# Customer Case Study:
## Natural Gas Compression Operations

**Company:**

Leading Gas Compressor Company

**Application:**

- >500 Horse Power Compressor sets through-out Farmington, NM
- Remote monitoring, alarming, and control

**System:**

- Integrated iGateway I/O and satellite terminal
- VSAT/MSAT SCADA network
- iSCADA –CR500 Real-time compressor monitoring service

**Benefits:**

- Higher on-stream performance & associated gas sales
- Instantaneous alarm reporting & downtime immediate response
- Better predicts maintenance schedules and helps avert equipment failures

## iSCADA Helps Top Natural Gas Compressor Operator Deliver Reliable Service and Increase Production Revenues

Delivering natural gas from well to burnertip is an enormous enterprise. The majority of the natural gas consumed in the United States is produced at remote sites. It must then be transported to consumers through more than 250,000 miles of transmission pipelines with the help of thousands of compressors.

The Gas Compressor Company is the leading provider of natural gas compression services, maintaining a 3.7-million-horsepower rental compression fleet that is the largest in the industry; operating over 300 high value compressors.

Like all mechanical equipment, at any given time, compressors can go down. Downed equipment builds a back-up in production, and sales volume goes down for the producer. When a compressor station does go down, sales can be impacted by thousands of dollars per hour.

Gas compression operators bring tremendous value to producers by optimizing compressor equipment use and guaranteeing mechanical availability. As part of ongoing improvements to increase this value, the operator required an economical way to remotely access compressors, and electronically monitor and control operations.

**Challenges:**

The operator needed a remote monitoring and control system that would operate efficiently in varying environments and over various satellite communications conditions. They had tried a number of satellite/Internet SCADA products that worked well as long as the climate was mild and compressor operations stayed constant, but once variability was introduced, they did not work well.

In the past, this variability created problems with communications reliability, resulting in missed alarms, false alarms, unreliable control operations, unnecessary shut-downs and lost production.

# M2M Customer Case Study

*"M2M impressed us with their impressive iSCADA technology and comprehensive service offering. They weren't just trying to sell us off-the-shelf parts. They provided the appropriate level of engineering to apply technology in the real world, and they backed every piece of the solution with service level guarantees."*

*I&E Supervisor*

**The Project:**

The iSCADA real-time compressor monitoring system continuously monitors all of the compressor units, confirming operability and alerting operators when problems occur. From the Internet, the operators can look at key operating parameters — such as status, suction pressure, discharge pressure and error codes — and start and stop problem units without having to travel to the site.

Onsite, rugged M2M iGateways manage the link between field systems and the M2M iSCADA data center. The iGateways insulate the system from environmental and communications issues, and optimize data transport to control communications usage and associated costs.

The turnkey M2M iSCADA system includes complete SCADA functionality, application hosting and management, satellite communications and all field hardware and services. The iSCADA system provides operators:

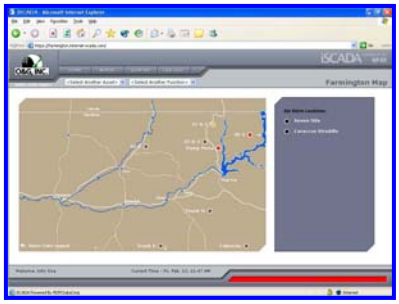
- Very short implementation through a packaged system that is engineered, integrated, and tested before the field hardware is shipped
- Flexible I/O supports a broad range of sensors, PLCs and compressor control panels
- Secure Web browser access from anywhere in the world, for viewing real-time and historical operations, alarm data and reports, and performing remote compressor starts and stops.
- Immediate alerts to operators and field engineers on critical operations so they can get a technician out to the field quickly. Notification over phone, cell phone, pager or Internet 24-hours a day ensures complete coverage for remote or unattended operations.
- SCADA application is modular, so subsets of the functionality can be provided for lower value compressors in the future at a lower cost, while data is accessed from and aggregated within the same overall system.


M2M iGateway's link compressor control panels into an IP satellite network. NEMA-4 enclosures endure extreme exposure to the elements.

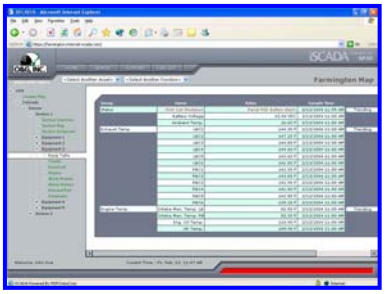
VSATs (very small aperture terminals) provide satellite connectivity from compressors to the M2M's data center in Denver, Colorado.

M2M data center hosts the application and data, and around-the-clock monitoring from a network operations center ensures maximum availability, backup, and automatic recovery – providing the basis for guaranteed service.

# M2M Customer Case Study



Maps provide single click access to sites and highlight the status of alarms



Real-time operating conditions are continuously updated on the Web.

**Results:**

- Allows operators to maintain highly reliable service and to increase customer production revenues resulting from higher "on stream" performance.
- Provides an alert when a gas compressor stops operating, allowing field maintenance personnel the opportunity to quickly go to the inoperative unit and get it back up
- Enables operators to analyze historical performance and trends to better predict imminent problems and to better diagnose current problems
- Eliminates false or nuisance alarms caused by extreme site conditions and communications failures
- Provides its users with the ability to better schedule field personnel by empowering them with the ability to know the status of their production equipment any time, from anywhere.
- Rapid deployment minimizes field resources and means more compressors can be automated more quickly
- Single source, fully integrated system means less hardware to buy, less field work, and simple coordination of a cost effective, reliable system.

**ROI:** iSCADA cut response times from two or three days to minutes. Every time problem is found and fixed online, the quick turn-around provides:

- Higher service revenues to compressor operator ($3,000 on average per incident)
- Happier customers ($25,000 average increase in production revenues)

*"Based on our prior experience using this type of technology from other vendors, we had some concerns over reliability, customer service/support and overall performance. As a whole, the industry needed a better solution. M2M's iSCADA system could not have come at a better time for us."*

*"M2M has far exceeded our expectations. We are 100% satisfied with the iSCADA system, and the hard work and support the M2M team has committed to our project earns our highest acclaim. We couldn't be happier with our decision.*

*I&E Supervisor*

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