



Faster traffic in Karachi: the new satcoms platform promises data speeds of up to 156Mbps

Making the right business connections

From Karachi to Dacca, VSAT technology is proving crucial in delivering essential network services to corporate and enterprise users. RAHIEL NASIR looks at some recent applications in the region

Despite some of the headway South Asia has made in terms of signing up WiMAX and cellular subscribers, 3G services and reliable broadband connectivity still remain thin on the ground. But that's precisely the kind of environment that offers a strong breeding ground for satcoms – and why more and more enterprise and government users across the region are turning to satellite technology and VSAT operators for corporate networking,

communications and data connectivity.

In 2003, the World Bank issued a request for proposals 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 US satellite services provider, Globecom. But the company admits that there were days when

company executives wondered if winning the bid was such a great idea. "The environment is about as challenging as it gets," says Globecom 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."

The CDMA surprise

Globecomm says that to make matters more complicated, no sooner had the project been awarded than it began to change. It discovered that the Ministry of Communications had, under a separate contract, purchased CDMA mobile switches from Chinese companies, Huawei and ZTE. 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 a sudden 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 Ministry 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, while Afghan Tel becomes the operator,” says Knudson. “With each new network, Afghan Tel gains assets and increased value that add to its ability to attract investment.”

The IP-based GCN links 42 ministries and offices in Kabul via fibre 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 US. 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 NOC.

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 less expensive and far more flexible. In addition to gateway services for Afghanistan, the ARFT 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 telecoms depending on satellite, the truck will allow the Ministry to more effectively regulate spectrum, issue licenses and shut down illegal operators.

Bangladeshi broadband

iDirect, a subsidiary of VT Systems, offers satellite-based IP communications technology which is designed to enable constant connectivity for voice, video and data applications in diverse and challenging environments. Its *Evolution* product line is claimed to support a wide range of carrier IP data rates, FEC codes and modulation types, including up to 16APSK on outbound and up to 8PSK on the inbound. It is also said to offer the “advanced” features of the iDirect Intelligent Platform to help operators amplify the gains of DVB-S2, enabling satellite networks to meet demanding service level agreements and reach data speeds of up to 156Mbps. Because the platform also supports Adaptive Coding and Modulation (ACM) technology, it enables each remote hub to achieve maximum data throughput by utilising the most efficient coding and modulation scheme in real-time, thereby improving network availability.

The company’s claims were recently put to the test by two separate deployments in the region.

Square Informatix is Bangladesh’s largest satellite service provider and has recently expanded its network to support the country’s growing enterprise market with advanced applications for banks and other corporate customers.

It has replaced its existing satellite system using the iDirect’s *Series 15000 Universal Satellite Hub* in a bid to maximise bandwidth capacity with next-generation performance. The provider is migrating its existing customer

base of financial institutions and other organisations to an iDirect network that will deliver data throughput improvements of up to 60 per cent over existing services.

Square says that it will leverage the extra satellite capacity to expand its service and support new business applications to meet the growing demand for broadband connectivity across the Bangladeshi enterprise market. Additionally, with bandwidth savings from iDirect’s platform, the company also hopes to support an emerging telemedicine service that will deliver access to quality medical consultation in rural areas it has not yet reached.

“The bandwidth efficiency gains we’re able to attain by upgrading to iDirect’s *Evolution* platform allow us to stretch existing satellite capacity further to serve additional enterprise customers. The move to a next-generation network is a key part of our long-term growth strategy as the diverse market for satellite broadband in Bangladesh continues to increase,” says the service provider’s general manager, Ahmed Bhuyian.

Financial district cashes in

Meanwhile in Pakistan, Pak Datacom has installed an iDirect hub in Karachi, the country’s financial capital, to meet growing demand from banks, government and cellular operators. Pak Datacom is a subsidiary of Telecom Foundation and describes itself as a “pioneer” in the field of Pakistani data communication. It claims to offer a wide range of fast, cost effective and dependable services that help national, multinational and global corporations communicate with their counterparts in remote offices in Pakistan, Bangladesh and beyond.

The investment will secure a local base for Pak Datacom in Pakistan’s thriving financial centre, where the operator has begun to serve national and global banks as well as high-profile government agencies. Pak Datacom is offering iDirect based VSAT services by using its state of art *5IF* hub in Islamabad and two private hubs in Lahore and Karachi. The new *Series 15000* hub will help the cellco support a growing base of global companies that are expanding their enterprise IP networks in Pakistan through satellite broadband connectivity. It should also enable the operator to target new business opportunities, including the emerging market for cellular backhaul via IP satcoms.

“Through iDirect’s *Evolution* DVB-S2 system, we can introduce significant gains in data throughput to our customers. That’s a critical business advantage as our market expands while satellite capacity remains sparse. We see tremendous growth for satellite broadband services,” says Pak Datacom senior general manager, Ali Bajwa.

iDirect says that a single *5IF* hub platform offers bandwidth that is configurable from 64Kbps to 18Mbps in 1Kbps increments. It says that the hub can interface with multiple satellites and support thousands of sites plus any combination of mesh, star, SCPC or hybrid networks, as well as C-, Ku- and Ka- bands. ■



Kabul: Globecomm builds the hub facility and District Communications Network at the Ministry of Communication & Information Technology