



# C.R. ENGLAND

## IP NETWORK

## C.R. England Relies on Brocade for the Long Haul

### EXECUTIVE SUMMARY

#### Challenge

Eliminate e-mail outages and upgrade the network infrastructure to accommodate growth and innovation

#### Solution

- Microsoft Exchange Server 2010 (upgrade from Exchange 2003)
- Brocade ServerIron ADX Series for server load balancing
- Brocade FastIron SX Series switches at the network edge
- Brocade MLX Series routers at the core

#### Results

- Achieved a highly available, high-performance e-mail environment
- Increased network capacity to support business growth and additional applications

C.R. England, Inc., founded in 1920, is the world's largest refrigerated trucking company. The family-owned business, headquartered in Salt Lake City, Utah, has 4500 trucks on the road and more than \$1 billion in annual revenues.

As pressures on the business have grown, C.R. England has turned to technological innovation to increase operational efficiency, reduce costs, and move ahead of the competition. In addition to upgrading its trucking equipment and maintenance practices, and adopting intermodal transportation methods, the company has looked to IT to run the business more productively.

One key IT project was upgrading e-mail, which handles the majority of the company's load booking. C.R. England had been running Microsoft Exchange 2003 in a single server deployment and experiencing serious outages. These outages disrupted business, took IT staff time to troubleshoot, and frustrated customers.

### EXCHANGE UPGRADE WITH LOAD BALANCING TO ELIMINATE OUTAGES

By working with Trusted Network Solutions (TNS)—a value-added reseller that has advised C.R. England for the past 10 years—the company determined that upgrading to Microsoft Exchange 2010 was the best way to address the outages. The Exchange 2010 architecture provides advances in performance, scalability, and reliability that required elimination of the single server deployment and led to a revamping of the overall network infrastructure.

“As we worked through the Exchange upgrade, we started looking at other single points of failure in the infrastructure,” says Dave Norwood, President at TNS. “It made sense to remedy those as we went along.”

The introduction of Database Availability Groups (DAGs) in Exchange 2010 allows replication of databases to multiple servers with automatic failover when problems occur.

"This feature was intriguing to us," says Jeremy Jones, Systems Engineer at C.R. England. "We could provide high reliability with infrastructure, having multiple active databases for load sharing and fault tolerance over a Wide Area Network [WAN]."

C.R. England went from one Exchange server to three instances of Exchange running in three different locations. The team installed a pair of Brocade® ServerIron® ADX Series application delivery controllers to meet the new requirement for load balancing.

The Brocade ADX was a logical choice for C.R. England's Exchange 2010 rollout. The trucking company has a long history with Brocade, relying on Brocade FastIron® switches throughout much of its network infrastructure.

The move to Exchange 2010 with Brocade ADX load balancing has resolved the e-mail outages. "Migration to Exchange 2010 with Brocade ADX in place has been a really good move for us to provide fault tolerance and uptime," Jones says.

### BOLSTERING THE NETWORK FOR NEW APPLICATIONS

Other single points of failure in the C.R. England infrastructure came to light during the Exchange upgrade.

"There was a single switch at the core," Norwood says. "Although that switch had never gone down, we wanted to ensure continued operations. All the computers

in the company are paperweights if the core network goes down."

Single switches at the edge were also judged problematic. The team wanted dual connections to all the switches.

In addition to eliminating single points of failure, C.R. England wanted to upgrade equipment in anticipation of increased load on the network. The company plans to replace a 20-year-old PBX with a Voice over IP (VoIP) system.

"We're assuming that bandwidth will at least triple," Jones says.

### ROOM TO EXPAND AND GROW

The C.R. England team looked at different vendors, including Cisco, before deciding to standardize on Brocade.

"We'll take a look at any company and pick the best," says Terry Smith, Senior Network Engineer at C.R. England. "That's why we ended up with Brocade. Many of the new things that Cisco now has in its systems have been part of Brocade technology for years. Brocade is tried and true."

For the core, the team chose a pair of Brocade MLX Series routers.

"We like the ability of the Brocade MLX platform to expand and grow," Smith says. "We also like the built-in redundancy, being able to do upgrades on the fly since the boxes are hot-swappable, and being able to minimize downtime."

### WHY BROCADE

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C.R. England is using 10 Gigabit Ethernet (GbE) for all server connections. All the single edge switches have been replaced with two Brocade FastIron SX Series switches. Every building switch has two 10 GbE connections back to the core.

The new equipment will easily support the company's plans for additional applications, expanded bandwidth, and growth.

The upgraded infrastructure reflects the importance of IT to C.R. England's business. "We know that technology can help us be more competitive, reduce our costs, and be more responsive to customers," Jones says. "We have the infrastructure to provide the high uptime and high availability that we need."

For more information, visit [www.brocade.com](http://www.brocade.com).

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