Networking Solution

Nways 2220 opens vast possibilities for South Africa's leading retailer

Edgars Stores Limited is a giant South African specialty retailer with more than 600 stores selling fashionable, top-quality clothing, footwear and household textiles. Four million Edgars customers maintain active charge accounts; that's more than the total number of active bank credit-cards in all of South Africa.

In a move company executives describe as a "quantum leap," the parent Edgars Group has contracted with IBM to install one of the largest and most sophisticated computer networks ever undertaken in Africa and one of only a handful of its type in the world. This multimillion-dollar project features an IBM 2220-supported backbone serving high-bandwidth WANs as well as traditional low-speed applications. In addition the 2220 Nways™ BroadBand Switches provide fast-packet and ATM-cell switching based on IBM's Networking BroadBand Services (NBBS) architecture, thus opening infinite possibilities for transmission of voice, video, data and images.

"The possibilities of exploiting this infrastructure using applications developed for our needs are endless and tremendously exciting. There is no doubt that our investment in IBM's technology will more than pay for itself."

Dave Seretta, Edgars' Group Information Systems Manager



Applications	• Point of sale • Credit • Multimedia
Software	• SystemView for AIX Nways Switch Manager
Hardware	• IBM 2220 Nways, Models 300 and 500
Services	• Project management

In the past Edgars ran its business applications on a SNA sub-area network populated with aging IBM 3725 and Amdahl 4745 front-end processors (FEPs) at central and Disaster Recovery Program (DRP) sites. Business applications ran on a variety of platforms including UNIX® and Novell. Existing FEP equipment was considered incapable of being upgraded, so the company's planners decided to develop a leading-edge, multiprotocol network with the ability to combine differing traffic types, including both data and voice/fax. Edgars planners also stipulated that the new system must provide for future use of image, multimedia and voice technologies.

Edgars invited solution proposals from two companies—IBM, and a VAR representing Cisco and Stratacom. IBM's winning strategy features 2220 Nways switches as a core switching technology, plus routers providing peripheral routing in retail stores. Edgars chose IBM's architectured switched core and peripheral routing solution over the competing company's three-tier, router network approach.



"We see ATM and especially Nways BroadBand Services as the next SNA."

Dirk van der Merwe
Information Systems executive

Architecture
One Edgars Information Systems executive, impressed by IBM's commitment to state-of-the-art switching technology, summed up his company's response to the IBM solution by saying, "We see ATM and especially Nways BroadBand Services as the next SNA." A second huge advantage of the 2220 Nways solution lies in the fact that the Access Service Agents are modular within NBBS. Consequently, add-on agent units can be easily installed as Edgars' customer base continues to grow.

An additional advantage demonstrated by the pilot run was an impressive annual cost-savings due to NBBS' ability to run variable-cell frame sizes between trunks (PTM). NBBS also provides superior traffic load-balancing plus improved error recovery and automatic switching around failed links. This versatile architecture also provides ATM service wherever and whenever it's required.

The new, multiprotocol system supports SDLC traffic, DLSw (SDLC encapsulated in IP), TCP/IP and IPX for Novell.

Hardware
This IBM solution relies on thirteen 2220 Nways BroadBand Switches, installed in major Edgars communications centers, with an average of 60 stores connected to each switch. This lineup includes four Model 500s and nine Model 300s.

Whereas the old system incorporated FEPs meshed together using 28 telco leased lines, the 2220s are meshed with 14 links, using all available bandwidth in a load-sharing, load-balancing fashion. The result is greatly enhanced system performance plus impressive reductions in phone-line costs.

Routers now connect 150 Edgars stores to regional centers, allowing UNIX application distribution sites' TCP/IP data to flow across the network. File servers in stores now use IPX to fax customer credit applications across the network from the store to the home office. Credit checks and approvals, which used to take weeks, now clear in minutes, creating greatly increased customer satisfaction.

Other IBM hardware includes an RS/6000® processor that runs the Nways Switch Manager, and an IBM 3746 Model 900 that handles the boundary node traffic load.

At the store level
Each of Edgars' 600-plus retail outlets is equipped with DOS-based point-of-sale devices, running applications for functions including credit authorization and inventory control and replenishment. These stores formerly used low-speed (9.6-Kbps) links to old FEPs running SDLC. Now, stores on the switched network enjoy the advantage of multiple protocols, superior bandwidth, great resilience, load-sharing and a future capacity for video and multimedia.

A total solution —not just a shipment of boxes
Before the pilot program went online, IBM created a complete design of the proposed network, including switch-sizing and link speeds between switches, as required by Edgars.

As expected, the IBM technology is paying for itself. South Africa's primary telephone carrier is a monopoly and its rates continue to spiral upward. The new 2220 backbone drastically reduces the number of leased links and makes more efficient use of bandwidth. Savings to Edgars is about 1 440 000 rand per year ($324 000).



IBM 2220 Nways BroadBand Switch

IBM's proposal included a program of complete project management for the entire network, including a set of Cisco routers. This sharing of the risk/reward element has created a total-solution partnership between one of the world's fastest- growing retailers and the world's leading systems technology company.

And the price is right
IBM's solution was delivered at a competitive price. In addition the 2220's single-switch technology requires considerably less management than the competition's combination of switches and port concentrators. The net result is a faster, more dependable system that cuts carrier and system-management costs. As for the system's multimedia potential—Edgars already is considering installing in-store kiosks at which customers can stand at a screen and view the store's latest fashions.



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Department C63A
PO Box 12195
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