

Questar, USA

Wireless Broadband Provides Mission-Critical Voice and Data Connectivity Throughout Natural Gas Field

The energy industry is one of the most sophisticated and carefully orchestrated in the world – requiring advanced communications to maximize productivity.

Questar Corporation has a large drilling operation in a natural gas field in Wyoming. Wells are spread across an area of 280 square miles. Traditionally communication was via cell phones connected to a local network. However, coverage was patchy and unreliable and data transfer not possible. This slowed the decision-making process as the information had to be relayed by phone rather than by an automatic transfer. Questar soon realized that wireless broadband was the solution to their problems.

About Questar

- Questar Corporation is a natural-gas focused energy company which carries out gas and oil exploration, development, production and distribution throughout the Western United States

The Challenge

- To provide reliable voice and data communications at a Questar gas field in Wyoming, USA

The Solution

- A broadband wireless access network built using equipment from Alvarion's BreezeACCESS product suites

The Result

- Data and voice communication now possible between workers at each nomadic drilling rig and the central control office. As a result, production can be monitored 24/7/365 enabling decisions taken by HQ based on real-time data
- A high quality VOIP network replacing the old patchy and unreliable cell phone network

Capable of providing voice, data and video services, wireless broadband connectivity is proving to be an extremely affordable alternative for multiple industrial applications worldwide. Wireless networks require little initial capital and have low network operating costs. They can be built quickly and affordably, and they allow for modular, rapid expansion as the customers needs increase.

After reviewing various equipment suppliers, Questar selected Alvarion to deploy a network to cover its Wyoming operation. Since voice connectivity is critical to safe and effective operations at the drilling sites, Questar insisted on a solution that would be able to provide at least two simultaneous voice calls to each drilling rig, while ensuring that data transmission capability was not adversely affected. Using Alvarion's unique Wireless Link Prioritization (WLP) feature, Questar was easily able to meet the stated performance requirements.

Since the Wyoming field experiences extreme temperature ranges, as well as dust and other harsh environmental factors, it was also vital that the Alvarion network be able to cope with such conditions while continuing to operate reliably. BreezeACCESS VL carries an IP67 rating, meaning that it is able to operate in such harsh conditions without a problem. In fact this certification states that the equipment is so robust that it can withstand temporary immersion in water and still continue to operate to specification.

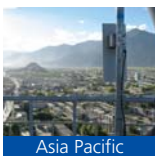
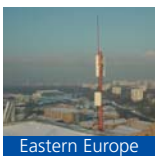
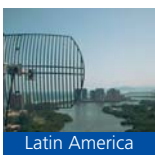
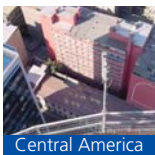
www.questar.com

Customer type: Oil & Gas

Country / Region: Wyoming, USA

Solution: BreezeACCESS® VL, BreezeACCESS® II

Application: Broadband for businesses



"Alvarion's network has transformed our operations in Wyoming. Now, we can easily communicate via voice or data, this has speeded up production and decision-making. With BreezeACCESS VL, we see impressive data rates and voice quality superior to that of a cell phone call. More importantly, voice connectivity and quality are maintained even when large quantities of data are being transmitted over the network, and over wireless links that can exceed 12 miles in range."

Ray Lund,
Network
Administrator of
Questar

These design parameters make BreezeACCESS ideal for mission-critical applications in remote or unforgiving environments, such as the ones typically prevalent in oil & gas fields.

Questar Network

Alvarion decided to use equipment from two of its product lines for the unlicensed spectrum: BreezeACCESS VL in 5.8 GHz and BreezeACCESS II in 2.4 GHz.

Six-sector BreezeACCESS VL base station antennas providing 360° coverage were sited across the area with one base station at the central control office. CPEs were installed at each drilling rig. The network architecture enables base station antennas to receive and transmit information between each other and also to the CPEs.

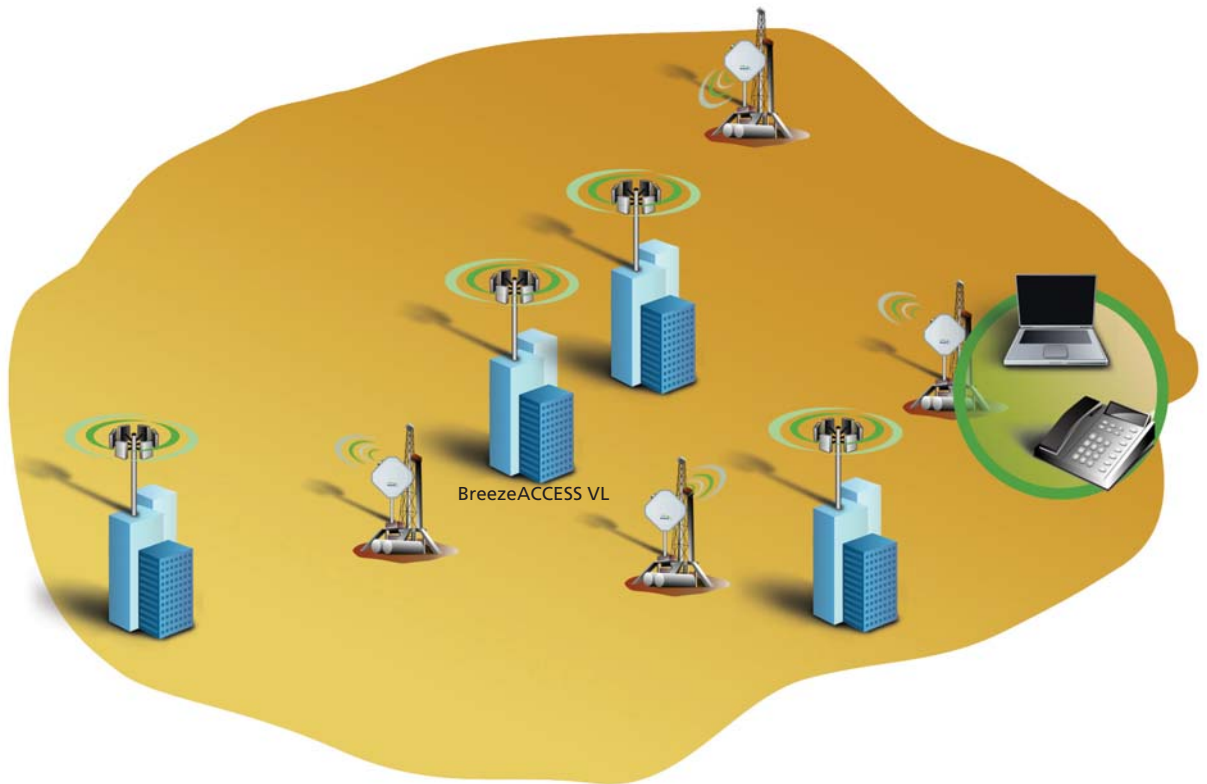
BreezeACCESS VL also enables Questar workers to use Cisco VoIP phones instead of cell phones. Questar also uses Alvarion's BreezeACCESS II range to provide voice coverage. The network went live in November 2006 on-time, on-spec and within budget.

The network covers the entire area of Questar's Wyoming drilling operation and provides voice and data connectivity to personnel working at each drilling rig as well as SCADA and communication services for its critical gas-collection infrastructure.

Today, all of Questar's 15 operated rigs in the field enjoy broadband services, including robust data connection as well as two voice lines per rig. When a rig moves to a new location, full broadband communication with the main office is re-established within five minutes.

The Future

Questar plans to build wireless broadband networks to provide voice and data connectivity at other drilling sites.



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