JT International:
Juniper Networks Improves SAP Application Performance and Integrates with Equant Global IP VPN Solution

Industry:
Manufacturing

Business Challenges:
To increase business agility, JT International (JTI) deployed a single instance of SAP to provide its business executives with a consistent view of operations worldwide. While deploying SAP across the globe simplified business operations, eased application deployment and consolidated the IT infrastructure, it also called for a significant 500-percent increase in WAN bandwidth.

Solution:
Juniper Networks enabled JTI to deliver SAP and other key business applications to 150 of its largest locations around the world without an expensive network upgrade. JTI improved application performance while lowering IT costs by deploying Juniper Networks WX™ 20 and WX 50 application acceleration platforms and the WX Central Management System™ (CMS™) software.

Business and IT Benefits of a Juniper Networks Solution:
- Enabled deployment of a single instance of SAP globally, giving JTI executives a consistent view of worldwide operations.
- Accelerated the performance of SAP, Web-based applications, Citrix, VoIP, and other applications without additional WAN investments, even in countries with less advanced telecom infrastructures.
- Increased the capacity of JTI's global IP VPN by 2.5x while increasing reliability.

At JT International (JTI), being a global company means transforming into a real-time enterprise, with tight linkages among sales, manufacturing, and distribution. It means conducting business the same way, regardless of geography. Streamlining and globalizing its business processes enables JTI to improve customer satisfaction and increase shareholder value while reducing cost.

At JTI, which is part of Japan Tobacco Inc. (JT), the world's third-largest international tobacco company, all business managers work from a consistent set of information that is predicated on a single, global implementation of SAP for sales, manufacturing, and distribution. Most companies implement localized versions of SAP, which requires them to consolidate operational data by division. "Whether it's Vancouver or Vladivostok, everyone logs into the same deployment of SAP," said Gunter Hagendorf, head of IT vendor management & service delivery at JTI. "From a business perspective, the benefit is a consolidated view of all operations. From a technology

Joint Solution provided by:

perspective, the benefit is the management of the systems." SAP is a core enabler of JTI's inexorable march to the real-time enterprise. "We have real-time linkages of the production systems from manufacturing to finished goods over the network," said Hagendorf.

Improving Business Agility

JTI manufactures three of the world's top cigarette brands, including Camel, Mild Seven, and Winston, and one of the world's leading menthol brands, Salem.

The company operates from more than 280 locations in 47 countries, including far-flung places such as whole Russia, including Siberia, Central Asia, East Africa, and large parts of Southeast Asia, including Borneo.

When JTI first deployed SAP to just a handful of locations, the requirements analysis called for a 500 percent increase in WAN bandwidth. "I was standing in front of an issue," recalled Hagendorf. "We have huge deployments in countries with difficult infrastructures. I had doubts that we could provision the required bandwidth in a couple of the countries in which we were operating."
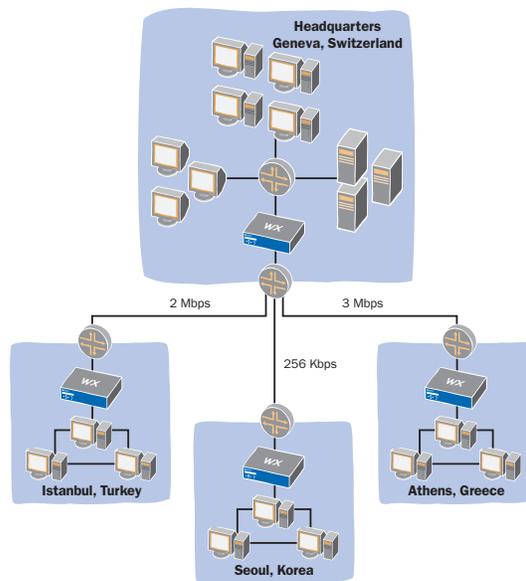
JT International deployed Juniper Networks WX 50 application acceleration platforms, instantly increasing their WAN capacity by 2.5 times by reducing 60 percent of their WAN traffic.

After an extensive evaluation of WAN optimization solutions, JTI rolled out Juniper Networks WX application acceleration platforms to improve SAP performance while consolidating its IT infrastructure and providing unified insight into its distributed enterprise. The company runs SAP, Web-based applications, Citrix, VoIP, and batch applications over its distributed enterprise.

"Juniper Networks was initially deployed to solve a WAN pain. It solved our immediate capacity problem," said Hagendorf. "Now, Juniper Networks is an important application enabler for us."

A Head-to-Head Comparison

In 2002, JTI was experiencing performance problems on the old frame relay that linked its Turkish operations to its data center in Geneva for the SAP pilot. "We didn't have any quality of service on the frame relay, so we had to do something to enable traffic prioritization," said Hagendorf.

At that time, JTI had initially experimented with a traffic-shaping solution, and asked Equant, its preferred communications infrastructure solutions partner, to perform a detailed comparative analysis of possible solutions. While traffic prioritization was critical, JTI also needed more—dramatically more—WAN capacity. JTI chose Juniper Networks because it delivered consistently and significantly more application performance and it was much easier to deploy than a traffic-shaping solution.

"It was very clear that for JTI's requirements, Juniper Networks was the ultimate solution," said Hagendorf.

Since then, JTI has rolled out Juniper Networks devices to 150 of its largest manufacturing and sales facilities from Europe to Asia Pacific and Africa. JTI's locations are interconnected via a global IP VPN network infrastructure solution from Equant. "We have saved quite a sum of money with Juniper Networks," said Hagendorf.

Juniper Networks has enabled JTI to increase its WAN capacity by 2.5 times. At a European manufacturing location it packs more than 10 Mbps of data through those connections, which are 4 Mbps links. Additionally, with the Juniper Networks WX devices in place, JTI is able to deliver a more reliable, consistent application performance over the IP VPN to its users.

"With Juniper Networks, all of our wishes came true," said Hagendorf.

Improving Application Performance

JTI relies on Juniper Networks for Molecular Sequence Reduction™ (MSR™) compression technology, bandwidth management with Quality of Service (QoS) and bandwidth allocation, and increased end-to-end WAN visibility with WX Central Management System™ (CMS™) software.

MSR technology is Juniper Networks' dictionary-based compression algorithm. The patented technology, which has enabled enterprises to realize as great as a 10-fold increase in WAN capacity, has its roots in DNA pattern matching. MSR compression recognizes repeated data patterns and replaces them with labels, dramatically reducing WAN transmissions. MSR compression operates in memory, and its dictionary can store hundreds of megabytes of data patterns.

JTI takes advantage of Juniper Networks' bandwidth management to prioritize business-critical and latency-sensitive applications over its global IP network. To insure optimal application performance, JTI must be able to respond rapidly to changing conditions on its distributed network.

The Juniper Networks solution gives Hagendorf and his team the ability to control the QoS policies centrally from Geneva, while enforcing them locally. The Juniper Networks software offers an intuitive, wizard-based approach that lets JTI categorize traffic into as many as 16 classes and easily enforce business policies. Then JTI relies on Equant to enforce the traffic prioritization across the private IP network, whether the underlying transport is leased lines, satellite, OC-3, or another WAN link. The Juniper Networks QoS techniques preserve and allow visibility into QoS markings that other devices apply.

With bandwidth allocation, IT managers can guarantee critical applications access to bandwidth and to specify a minimum and maximum throughput. This capability is especially important for JTI's voice traffic, as VoIP is particularly sensitive to latency across a global network.

Ease of Deployment

Operational efficiency is critical for JTI. The telecom and network group at JTI has five managers for strategic planning and engineering; 24x7 operations are managed from network operations centers by Equant.

Equant and JTI use the WX CMS software to gain a unified view of its distributed networks and applications. Equant and JTI's IT staff get the information needed to quickly identify, diagnose, and resolve problems, even continents away. Staff can easily monitor and manage hundreds of locations from a single, intuitive, Web-based console.

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Gunter Hagendorf
Head of IT Vendor Management & Service Delivery, JTI

Quick Facts

Company Description
JT International (JTI) was formed when Japan Tobacco Inc. (JT) purchased the international operations of RJ Reynolds in 1999. JTI handles the international production, marketing, and sales of the group's cigarette brands.

Headquarters:
Geneva, Switzerland

Global Sites:
Operates in more than 40 countries on every continent except Australia

FY2003 Revenue:
JT: US $37.4 billion

Public Company:
JT is traded on the Tokyo Stock Exchange and others

Employees:
11,000 +

Operational Highlights:
JTI, which is part of Japan Tobacco Inc. (JT), the world's third largest tobacco company, manufactures three of the world's top cigarette brands—Camel, Mild Seven, and Winston— and one of the world's leading menthol brands, Salem. The company sells 90 brands of cigarettes in 120 countries around the world.

WX CMS software generates reports that help the JTI IT staff pinpoint problems with dropped sessions, poorly performing applications, or contention. This all-encompassing visibility and remote packet capture capability are critically important for JTI's global deployment.

Juniper Networks WX devices can easily be deployed in branch offices with no skilled IT workers. IT administrators use the WX CMS software to centrally configure and manage the WX devices anywhere in the world.

A Global Enterprise Relies on its WAN

JTI's ongoing efforts to improve business efficiency and to ensure consistent business processes and operations practices worldwide are more critical than ever.

As the company globalizes, IT becomes global. "At JTI, IT is business driven. Everything that IT does is driven by the broader business initiatives," said Hagendorf.

Outsourcing will play a major role in streamlining JTI's operations. "As we globalize the company, we reduce the number of local applications in IT so applications become global," said

Hagendorf. This transformation puts additional stresses on the WAN.

"I'm in favor of the out-tasking model. You get more consistent services and increased business flexibility and you don't have to be concerned with the retention of key technical people," Hagendorf said. "If you want consistent 24x7 operations which gives value to the business, I say, put it in the hands of the professionals and let us concentrate on our core business."

The company plans to outsource its global telecommunications, including voice, mobile, call centers, and WAN operations to Equant. "It's quite a substantial savings for JTI," observed Hagendorf.

As the company expands its worldwide operations while centralizing business processes, more and more employees will access the core business applications remotely. Never before has the criticality of a distributed network been more important to keep JTI rolling along. Juniper Networks and Equant are core enablers of that business strategy.
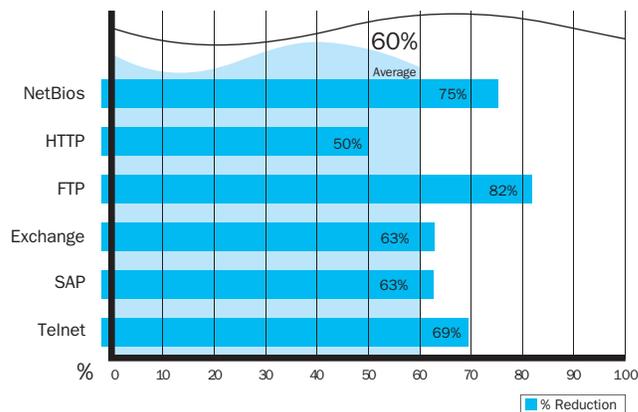
JT International increased their WAN capacity 2.5 times by reducing their backbone data traffic by 60 percent, averaged across several applications.