SUCCESS STORY

Textile Rubber & Chemical Company

When the Highly Capable Achieve the Truly Incredible

Textile Rubber & Chemical Company (TRCC) is a multinational chemical and technology company with operations on five continents. The company provides products to the flooring industry, including coatings, adhesives, flooring finishing equipment, polyurethane backing, latex compounds, thermoplastic backing systems, specialty chemicals, and polymer modifiers for asphalt.

EXECUTIVE SUMMARY

Challenge

Replace an aging network to gain industrial-strength performance, reliability, and automation while supporting an extensive VMware environment and a mission-critical SAP HANA application.

Solution

- Brocade VDX 6740 Switches with Brocade VCS Fabric technology in the core
- Brocade ICX 6610 Switches for aggregation
- Brocade ICX 6450 Switches for the network edge and to power IP phones and wireless access points
- Brocade Network Advisor for in-depth management capabilities

Results

- Deployed entire network in 64 hours for minimal business interruption
- Simplified management significantly and gained better operational visibility
- Improved performance and resiliency in physical and virtual environments

TRCC is an early adopter of SAP HANA, which converges database and application platform capabilities in memory to transform transactions, analytics, text analysis, and predictive and spatial processing for real-time business. TRCC began its SAP HANA deployment in 2014 and continues to implement it across the company. TRCC also relies on a VMware environment with 300 Virtual Machines (VMs) and a Virtualized Desktop Infrastructure (VDI) with VMware Horizon View to automate functions and simplify desktop management.

Supporting the company's 22 divisions and 500 users are three IT staff members that support every aspect of IT. Just three. And they are busy. In the preceding decade, the network had been expanded in an ad hoc fashion, and the underlying network had not kept up with the new demands. The switches performed poorly, frequently rebroadcasting packets between network segments (packet storms) and resulting in significant latency. In fact, users' keyboards in the VDI environment slowed so much that it affected their productivity.

TRCC also experienced network outages with the old network switches. Although several business divisions could tolerate a rare, brief outage without adverse effects, downtime completely disrupted the SAP HANA application and the productivity of numerous TRCC employees.

Urgently Needing a New Network

As the IT team continued to deploy SAP HANA and enhance the IT infrastructure, they migrated their previous SAN storage to Nimble flash storage systems for greater performance and resiliency. They were also in the midst of deploying 200 new IP phones and needed to ensure that they could implement Quality of Service (QoS) so that the phones would work.

"We had reached the point where we couldn't move forward without a new network," said Bo Coppinger, Director

Textile Rubber & Chemical Co., Inc.

WHY BROCADE

"We did an entire network rip and replace in three days and it has been a fantastic experience. It wouldn't have been possible—let alone successful—without Brocade."

— Bo Coppinger, Director of IT at Textile Rubber & Chemical Company

of IT at TRCC. "We couldn't ensure QoS for voice or our VDI environment, and users were frustrated by slow application performance. So we began looking for a new solution."

The team conducted research on the major network vendors' offerings with several requirements in mind. High performance and reliability were critical to TRCC's manufacturing operations. Cost was an important consideration. Just as importantly, with only three people supporting everything, the new network had to be easy to deploy and manage—not only initially, but also in the future. It had to support automation to save precious time and management resources. And it had to be expandable to support future needs. After evaluating equipment from the major vendors, TRCC narrowed its focus to Brocade® solutions.

"We read a lot of background material on Brocade solutions," said Coppinger, "and I especially liked the fact that they are high-performance switches that eliminate Spanning Tree issues. We felt comfortable with Brocade, and the solution was a great value."

From Old to New in 64 Hours

Based on the new Brocade network capabilities, TRCC completely redesigned its network. The new network introduced subnets for the wireless network, IP phones, the VDI environment, Programmable Logic Controller (PLC) devices used to automate industrial and manufacturing processes, and management.

TRCC now uses Brocade VDX® 6740 Switches with Brocade VCS® Fabric technology for the network core. These are Ethernet fabric Top-of-Rack (ToR) switches that support the company's demanding data center environment. The Brocade VDX 6740T Switch offers 48 10GBASE-T ports and four 40 GbE QSFP+ ports. Each 40 GbE port can be broken out into four independent 10 GbE SFP+ ports, providing an additional 16 10 GbE SFP+ ports. Brocade VDX 6740 Switches also form the core in the iSCSI storage environment.

In the data center, the Brocade VDX Switches are connected to stacked Brocade ICX® 6610 Switches using 120 Gbps links. The Brocade ICX 6610

Switches deliver wire-speed, nonblocking performance across all ports and up to 320 Gbps of stacking bandwidth. For TRCC, the Brocade ICX 6610 Switches provide campus aggregation for Brocade ICX 6450 Switches deployed at the campus edges. All locations are connected point to point using dark fiber. In each location, the Brocade ICX 6450 Switches power the VoIP phones and the Aruba wireless network using Power over Ethernet (PoE).

The data center and iSCSI storage Brocade VDX Switches are connected using 120 Gbps links. In the iSCSI storage environment, the Brocade VDX 6740 Switch is connected to a Dell Blade chassis, 32 TBs of Nimble flash storage, and the SAP HANA appliances.

"We set up a lab with the new equipment and deployed the entire network ourselves first," said Coppinger. "Then we took it apart, labeled the boxes, and rolled down the road to install them. Our Brocade Systems Engineer provided us with onsite Ethernet fabric consulting, which helped us quickly become familiar with the fabric capabilities. Together, our team deployed the entire network in 64 hours."

The Power of a Fabric

"The Brocade VCS Fabric technology was the biggest surprise to us," said Coppinger. "We hadn't realized how powerful it is. The Brocade VCS Fabric technology gives us deep management capabilities that we'd never had before."

Brocade VCS Fabric technology is included with the Brocade VDX Switches and provides management simplicity with native automation. Every Brocade VDX Switch and port knows about every other switch and port in the fabric, so there is no single point of failure, and the fabric automatically optimizes traffic flows. Brocade VCS Logical Chassis functionality allows TRCC to manage the entire VCS Fabric as a single switch, eliminating the need to manually configure and manage each switch.

Resiliency for Mission-Critical SAP and VMware Environments

Three people could not possibly operate and manage all of the company's IT assets if the network wasn't resilient and automated. The TRCC team says that its new Brocade network "just works." They no longer have to spend valuable time troubleshooting frequent outages and can now focus on automating and optimizing functions.

"'Just working' is really important to us," said Coppinger. "With our new network, we can lose up to two-thirds of our core switches and still be running."

When IT launched the VDI environment on the new network, they automated the configuration and provisioning. At the same time, they easily configured QoS to prioritize the company's VoIP and VDI traffic. Application performance has greatly improved and users no longer have problems with delayed keystrokes and keyboard latency. The IT team plans to further tune and optimize the network in the near future to make the network as fast as possible.

Unprecedented Visibility

With Brocade Network Advisor, the TRCC IT team can now monitor the entire network and view issues, errors, and throughput down to the port level, which wasn't possible with its previous management system. They can proactively identify, monitor, and analyze data flows across the virtual and physical networks and no longer have to rely on users' reports or indecipherable problem descriptions to identify and resolve a problem.

"Our old management system had become more costly than we wanted to spend," said Coppinger. "With Brocade Network Advisor, we get far more visibility and value."

Rip and Replace—A Fantastic Experience

TRCC is in the process of building two new data centers, a new disaster recovery site and implementing offsite replication for the Nimble storage. It isn't often that just three people can achieve such incredible levels of IT productivity, but the new Brocade network helps them reach this extraordinary achievement.

"We did an entire network rip and replace in three days," said Coppinger, "and it has been a fantastic experience. It wouldn't have been possible—let alone successful—without Brocade."

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