



Case study

Industry sector:
financial services

IP in the heart of Africa

African broadband for Barclays from BT Media and Broadcast

Executive summary

Barclays has had a presence on the African continent for almost 100 years. Today its African operation serves such communities as Botswana, Ghana, Kenya, Mauritius, the Seychelles, Tanzania, Uganda, Zambia, and Zimbabwe. The bank wanted to strengthen its position by providing uniform modern service delivery to all its African customers, including internet and telephone banking.

A broadband infrastructure was needed that would be able to scale in line with demand, and handle confidential data securely. It would also have the capability to deliver voice and data traffic to some of the most remote parts of the world. Moreover, the whole package would have to be achieved within a tight budget. The bank chose to work with BT Media and Broadcast to implement a satellite-based solution, based on an innovative iDirect platform.

The impact was huge: the savings for the bank's business units newly entering the African market is expected to hit £1 million per annum, and business cases for internationalised banking services show estimated back office cost reductions of over £1 million. The operating cost of the network has dropped by £150,000 per annum, and infrastructure costs have been reduced by £200,000 per annum. Distance and e-learning programmes could see staff training costs fall by up to £500,000 per annum.

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Chief Technology Officer
Barclays Africa

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Marketplace

The African arm of banking giant Barclays has had a presence on the continent for almost 100 years. With 125,000 retail customers and 11,000 business clients – including SMEs, large domestics, and multinationals – Barclays Africa is the number one bank in many of the African countries in which it operates. Headquartered in London and Johannesburg, Barclays Africa has 7,000 employees.

Africa is becoming increasingly prosperous and more attractive to outside investors and foreign businesses. Banks are competing harder for market share, and new technology is vital for keeping ahead of the competition. But the region's communications challenges are those of immense distances and poor terrestrial infrastructure. The solution of choice is Very Small Aperture Terminal (VSAT) satellite telecommunications systems, which utilise on-site satellite antennas to extend networks to remote locations.

Business opportunity

For many years Barclays Africa has been partnering with BT Media and Broadcast (BT M & B) using VSAT satellite communications to provide service in remote parts of Africa. Ken Fergus, Chief Technology Officer of Barclays Africa, says: “We have been working with BT for about 10 years now. They provide us with installation and support for the satellite network that we use to deliver real time banking to our customers in Africa.”

However, with the existing BT contract coming to an end in March 2004, both parties had the opportunity to take a fresh look at Barclays Africa's strategic telecommunications requirements. For the bank, this presented a chance to upgrade service levels. It meant, for example, that ATM transaction processing could be greatly improved and customer queries handled quicker. In addition, a better infrastructure would enable wider distribution of Barclays' banking services.

The new applications needed to meet these objectives would have to handle converged voice and data traffic, requiring higher bandwidth, lower latency, and scalable capacity. Furthermore, security and data encryption would be a top priority.

BT solution

Despite other options, Barclays Africa chose to remain with BT M & B. A key differentiator for BT was the iDirect NetModem II+ broadband router providing IP-based voice and data network applications via VSAT. The solution would provide Quality of Service (QoS) functionality – enabling data traffic to be prioritised across the link – and 3DES encryption for end-to-end security.

Ken Fergus explains: “Barclays Africa selected BT for a number of reasons. Firstly, the great relationship we have always enjoyed with BT. Secondly, the excellent service footprint BT offers in our part of Africa. Thirdly, the high degree of technical and operational expertise that BT has.”

Other two-way communication platforms considered by Barclays Africa included the widely used DVB-RCS (digital video broadcast with return channel via satellite) system. However, the decision was taken to deploy the iDirect platform, which had been specifically designed to optimise IP traffic delivery over satellite.

The new iDirect infrastructure would connect some 120 remote VSAT-enabled sites across Africa, facilitating the two-way transmission of data from ATMs, point of sale terminals and other banking transaction traffic with the bank’s data processing centre in Gloucester, via BT’s Goonhilly earth station in Cornwall. The star network topology adopted would allow new sites to be added quickly and easily.

From contract sign off to full implementation took less than 12 months. The project was completed in April 2004 within budget and with minimal downtime and disruption to business. The project was noted for the excellent teamwork between BT M & B and Barclays Africa, including their in-country agents and suppliers. BT M & B’s extensive network of ground operators successfully overcame the logistical challenges of transporting people and equipment the length and breadth of Africa.

Why BT?

- BT’s superior IP-based VSAT solution, combined with an excellent service footprint across Africa
- BT’s high degree of technical and operational expertise, delivering class-leading network architecture and support
- BT inspired confidence in the future, having successfully partnered Barclays Africa for 10 years

Results

Immediate quantifiable benefits have been delivered not only to Barclays Africa, but also to the Barclays parent company. With the new network infrastructure, the savings for the bank’s business units newly entering the African market is expected to hit £1 million per annum. Furthermore, business cases for internationalised banking services show estimated back office cost reductions of over £1 million.

For the Barclays Africa operation, the savings have been significant. The operating cost of the network has dropped by £150,000 per annum and, through the closure of the Kenya Data Centre, infrastructure costs have been reduced by £200,000 per annum. Additionally, distance and e-learning programmes could see staff training costs fall by up to £500,000 per annum.

There are also major benefits for the bank’s clients, as Ken Fergus explains: “The customised network solution that BT provides Barclays Africa gives us, and our customers, a number of benefits. Firstly, we are able to deliver real time banking to customers in remote parts of Africa through ATM channels. Secondly, we are able to avoid

reliance on terrestrial networks, which can sometimes be unreliable and expensive. Thirdly, we are able to deliver a number of new services to our remote sites because of the prioritisation capability that the satellite infrastructure gives us.”

Barclays Africa is now able to implement, develop, and expand customer applications quickly and easily across the region, without having to depend on unreliable local telecommunications services or infrastructures – an advantage the bank’s competitors do not currently possess. The benefits have also gone beyond the company to include the communities in which Barclays Africa operates. In Zimbabwe, for example, a Barclays programme is now in place for school children to learn more about IT.

Ken Fergus concludes: “Barclays Africa’s experience of BT is that they are a very professional outfit indeed. In my role, I meet a lot of suppliers. I found BT to be very concerned and interested in the particular issues that Barclays Africa has, and they have been able to come up with tailored solutions to fit these precise problems. We see BT as a strategic partner and we look forward to a shared future with enormous confidence.”

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Technology blueprint

The partnership with BT M & B is delivering enterprise-class IP transport and traffic management over a satellite network. Barclays' central host computers in the UK can communicate directly to offices in Africa via a small antenna located at each office. The BT M & B-provided infrastructure utilises iDirect NetModem II+ broadband routers in a star topology, providing point-to-multipoint managed data services.

The iDirect NetModem II+ router is a compact terminal that combines satellite modem, IP router, TCP optimisation over satellite, 3DES Encryption, and Quality of Service (QoS) traffic prioritisation functionality. High data throughput provides up to 18Mbps downstream and 4.2Mbps upstream.

Barclays Africa has a future-proof network throughout its operations in the

region. IP data transport allows shared telephony and data on the high-speed converged network, meaning the organisation can set up virtual customer call centres. As a result, customer enquiries can be routed to product specialists in any international location. With QoS the network can separate different types of data, for example giving priority to time sensitive voice packets or mission critical applications traffic. In addition, 3DES encryption ensures security.

With the new infrastructure in place, network capacity problems have been eradicated. Bandwidth can be allocated flexibly from dedicated satellite space, and there is much lower latency, with a signal round trip delay of less than 700 milliseconds. A dedicated team of BT engineers supports the network, ensuring network up time and reliability.

Main BT products & services

- The iDirect NetModem II+ IP-enabled router offering TCP optimisation, 3DES encryption, and Quality of Service prioritisation delivering up to 18Mbps downstream and 4.2Mbps upstream
- VSAT services with industry leading on-the-ground support



Offices worldwide

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