



Performing Under Pressure

DataDrill Communications leverages iDirect's Evolution platform to keep remote oil rigs running strong

Western Canada is home to some of North America's most remote wilderness. As oil and gas teams venture into these outlying areas to execute critical drilling operations, they move well beyond the reach of even cellular connectivity.

Given the safety risks of performing these hazardous jobs under severe weather conditions, working in these areas without a reliable line of communication just isn't an option. And with the cost of running an oil rig for one day exceeding many thousands of dollars, even the slightest delay in production can significantly impact a drilling operator's bottom line.

DataDrill Communications Inc. is one service provider that's helping bridge the communications gap between oil rigs and their corporate offices. By leveraging iDirect's next-generation Evolution platform to provide reliable, high-speed satellite broadband connectivity to remote drilling sites, DataDrill is ensuring that oil and gas companies have high-speed voice and Internet access to keep operations running smoothly.



"With iDirect, our customers know they have reliable phone and data connectivity at all times. And that is what they value most."

Dario Facca
President, DataDrill
Communications Inc.



Ensuring Failsafe Operations

Extending high speed communications to remote rigs

Based in Alberta, DataDrill has been servicing the oil and gas industry in Western Canada since 1999. They provide a wide range of communications solutions, including laptop rentals, cellular phones and data devices, portable radios and repeaters, cellular repeaters, portable towers, hotshot service, and satellite communications.

It's a high-pressure business. DataDrill's customers commit tremendous resources to operating the rigs and managing operations, including completions, production and facilities. To protect these investments and prevent potential losses in production, oil and gas companies want their engineers located in corporate offices to be able to monitor operations on remote sites and be able to consult with rig operators in realtime as problems arise. To do this, they look to DataDrill to deliver access to reliable, high-quality voice and Internet connectivity that can support bandwidth-intensive business applications without fail.

That's why DataDrill has adopted a satellite communications platform powered by iDirect. DataDrill leverages the iDirect network to deliver high-quality Voice over IP (VoIP) service, high-speed VPN access and ample throughput to run key business applications.

"When we chose a satellite communications platform, the ability to ensure service reliability was a key requirement," said Dario Facca, President of DataDrill. "In an emergency, a choppy phone call is no better than no phone call at all. And if the data that our customers are sending from the oil field is compromised, it's not very useful to their corporate headquarters."

To achieve the reliability that DataDrill requires, iDirect's platform uses a shared technology called D-TDMA (Deterministic Time Division Multiple Access). With D-TDMA, DataDrill can pool bandwidth across several sites, so that if one location requires additional capacity at any moment it can pull unused bandwidth from the network. This gives DataDrill the advantages of improved service reliability without the need for expensive, dedicated satellite links. Further, by leveraging iDirect's



On-site satellite broadband gives DataDrill's customers access to reliable, high-quality VoIP and high-speed VPN connectivity for a variety of key business applications.

Maximizing Network Efficiency



DataDrill's network must connect customer drilling sites deep in the wilderness.

advanced Quality of Service (QoS) feature, DataDrill can allocate bandwidth intelligently and efficiently across multiple sites, even down to the application level. These capabilities have been crucial for maintaining the integrity of voice traffic over the network.

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Growing traffic and shrinking space segment strain legacy system

After the iDirect network was up and running for several years, DataDrill faced another challenge. As winter descends on Western Canada, thousands of miles of muskeg freeze over, creating an opportunity for oil and gas companies to transport heavy drilling equipment into outlying areas that are inaccessible during the warmer months. As a result, network traffic spikes dramatically during the winter, with more calls being placed and more data being transmitted.

As its customer base expanded, DataDrill found itself needing to lease additional capacity in winter months to support surging

traffic levels. This created a problem during the off-season when reduced traffic levels left this expensive capacity unused, cutting into the network's profitability.

To avoid paying for peak-season bandwidth rates year round, DataDrill began to operate two separate satellite networks: one to handle the full traffic volume of the winter months (1.5 Mbps upload, 3.9 Mbps download) and a scaled-back network to keep the connection running during the off-season (1 Mbps upload, 2.5 Mbps download).

But this approach meant that customers had to be migrated from one network to the other at the beginning and the end of peak-season, which caused a business interruption and created additional network management costs for DataDrill.

And that wasn't the only issue. DataDrill was also battling the ever-shrinking availability of Ku-band space segment. The provider was beginning to reach a tipping point in which there simply wasn't enough capacity to upgrade its system requirements. The only answer was to find a better way to utilize the space segment it already had.

Preparing for the Future

Evolution upgrade increases network performance and lowers operating costs

For DataDrill, the solution was to upgrade to iDirect's Evolution platform. Built on the latest DVB-S2 standard with Adaptive Coding and Modulation (ACM), Evolution delivered immediate gains in efficiency, allowing DataDrill to lower costs and handle both peak- and off-season traffic with less space segment. This has enabled DataDrill to move away from a two network system and lower its operating costs.

Evolution can also improve service quality during the severe weather that frequents Western Canada's wilderness. Using ACM, Evolution automatically optimizes link performance during adverse weather conditions, balancing efficiency and availability as link conditions change. This can result in increased availability and cost savings for DataDrill.

"iDirect's product upgrades enable us to stay on the leading edge of technology, and reduce our costs in the long run," said Facca. "With Evolution, we are able to use satellite capacity more efficiently, improve network performance and expand our customer base. These are critical requirements for our continued growth."

Partnership for success

With a more efficient satellite communications system in place, DataDrill has again helped its customers perform under pressure by delivering the most advanced communications technology available. Having built a strong strategic partnership with iDirect, DataDrill looks to the future with confidence.

"We've seen that iDirect shares the same values of service that we do," said Facca. "They resolve issues immediately – nothing gets pushed to the next day. In our industry, customers operate in a high-stakes environment and they only want the best. I believe that with iDirect and DataDrill's service-oriented focus that is exactly what they are getting."

Improved Network Performance

Since upgrading its remote drilling communications network, DataDrill has seen significant improvements:

- ◆ Higher data rates
- ◆ Improved space segment efficiency
- ◆ Lower operating costs



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World*