

# BOC Edwards: Juniper Networks Prioritizes Time- Sensitive SAP and VoIP Traffic While Increasing Bandwidth and Realizing ROI

## **BOC EDWARDS**

### **Business Profile:**

BOC Edwards is a leading supplier to the world's most advanced industries including semiconductor, compound semiconductor, chemical, pharmaceutical, metallurgy, scientific instrumentation, and research and development.

### **Industry:**

Manufacturing

### **Business Challenges:**

BOC Edwards wanted to make certain that high-priority SAP traffic would take precedence over less time-sensitive data. The company also wanted to ensure a high-quality voice over IP (VoIP) deployment. BOC Edwards sought a solution that would reduce congestion on WAN circuits, add quality of service (QoS) to protect transactional and other time-sensitive traffic, and provide better visibility into overall network activity.

### **Solution:**

BOC Edwards deployed a total of 35 Juniper Networks WX™ application acceleration platforms throughout its global network to compress traffic on circuits ranging from 128 Kbps to 10 Mbps.

### **Business Benefits of the Juniper Networks Solution:**

- Increased bandwidth as much as 50 percent
- Boosted efficiencies and application performance leveraging integrated WXOS architecture technologies, including Molecular Sequence Reduction (MSR) compression, QoS tools for bandwidth prioritization and management, the Application Flow Acceleration (AppFlow) technique, and visibility and control tools
- Enabled rapid and easy deployment at remote locations and made ongoing operations extremely simple to manage
- Realized ROI within six months to three years of installation

*"We were able to pay for Juniper Networks  
within six months."*

**Martin Cox**  
Technical Services Manager  
Planning and Development  
BOC Edwards

As a leading supplier for microelectronics manufacturers, BOC Edwards is constantly fine-tuning its processes to minimize operating costs, enhance internal operations, and improve customer satisfaction. Streamlining and implementing efficiencies is ingrained in the company culture across all business units from semiconductor processing equipment to pharmaceutical packaging systems and across all departments from sales to IT.

*“Deploying Juniper Networks helped us reduce network costs and gave us the ability to prioritize traffic.”*

**Martin Cox**  
 Technical Services Manager  
 Planning and Development  
 BOC Edwards

When BOC Edwards introduced SAP to improve the efficiency of its commercial and financial applications, the IT department realized the time had come to re-assess its distributed network that reached across nine global sites. BOC Edwards expected SAP to improve collaboration across the different functions and integrate financials and CRM for customer management and field sales automation. For the SAP deployment to be successful and meet the goals of increased sales, improved customer satisfaction, and lower costs, these time-sensitive transactions demanded top priority on the network.

WAN circuits were heavily congested, and Martin Cox, Technical Services Manager, Planning and Development at BOC Edwards, wanted to make certain that when the high-priority SAP traffic entered the network pipes, it would flow promptly to its destination.

“We wanted to solve a couple of problems,” says Cox. “We wanted to prioritize SAP traffic, reduce congestion, and add QoS to protect our transactional traffic.”

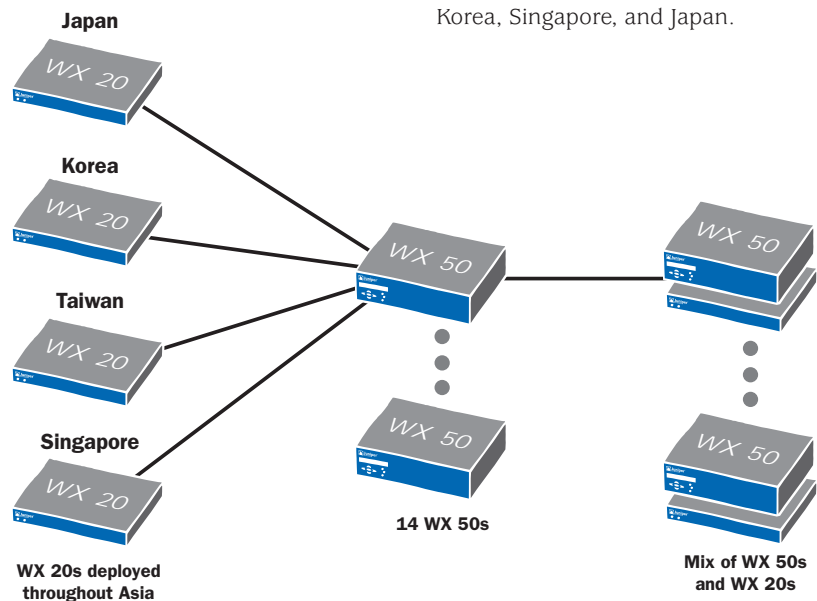
Cox and his team considered Expand and Packeteer, but neither option suited the company’s requirements. “They were too expensive and difficult to deploy,” says Cox. “We had a tall order in that we wanted a solution that included compression, QoS, and deployment ease.”

**Trouble-Free Deployment**

After seeking recommendations from leading analysts, BOC Edwards began testing the Juniper Networks application acceleration platform, the WX 50, within its Crawley, West Sussex and Guildford, Surrey offices in the U.K. and at its Wilmington, Mass. and Grand Island, N.Y. offices in the United States. Cox and his team introduced WX 50s at the different offices and began seeing results immediately. “Juniper Networks was easy to deploy,” says Cox. “We configured the WX platforms in five minutes and saw the amount of traffic in the test environment decrease in seconds, without impacting network performance.”

Moving the WX devices into the live production environment proved to be just as painless. BOC Edwards tuned the WX platforms to meet its unique demands. The company supports a range of traffic across its distributed network, and the more critical SAP, voice over IP (VoIP), and Citrix applications needed to be prioritized over e-mail, Internet access, and file sharing.

Initially, BOC Edwards deployed a total of seven WX 50s and WX 20s, which quickly grew to 35 in the next year. BOC Edwards has positioned the 20 WX 50s and 15 WX 20s throughout its managed IP VPN service on circuits ranging from 128 Kbps to 10 Mbps. Fourteen of the WX 50s reside in the United States, while four are located in the United Kingdom. The 15 WX 20s are sprinkled across the world in BOC Edwards offices in the U.K., Taiwan, Korea, Singapore, and Japan.



BOC Edwards’ global deployment of Juniper Networks devices supports a wide range of traffic, including SAP, voice over IP (VoIP), Citrix, e-mail, and file sharing, over a managed IP VPN.

### Centralized Management Convenience

Wherever the company needs to reduce WAN bandwidth or prioritize traffic, Cox adds a WX application acceleration platform. He describes configuring, deploying, and maintaining the WX platforms as “refreshingly easy” when compared to most networking equipment. Adding a new application acceleration platform to the network takes literally minutes. The WX Central Management System™ (CMS™) software introduced BOC Edwards to the benefits of centralized management. Using the CMS software, the IT team can configure and update a remote WX device from one centralized platform and oversee the activity of the entire wide-area network. When it’s time to make software updates or new configurations, the new settings are pushed once from one platform across the entire system via the CMS software, so no one is forced to visit each location for routine maintenance. “Juniper Networks has very easy and versatile management tools,” says Cox. “The WX CMS software allows us to monitor, upgrade, and manage the WX boxes from a central system.”

One unexpected—and pleasant—benefit of adding the WX CMS software is the added visibility into network activity. “The Juniper Networks reporting tools give us granular details about what is going on in the network,” says Cox. “It’s almost like getting a free sniffer. Being able to see the traffic mix and respond to unusual traffic patterns is like icing on the cake.”

Cox and his team rely on the traffic reports to identify slow response times from a single user or entire site. In some cases the IT team discovered network policy abuse, such as employees streaming radio or video over the Internet and monopolizing bandwidth. “We can easily identify the generators of exceptional traffic flows and deal with them,” he says.

### Dramatic Compression Results

Bandwidth compression results across the network have been more than satisfactory, especially since BOC Edwards, as a Microsoft shop, bears the burden of clutter in its client-server traffic. “We made great gains in bandwidth,” says Cox.

Juniper Networks’ Molecular Sequence Reduction™ (MSR™) compression technology is constantly reducing transmissions on the BOC Edwards WAN, dramatically increasing WAN capacity. According to the WX CMS management system reports, FTP traffic has experienced a 70 percent to 80 percent reduction. NetBIOS data has been reduced 79 percent, and VoIP traffic has decreased 30 percent. “We are seeing an average of 1-to-5 to 2-to-1 aggregate compression rates across the wide-area network,” says Cox.

### Data Center Consolidation

The Juniper Networks solutions are also helping BOC Edwards phase out aging Microsoft Exchange servers at branch offices and replace them with new, centralized servers at the Wilmington location to simplify maintenance, improve backup and recovery, and reduce costs.

*“Juniper Networks is a perfect solution for prioritizing network traffic. It does what it’s supposed to do”*

#### **Martin Cox**

*Technical Services Manager  
Planning and Development  
BOC Edwards*

### Quick Facts

#### **Company Description**

BOC Edwards, a division of BOC Group, is traditionally known for vacuum and electronic gases technologies. This leading supplier offers a broad range of products and services for its semiconductor customers, as well as other high-technology growth industries.

#### **Headquarters:**

Crawley, West Sussex, U.K.

#### **Global Sites:**

Nine

#### **FY2004 Annual Sales:**

The BOC Group had annual sales of over £4.6 billion (more than US \$8 billion) in 2004. BOC Edwards had annual sales of approximately £700m (more than US \$1.2 billion).

#### **Public Company:**

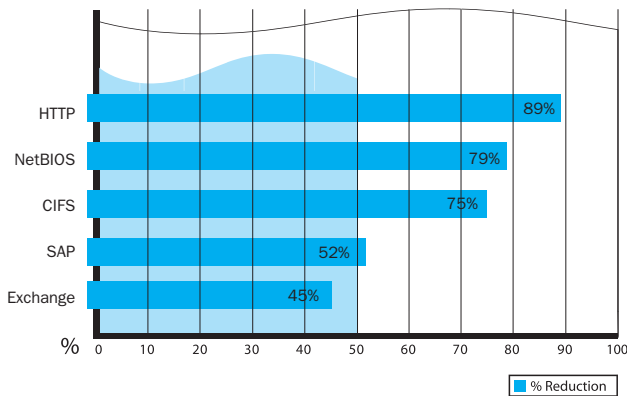
The BOC Group is publicly traded on the London Stock Exchange under the ticker symbol BOC.L. The BOC Group is publicly traded on the New York Stock Exchange under the ticker symbol BOX.

#### **Operational Highlights:**

Serving two million customers in more than 50 countries, The BOC Group is one of the largest and most global of the world’s leading gases companies. It employs over 43,000 people, with offices located across the globe. BOC Edwards employs more than 4,000 people, and it has manufacturing sites in Europe, Asia, and the United States.

An engineering facility in Tonawanda, N.Y. was the first to lose its local Exchange server. At first, users complained about poor performance over the WAN, but once Cox introduced the new Application Flow Acceleration™ (AppFlow™) technology, complaints all but ceased.

“The results were immediate and dramatic,” says Cox. “A typical 1 MB file, which previously took more than a minute to transfer over the WAN, now takes less than 15 seconds thanks to AppFlow.” The initial deployment was such a success, Cox plans to roll out the AppFlow technology to four more sites in the U.S. and extend it to Microsoft file services as well. “It’s all about centralization today,” says Cox, “and the Juniper Networks solutions are allowing us to continue our consolidation effort and realize our corporate objectives.”



BOC Edwards reduced traffic levels more than 80 percent for some applications. Critical programs such as SAP and Exchange also experienced significant reductions.

### ROI Right Away

Since adding the WX application acceleration platforms, Cox and his team have a different perspective about leasing new lines for their headquarters or branch offices. Juniper Networks has been so effective in compressing network traffic that Cox’s first choice is to add WX platforms rather than upgrade a leased line. “In Asia, we have introduced significant cost savings and were able to pay for the WX platforms within six months,” he says.

The Juniper Networks solution also fits in nicely with BOC Edwards’ culture of efficiency. Juniper Networks has given Cox and his team a solution for improving business processes while reducing costs.

“Deploying Juniper Networks helped us reduce network costs and gave us the ability to prioritize traffic,” says Cox. “If you have multiple applications traveling the same wire, someone surfing the Internet can kill the SAP traffic. Juniper Networks is a perfect solution for prioritizing network traffic. It does what it’s supposed to do.”



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