More Speed on the LAN

Deutsche Bank Migrates its Branch Offices' Local Networks from ATM to the Faster Gigabit Ethernet Technology

Recently, Deutsche Bank launched a large-scale IT project that would migrate the local area networks (LANs) of its branch offices throughout Germany from Asynchronous Transfer Mode (ATM) technology to Gigabit Ethernet. By the time the project is over, nearly 1,200 switches from Ethernet specialist Extreme Networks will have been installed.

Modern-day banking is unthinkable without an efficient network infrastructure. Especially for large banks with large numbers of locations scattered far and wide, the network is literally the backbone of their communication: any number of key business processes depend on it. With more than 98,000 people on its payroll, there is no question that Deutsche Bank ranks among the very biggest players in the industry. An international financial service provider headquartered in Frankfurt am Main, one of Europe's foremost financial centers, the bank serves more than 12 million customers in over 70 countries. Its corporate structure in Germany alone comprises some 1,400 branch offices.

New Organizational and Technological Challenges

The branch offices of Deutsche Bank are fitted with LANs which are networked to central hub locations via routers and a Layer 3 system. Employees who handle the bank's day-to-day business use approximately 350 standard and industry-specific applications. With more and more transactions—including retail customer transactions—now being processed electronically, the volume of data traffic is growing continually. Yet the network infrastructure has to ensure absolute availability, in addition to greater bandwidth and more data transfer capacity.

It was this constellation of new organizational and technological challenges which prompted Deutsche Bank's decision to move from ATM to Gigabit Ethernet. Gigabit Ethernet enables data rates of 1 gigabit per second (Gbps)— currently the fastest network standard available on an industrial scale that is comparatively easy to install and maintain. That also explains why this network technology offers many companies an attractive alternative to ATM, in both technological and economic terms.

At Deutsche Bank, the existing ATM network, based on 3Com components, had to be replaced by a completely new Gigabit Ethernet architecture. Gigabit Ethernet-capable switches were needed to convert the LANs. Based on a market survey covering a broad spectrum of requirements, the bank examined a dozen solutions from a range of suppliers. The demands placed on the switching solutions were many and varied. First, a Gigabit backbone with downlink/uplink capacity of 1 Gbps was to be implemented to connect all users and servers within the branch-based LANs. Another technical imperative was the option of conducting backups on level one of the network architecture. Furthermore,

"Apart from the attractive cost/benefit ratio, the simplicity with which the switches slotted into our management system was a powerful argument for Extreme Networks.

"The way the network is designed and the very small number of problems help us minimize downtime."

— Rudi Carbach, Head of Data Network Engineering at Deutsche Bank

extreme networks™

since economic considerations always play an important role in a project of this magnitude, the cost/benefit ratio was naturally also a crucial factor.

In light of the evaluation phase the decision was made to work with Extreme Networks. Extreme's Ethernet and IP technology-based switching solutions are normally administered using the ExtremeWare® management software program and are built around a uniform, ASIC-based architecture. This strategy keeps network design simple while ensuring high performance. Depending on the size and port density of the various networks, Summit®24 and Summit48 and Summit1i, Summit5i and Summit7i switches were deployed for the Deutsche Bank project. In a special project, a BlackDiamond® 6808 switch—the star performer, supporting very high port densities—was also installed on new, purpose-built premises.

Initial Project Phase Successfully Completed

The first phase of the project initialized in September 2000 with an inventory exercise, encompassed 150 mid-sized and larger branches with between 60 and several thousand employees each. By March 2001, a total of 800 new switches were installed in the Layer 2 network architectures within the branch-based LANs. Design, testing and advance planning required three months of engineering and management integration work.

Stored in a database, the network inventory documentation for all locations laid the foundation on which the new systems were planned. This data was compared with user data to put an exact figure on the number of active users. The next step was to adjust the number of switches and to enter the basic configuration for all network components and the setup configuration for the switches in the database. Based on this information, the systems integrator was then able to prepare the switches for installation. This was done mostly in the evenings and took two to four hours, depending on the size of the branch.

During the migration, care was taken to ensure that "clean" wiring would simplify the task of subsequent maintenance work and keep disturbances to productive operation to an absolute minimum. The switching components from Extreme Networks were integrated very quickly and easily in the network management system, which has a multivendor-capable design and consists largely of proprietary developments. In phase two of the project an additional 376 switches are being installed at Deutsche Bank's very biggest branch offices and at its central offices.

"Apart from the attractive cost/benefit ratio, the simplicity with which the switches slotted into our management system was a powerful argument for Extreme Networks," says Rudi Carbach, head of data network engineering at Deutsche Bank and project manager on the customer's side. "The way the network is designed and the very small number of problems help us minimize downtime." Under the expert leadership of Andrew Schmidt, Siemens ICN also played a key role as systems integrator for the project. Specialists from Extreme Networks were available to deal with logistical issues, specify the basic configuration and support the process of management integration.

Superlative Collaboration on all Sides

"The high quality of integrator project management and of the hardware installed, coupled with superlative collaboration between all the parties in the project, were nstrumental factors in the highly successful completion of the initial project phase," Carbach adds. "So we are likewise very confident with the regard to the second phase, which is currently underway."

For those LANs that have already been migrated and are now up and running, improved availability has already been proven. Having replaced the obsolete ATM hardware which had already been written off but was very expensive to run, Deutsche Bank is expecting to recoup the cost of the new systems within a year.

"Once the second phase of the project is complete, we reckon that our technical requirements will be well covered for at least the next four years—although I personally expect we are looking at a longer period," is Rudi Carbach's decidedly upbeat parting shot. "That will leave us COS- and multimedia-enabled. We will have ample switching capacity. And we will be well on course for a secure future."

www.extremenetworks.com email: info@extremenetworks.com

Corporate Headquarters
North America, Canada and Mexico
Extreme Networks, Inc.
3585 Monroe Street,
Santa Clara, CA 95051 USA
Phone +1 408 579 2800

Europe, Middle East, Africa and South America
Phone +31 30 800 5100

Asia Pacific
Phone +852 2517 1123

Japan
Phone +81 3 5842 4011