

Beverage Distributor Virtualizes Data Center

Coca-Cola Bottling Company adopted 10 Gigabit Ethernet, consolidating from 80 servers to 4 and reducing cabling costs.

EXECUTIVE SUMMARY

Coca-Cola Bottling Company Consolidated

- Manufacturer and Distributor
- Charlotte, North Carolina
- 5300 employees

BUSINESS RESULTS

- Consolidated 80 servers onto four, with 20 virtual machines
- Consolidated multiple storage area networks into one
- Reduced cabling costs by 30 to 60 percent

Business Challenge

Coca-Cola Bottling Company Consolidated is the second largest Coca-Cola bottler in the United States, with territories in 11 states and serving more than 18 million consumers. The company makes, sells, and delivers carbonated and noncarbonated beverages. Low-cost servers, used for applications such as sales force automation and workgroup collaboration, had contributed to server sprawl, causing the data center to outgrow available power and cooling capacity. Server virtualization helped but had begun to slow network performance. "We wanted 10 Gigabit Ethernet connectivity without the expense of building a new data center," says Rory Regan,

network and telecom manager, Coca-Cola Bottling Company Consolidated. "We decided to build a new data center network that would continue to work with our existing servers and storage as we gradually migrated to a unified fabric."

Solution and Results

Coca-Cola Bottling Company built a new 10 Gigabit Ethernet pod design based on Cisco® Nexus 5010 Switches with Fiber Channel over Ethernet (FCoE) capability. The IT department is migrating servers to the new pod design gradually, as equipment ages, leases mature, or the company introduces new applications. The Cisco Nexus 5010 Switches connect directly to new 10 Gigabit Ethernet servers and connect to existing Gigabit Ethernet servers by way of Cisco Catalyst® 4900 Switches. The pod connects to Cisco MDS 9500 Series Multilayer Director Switches for storage access, and uses the Cisco Application Control Engine (ACE) for load balancing and for isolating the different application environments. "Cisco acted as a strategic partner by helping us do the tactical planning to adopt virtualization on this scale," says Regan. "The Cisco Nexus switch has prepared us to later adopt a unified fabric for our LAN and SAN networks."

"Consolidating from 80 servers to four has significantly reduced power consumption."

— Neel Dennie, Network and Telecom Specialist, Coca-Cola Bottling Company Consolidated

The company immediately began experiencing performance and cost benefits from the new data center design:

- **Lower server costs:** So far, 80 servers have been consolidated onto four servers, each of which hosts up to 20 virtual machines. The new servers only need two converged network adapters (CNAs) for FCoE instead of the two network interface cards (NICs) and two host bus adapters (HBAs) needed previously.

- **Lower SAN costs:** The Cisco MDS 9509 Multilayer Director Switches consolidate the company's mainframe disk, open systems disk, and tape backups onto the same physical network. The IT department created a virtual SAN (VSAN) for each type of traffic.
- **Lower cable costs:** The new pod design reduces cabling costs by 30 to 60 percent by consolidating from six Cat5 cables plus two 50 mm fiber cables to two SFP+ cables. Rear-facing server ports on the Cisco Nexus 5010 Switches simplify cabling.
- **Space and power savings:** "Consolidating from 80 servers to four has significantly reduced power consumption," says Neel Dennie, network and telecom specialist, Coca-Cola Bottling Company Consolidated.
- **A "force multiplier" for IT:** The company uses dual Cisco MDS 9509 Multilayer Director Switches. "Using the same operating system for our SAN and data network means that twice as many people now have the skills to manage our switches, at no extra cost to us," says Regan. IT personnel are also able to use existing skills to manage the Cisco ACE 4710 Appliance for load balancing and rapid application provisioning. "By saving us time, Cisco data center solutions are a force multiplier for our IT department," Regan adds.
- **Lower cooling costs:** Front-to-back airflow in the Cisco Nexus 5010 lets the IT department control airflow direction, which reduces cooling costs.

Coca-Cola Bottling Company is preparing to use the Cisco Nexus 1000V Switch, which resides on the server to deliver VN-Link virtual machine-aware network services. "The Cisco Nexus 1000V simplifies collaboration within the IT department by clearly separating responsibilities for our server group and network group," says Regan. "It also enables vMotion to work properly by giving server specialists the freedom to move hosts around without concerning themselves with quality of service and security settings."

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— Rory Regan, Network and Telecom Manager, Coca-Cola Bottling Company Consolidated

For more information about the Cisco Nexus Switch Family, visit: <http://www.cisco.com/go/nexus>.

For more information about Cisco MDS 9500 Series Multilayer Director, visit: <http://www.cisco.com/go/mds>.



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