

# Afghanistan's Communications Moves to the Next Generation with Help From Globecomm

Through the ages, the region now called Afghanistan has been at the crossroads of empire. Its people and territory have faced conquest by the Greeks, Arabs, Mongols, Turks, British, Soviets and, following the September 11 attack on New York's World Trade Center, the United States. This turbulent history, the rule of the Taliban and six years of civil war have left Afghanistan a legacy of widespread poverty, decimated infrastructure, and possibly the largest concentration of land mines on earth. Few nations in the 21st Century face the challenges that confront the nation's first democratically elected government today.

Communications has been essential to governing since the days when news traveled no faster than a horse could ride. Recognizing its importance, the World Bank issued a request for proposal in 2003 to construct a Government Communications Network (GCN) for Afghanistan's Ministry of Communications. It aimed to provide voice and data services to ministries and government offices in Kabul, Afghanistan's capital, and to provincial capitals.

The winning bidder was Globecomm. But there may have been days when company executives wondered if winning the bid was such a great idea.

## Executive Summary

To support the new democratically elected government of Afghanistan, Globecomm designed, installed and operated IP-based, hybrid fiber-satellite networks linking government ministries, provincial capitals, army bases and radio and television facilities. The company met the challenging conditions of the country with the help of Afghan partners and by training Afghans in satellite technology. In addition to operating private networks for national and local government, Globecomm used satellite backhaul and hosted switching to provide the backbone for a public mobile telephone system. ■

## Changing Requirements

"The environment is about as challenging as it gets," says Globecomm vice president Paul Knudson, who manages Afghan projects for the company. "Outside Kabul, there is little or no infrastructure, no roads and no electricity. Security is a continuing concern. We have had to unload trucks in the middle of nowhere, hand-carry electronics across a stream, then get the truck across and reload it."



To make matter more complicated, no sooner had the project been awarded than it began to change. Globecomm discovered that the Ministry of Communications had, under a separate contract, purchased CDMA mobile switches from a Chinese company. They were providing local mobile service in "telecom islands" but had no outside connections. Interconnecting the switches and linking them to long-distance circuits became an unexpected priority.

"It was a fundamental change," says Globecomm vice president Paul Johnson, who is the account executive for Afghanistan. "What we originally planned to be a private network rapidly became a public network. We are, in effect, the backbone for a public telephone system, providing bandwidth, trunking, bringing traffic back to Kabul and providing international voice, video and Internet service. That's in addition to meeting the government's urgent need for connectivity."

Another important change involved the identity of Globecomm's client. Globecomm develops each project under the management of the Minis-

try of Communications. But when the Ministry accepts systems upon completion, the assets are transferred to Afghan Telecom. "The goal is to make the Ministry a true regulatory body," says Paul Knudson, "while Afghan Tel becomes the operator. With each new network, Afghan Tel gains assets and increased value that improve its ability to attract outside investment."

### Multiple Projects

The IP-based Government Communications Network links 42 ministries and offices in Kabul via fiber and microwave, and extends this core network to 34 provincial capitals via satellite. Satellite bandwidth also links dozens of CDMA mobile switches in the provinces with Globecomm's Sat-Cell hosted switching system in the United States. All calls taking place within the footprint of each CDMA switch remain local, while calls between the switches or outside Afghanistan are routed through Globecomm's Network Operations Center.

The GCN turned out to be the first of multiple projects awarded to Globecomm by Afghanistan's government. Next came the District Communications Network (DCN), funded by US AID, which aimed to push service into rural areas. Globecomm designed, installed and commissioned a satellite network connecting a hub in Kabul to police, fire and other essential services in each of Afghanistan's 337 legislative districts to provide voice and thin-route data as well as Internet access. Demand for the DCN has been tremendous, and Globecomm is working with Afghan Tel to expand the business plan and bring more revenue into the network.

### IP-Based Platforms

An international gateway for voice, data and video, funded by the Afghan Reconstruction Trust Fund (ARTF), came next. The Ministry originally specified a DCME network, the standard technology, but accepted Globecomm's recommendation for an IP platform that was both less expensive and far more flexible. In addition to gateway service for Afghanistan, the ARTF also provides a backup satellite facility for the GCN.

In two other projects, Globecomm has installed PABX switches at National Army bases throughout the country and integrated them into

an existing VSAT network, and also provided a custom-designed satellite truck to the Ministry for mobile spectrum monitoring. With so much of the nation's telecommunications depending on satellite, the truck will allow the Ministry to more effectively regulate spectrum, issue licenses and shut down illegal operators.

Paul Johnson gives much of the credit for Globecomm's in-country success to its Afghan partner, Watan Telecom, and its Chairman and CEO, Mr. Rateb Popal. "Mr. Popal worked with us early on to ensure that resources were in place to train the people needed to carry out the installation and commissioning of the work. Together, we have built the capacity of the Afghan workers and transferred a great deal of technology 'know how.' We now have Afghan technicians supporting the programs as they move from deployment to operations and maintenance. I have been really impressed by their desire to learn and their level of commitment."



"The people of Afghanistan are thirsting for improvement in the quality of their lives," says David Hershberg, Chairman and CEO of Globecomm. "Our work is helping to meet that need. You can't possibly build an effective government without reliable communications. We're helping newly-elected legislators and cabinet members understand what it takes to legislate and govern. Our network provides videoconferencing among provincial officials so they can learn from each other and work together. Communications creates opportunities for commerce, to obtain finance and credit, to interact with NGOs and with the government. We're incredibly proud to be making this contribution, and endlessly impressed with the determination of our employees, partners and customers in Afghanistan." ■

### A little bit of satellite goes a long way



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