



Toshiba's Benelux notebook sales operation increases staff productivity by installing Intel® Gigabit Ethernet to boost performance on its servers.

By implementing Intel's Gigabit Ethernet solution, Toshiba Information Systems Benelux has provided its sales force with much faster access to vital corporate data held on its servers.

Case Highlights

Profiled Organisation	Toshiba Europe GmbH (Toshiba Information Systems Benelux)
The Challenge	The increasing volume of data traffic generated by its growing population of PC users meant Toshiba Europe's Benelux operation, based in the Netherlands, urgently required much greater bandwidth and higher performance to and from its locally-based servers.
The Solution	Install Intel® Gigabit Ethernet PRO/1000 Server Adapter cards in the company's 20 Toshiba servers to increase data throughput ten-fold, in order to provide a fast, reliable service for both salespeople in the field and office-based administration staff.
Benefits	The Intel® Gigabit Ethernet solution enables Toshiba's Netherlands-based operation to provide a faster, more reliable service, which improves the productivity of users and IT staff. Intel Gigabit Ethernet has also given the company room for the future with the performance needed to meet anticipated growth in applications and in the number of users. Above all, it has provided the Dutch operation with outstanding throughput at reasonable cost.

Summary

A world leader in computer technology, Toshiba is the world's ninth-largest integrated manufacturer of electric and electronic equipment. With 161,000 employees worldwide and consolidated annual sales of over \$53 billion, the company's communications infrastructure represents an important part of its internal IT investment.

Based at Capelle aan den IJssel, Toshiba Europe's Netherlands office acts as the headquarters for the company's notebook sales operation in the Benelux countries. It employs a total of sixty people in Holland and ten in Belgium. All of these employees, from senior managers to warehouse personnel, are reliant on the company's Cisco network located at Neuss, near Düsseldorf in Germany, to provide them with access to Lotus® Notes, a Siebel® ERP system, Oracle® database applications and the Internet.

Users in Holland and Belgium connect remotely to this Virtual Private Network (VPN) system via the Internet. This enables them to access some 20 Toshiba servers, which are linked to a Category 6 Local Area Network (LAN) located in the Netherlands and connected via leased lines to the central network at the company's European headquarters in Germany. Most of the Benelux employees use Toshiba notebook computers fitted with 100-Mb network cards.

For Information Systems Specialist Armando Versteeg and his systems-management colleagues, continual growth in the number of servers and notebook PCs exchanging business-critical data on a minute-by-minute basis had become a cause for concern. Users were regularly finding that access to the servers was slow and that they were wasting valuable time each day waiting to send and receive information vital to their work. The IT team decided to rectify this situation and, at the same time, prepare the way for future user growth by implementing Intel® Gigabit Ethernet as a long-term solution.

Challenge: The need for faster data throughput for a growing notebook user population

When salespeople and administration staff began to complain that it was taking too long to access applications held on locally-based servers, Armando Versteeg and his colleagues knew that drastic measures were called for. The volume of data traffic generated by an increasing number of notebook and desktop PC users had grown to a great extent. Toshiba Europe's Benelux operation clearly needed to find a solution that would provide them with much higher bandwidth and performance to and from the servers holding vital corporate data.

The root of the problem lay in the fact that the 70 notebook and desktop PCs used by salespeople in the field and office-based administration staff were connected to the company's servers at a maximum data transfer speed of 100 Mbps. To make matters worse, many of these users required simultaneous access to multiple applications such as Lotus Notes, a Siebel ERP system, Oracle databases and the Internet, as well as to shared printers and storage devices.

"With so many users and devices to accommodate on the network, it was unrealistic for us to continue employing such low-speed connectivity at the server level," says Versteeg. "With our notebook and server population continuing to rise, we knew the time had come to find a solution that would guarantee a fast, reliable service to our users."

Process: An instant solution to slow performance

In the Spring of 2003, the Netherlands operation installed a new LAN, based on Category 6 technology. It was at this point that Versteeg says he and his team decided to take advantage of the worldwide contract his company has with Intel to install the latter's Gigabit Ethernet PRO/1000 Server Adapter cards in the company's 20 Toshiba servers. Gigabit Ethernet seemed well suited both to the company's current needs and to its anticipated growth. The solution would immediately increase data throughput ten-fold and provide a fast, reliable service for salespeople and office-based administration staff.

"Installing the cards in the servers was a relatively easy process which we were able to carry out ourselves internally," says Armando Versteeg. "The hardest part was finding the latest versions of the drivers, but we were soon able to download these from the Intel website," he quips.

Solution: 100% improvement in response times

Versteeg says he had no hesitation whatsoever in choosing the Intel product, rather than that of competitors, because he believes Intel is the clear leader in the standard and because of the long-standing relationship between the two companies. He is impressed by the result and says many of the company's users have also made positive comments about the dramatic improvement in overall system and network performance.

"Because it's such a well established networking solution, we knew Intel® Gigabit Ethernet was the ideal solution to deliver the level of throughput we required at the right price," he says. "As with any business today, efficiency is essential to our success. This means we don't want our employees, particularly busy salespeople, to waste valuable time waiting for slow connections to the network."

"Having implemented the Gigabit solution at the server level, we are now experiencing a 100% improvement in response times. Our users no longer face long waiting times for access to vital applications and data, which means we can deliver data much faster and more reliably, thereby making employees much more productive."

Versteeg is equally pleased that the solution has saved his department a great deal of time each day through no longer having to clear bottlenecks in traffic and constantly needing to reboot servers, as was often the case in the past.

Future: Progression to Gigabit performance at the PC level

"The Intel Gigabit Ethernet solution has fully met our expectations by increasing the speed of our network in general. The performance we have today at the server level is enabling us to run and support our applications and processes with greater confidence," says Armando Versteeg. "I have little doubt that, in 18 months or so, we will also be examining the possibility of upgrading our servers to 10-Gigabit Ethernet performance, further increasing our bandwidth and enabling us to offer our users even higher performance."

"In the meantime, we are currently looking forward to increasing performance for our users at the PC level thanks to Toshiba's next generation of Tecra M2 notebooks, which will shortly replace those currently used by our employees. These come ready fitted with Intel® Gigabit Ethernet PRO/1000 Adapter cards. This will give us extremely high performance at both server and PC level. Now that's what I would call a major triumph both for Toshiba and for Intel."

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