel to travel onsite to reboot and correct.

Many installations are located in remote areas, where sending service trucks to the site would be cost and time intensive, requiring in some cases 8+ hours to reach. Extreme environmental conditions, where temperatures commonly reach well below –40°C do not aid in either the dependability of the previous solution, nor the challenge of reaching the remote locations to troubleshoot and restore communication.

Many of the Meters that are used require either a RS232 or RS485 serial connection. The previous vendor required an external RS232 to RS485 adapter to be used in locations that required RS485. This introduced an additional piece of equipment, at an additional cost, an increased complexity of installation, and yet another point of failure.

The Solution

Microhard Systems Inc specializes in developing and manufacturing rugged wireless solutions that excel in demanding conditions. With several M2M cellular devices designed specifically with harsh, industrial environments in mind, the IPn3G 3G/HSPA Cellular Ethernet/Serial/USB gateway was a perfect fit to the challenges faced by Critical Control. Not only did the IPn3G provide a robust, rugged solution, but it also provided simultaneous Ethernet and serial data communication, with both RS232 **_and_** RS485 serial interface options.

Network Operations Center — 3G/HSPA — **Bell Mobility** — 3G/HSPA — IPn3G — RS232 **or** RS485
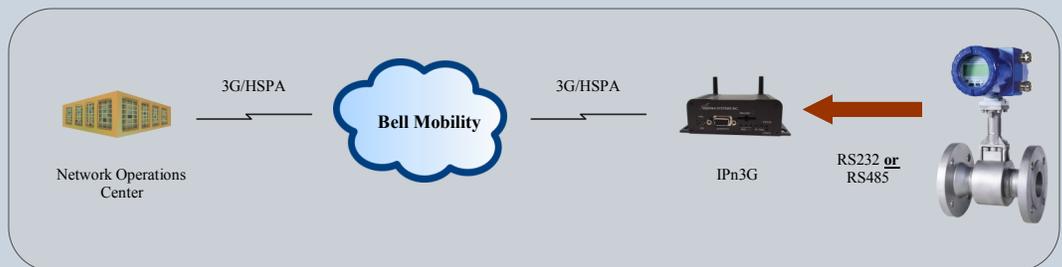
Microhard was also able to test and verify an increased temperature rating of the IPn3G to a incredible –55°C to provide the most robust solution available.

◆ **HSPA** ◆ **Serial/RS485** ◆ **NMS** ◆ **Ethernet** ◆ **Netflow**

microhard SYSTEMS INC.

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NMS Highlights

- Detailed Map View
- Advanced Filtering
- Quick Status View
- Centralized Bulk Updates
- Server Based Installation
- Complimentary Service
- Microhard or Privately Hosted System
- Customizable Groups
- 7 Day Event History
- Event & Action Logs

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The Microhard NMS software also provided a crucial tool that enabled Critical Control a mechanism to not only monitor, but also manage the large scale deployment of IPn3G devices. Microhard NMS allows the health of all deployments to be monitored in a glance, highlighting trouble modems.

NMS also allows for automated, bulk firmware updates, the ability to backup configurations, and statistic data to analyze and aid in troubleshooting.
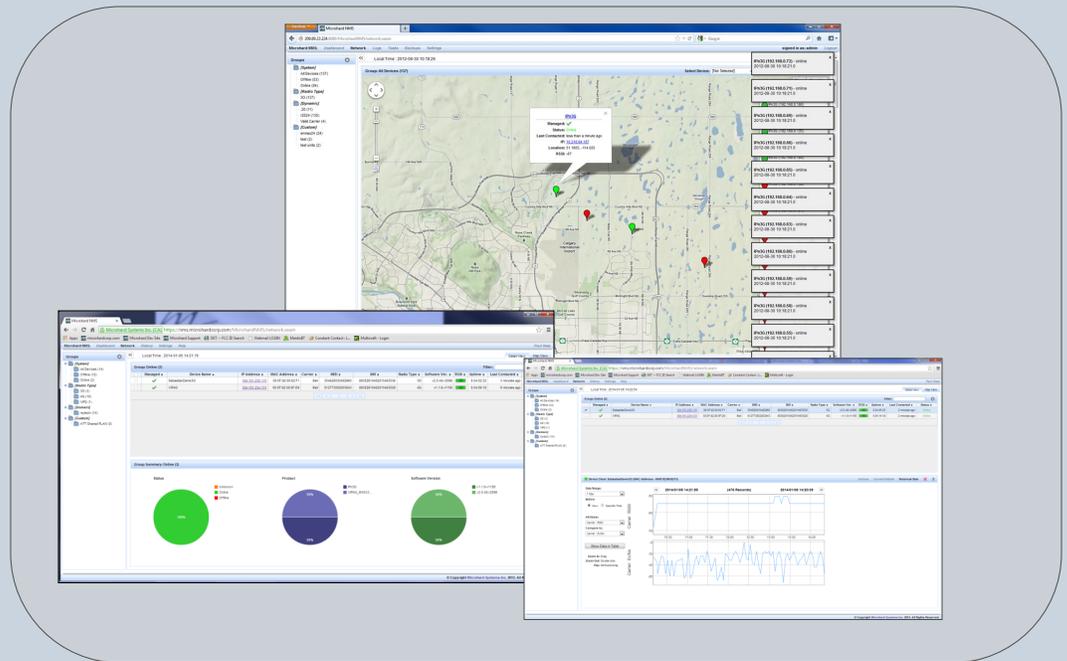
Results

Microhard Systems was able to provide a rugged, reliable, innovative solution that met or exceeded all requirements of the project. Responsive technical support and assistance allowed Critical Control to quickly and easy integrate the IPn3G into their network.

The current installation progress of the IPn3G as of January 2014 is well over 800 units successfully deployed, and growing!

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