Case study
Financial Services

International bank surpasses regulators' operational risk expectations

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Kin Corning
CIO-Europe
The Bank of New York

The Bank of New York uses BT high bandwidth long distance connectivity to offer uninterrupted service whatever the eventuality

Executive Summary

Global businesses today face an increasing number of threats to their operations. The Bank of New York – responsible for managing more than $1.1 trillion on behalf of UK investors – wanted to provide the most resilient services possible. When an existing contract came up for renewal, it seized the opportunity to improve its already sophisticated business contingency plans, and move its remote data centre facilities to a distance of more than 100 kilometres from its London production facilities.

When an initial solution from another provider did not work out, BT stepped in, impressing the Bank with its ability to mobilise resources from right across the company – and beyond – to move The Bank of New York's data centre activities, while simultaneously providing a complete communications infrastructure.

BT designed a solution based on its Wavestream Regional network service, which provides a highly resilient long distance network ring connecting all of the company's locations. Working with BT, The Bank of New York and its affiliate, Pershing Limited, have now transferred their remote data centre activities to the new site outside London. BT delivered the solution inside just three months and is providing a complete managed service, including back-to-back arrangements with other suppliers.

"BT did exceptionally well in pulling this off. We use the word 'heroic' to describe what they did. The whole thing was an immensely challenging exercise. I'm not sure there is another networking company in the UK that could have done something like this in the timescales required."

Chris Tee
VP Networks and Infrastructure
The Bank of New York

Marketplace

Founded in 1784, The Bank of New York is the oldest bank in the United States. It employs some 4,500 staff in Europe and, in the UK, it is responsible for managing more than $1.1 trillion on behalf of investors. The company provides securities servicing, treasury management and investment management services, enabling financial institutions, corporations and individual investors to move and manage financial assets globally.

Technology plays a critical role in the business, which differentiates itself by providing rapid online access to high quality investment and market information. One of The Bank of New York's selling points is that its information and services are available around the clock, seven days a week. This demands that the Bank has the most robust IT and communications systems possible: it likes to remain at least a couple of steps ahead of its rivals in its use of IT. In the light of recent terrorist attacks in Madrid and London, so soon after the events of 9/11, its infrastructure plans had to take into account the possibility of events that could disrupt an entire city.

Business opportunity

The Bank of New York's main UK offices are based at in the heart of London's Docklands. The company has three production data centres in Greater London, which were backed up at a secondary London-based data centre. Meanwhile, Pershing, a clearing and financial services outsourcing firm acquired by the Bank in 2003, had production sites split across two London locations.

As highly reputed financial services organisations, both The Bank of New York and Pershing are trusted by customers to provide service levels that are second to none. Clients do not question the integrity of their IT systems, their security measures or their backup procedures. It is assumed that these will meet the highest standards. Being able to offer such assurances means ensuring that regulations on contingency planning are not only met, but also are exceeded.

To meet regulatory requirements, and as part of The Bank of New York's own operational risk mitigation strategy, the Bank now sought to position its production and backup facilities as far apart as technology would allow. While, currently, financial services regulators dictate that secondary data centres should be located at least 25 kilometres from a company's main operations, The Bank of New York felt that this wasn't adequate to assure the absolute protection of its services in the event of a serious power outage, or worse, a terrorist attack on the scale of 9/11.

So when the contract on one of The Bank of New York's UK data centres came up for renewal, coinciding with the fact that the bank was outgrowing the space, it chose not to compromise. The Bank decided to move its data centre to outside the London metropolitan area, and seized the opportunity to exploit the latest communications technology to move the operation to a larger facility more than 100 kilometres away.

BT solution

This was no simple feat, however. When an initial connectivity solution pursued by The Bank of New York did not work out, BT was invited to submit a proposal. By now the deadline for moving out of the old facilities was looming large. "We gave BT a week to pull together its proposal, and it did," recalls Chris Tee, Vice President, Networks and Infrastructure at The Bank of New York.

Responding to The Bank of New York's requirement for a highly resilient and high-speed network, BT proposed a solution based on its Wavestream Regional network service, which uses Dense Wavelength Division Multiplexing (DWDM) technology to provide transparent point-to-point optical fibre links.

The DWDM service, which employs state-of-the-art networking equipment from Cisco Systems, is designed for use over long distances, making it ideal for business continuity planning. BT's custom-designed solution involved providing a highly redundant network ring connecting all of the company's locations, employing dual, diverse routes for all the lines used to connect the various production facilities to the remote data centre.

Because BT didn't have its own data centre facilities in the desired location, it brought in a data centre partner. This did not compromise the Bank in any way, as BT manages all partner arrangements itself, taking on complete responsibility for the quality and reliability of its solutions.

For business continuity purposes, the Bank needed to be able to sustain synchronous updates between the data held and used at its main production data centres and that held at the out-of-town data centre, so that the information would be mirrored between the main locations and the new centre at all times. This meant that if there were ever a problem at one of the production sites, the integrity and currency of the data would never be affected.

Lloyd Williamson, CIO and managing director at Pershing, which now shares the new data centre with The Bank of New York, puts this in perspective: "Synchronous updates over this kind of distance are rarely attempted," he says, "because they are very sensitive to communications speeds for real time data replication." BT's Wavestream solution has the quality of service capabilities to secure this level of performance.

BT took very seriously the fact that such a pillar of both organisations' businesses was being entrusted to it, something that The Bank of New York's and Pershing's chief senior management appreciated greatly.

"At the point where BT got involved, the timescales for phase one of the project had been shortened dramatically," explains Kin Corning, CIO-Europe at The Bank of New York. Talks with BT were initiated in October 2004, contractual negotiations were concluded late on New Year's Eve, and the completed networks were configured for testing by the beginning of March 2005. The Bank of New York was impressed.

"While what BT did for us is quite sophisticated, the real complexity of these projects is at an engineering level," notes Kin Corning. "Many of the real challenges were very practical issues such as how to get the fibre over bridges." Long distance data centre connections have to be highly diverse, providing an alternative path so that if something happens to one link (if road workers cut through it, for example) a second, unaffected route can handle the network capacity in its entirety.

"What really differentiated BT was the speed and creativity with which they tackled these obstacles," says Chris Tee. "For example, it required a lot of engineers lifting up manhole covers and peering through conduits to figure out what was possible. This created some practical limitations for how fast the project could be completed. But BT pulled out all the stops to make sure we met our deadline, even though that deadline had become close-to-impossible."

Key to this was the level of executive support that BT dedicated to the cause. "There was impressive senior BT management commitment mobilising the resources of the organisation for us, and that is what made the real difference," adds Kin Corning.

Results

The Bank of New York and its subsidiary, Pershing, have now transferred their remote data centre activities to the new site outside London, which houses more than 100 server and network cabinets, almost 300 files servers, 700 network connections, three high-end storage area networks, one mainframe and a dozen large mid-frame servers.

The Bank of New York felt that it could not have asked for a smoother transition, especially given the aggressive timescales imposed. Within just three months of signing contracts, the main machines transferred into the new facility. While it is not appropriate to think of the project in terms of a return on investment, there are many important intangible benefits.

Kin Corning explains: "Our clients don't pay us any more for doing a better job. It is one of the challenges that all financial institutions face right now. But our customers appreciate that we're doing the right thing on their behalf. Importantly, the regulators consider what we've done to be much more than satisfactory – a significant step forward not just in our own terms, but in what we're doing in the marketplace."

Since the new data centre went live, it has been very much a case of business as usual. "There has been no noticeable difference, which is exactly how it should be," says Kin Corning. "The real impact is that this has allowed us to consolidate the remote data centre activities of The Bank of New York and Pershing into a single location, making those activities more efficient, which is one of the goals of any organisation after an acquisition."

"BT did exceptionally well in pulling this off for us," concludes Chris Tee. "We use the word 'heroic' to describe what they did. The whole thing was an immensely challenging exercise. I'm not sure there is another networking company in the UK that could have done something like this in the timescales required."

Why BT?

- BT's executive commitment to delivering a complex, high end solution in record time, meeting and even improving on its promises
- The size and scope of BT as a long established, highly experienced and reliable communications provider
- The wealth of expertise across the BT organisation, which could be mobilised and co-ordinated rapidly and effectively
- The ability to provide a complete, managed service, which included managing back-to-back agreements with other technology and service providers

Technology blueprint

BT provided a solution based on its Wavestream Regional service. This uses Dense Wavelength Division Multiplexing (DWDM) technology to provide transparent point-to-point optical fibre links which are capable of supporting any protocol – allowing one fibre link to be split into 32 transparent channels, each capable of supporting a different protocol.

BT's customised solution, based on sophisticated Cisco Systems equipment, provides a highly redundant long distance network ring – employing dual, diverse routes for all lines – connecting The Bank of New York's London production facilities to a remote data centre located over 100 kilometres away as well as the company's other critical facilities. The network supports Gigabit data transfer speeds, allowing replication of data between remote systems within 500 milliseconds.

The remote data centre houses some 100 server and network cabinets, 300 files servers, 700 network connections, three storage area networks, one mainframe and a dozen large mid-frame servers. A BT partner owns the data centre, but BT is managing the entire service provided to The Bank of New York and Pershing.

Main BT products & services

- BT Wavestream Regional service, using Dense Wavelength Division Multiplexing (DWDM) over a Cisco Systems platform

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