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OCTOBER/NOVEMBER 2009
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Supercharge Network Performance

An MPLS (multiprotocol label switching) VPN service enabled \$6.8 billion Family Dollar to improve enterprise-wide bandwidth fivefold, p. 12.

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senior VP of IT and procurement,
Family Dollar

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Supercharge Network Performance

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by Erin Harris

Family Dollar has experienced explosive growth during the past five years, having opened 7,000 stores to date. To facilitate store growth, better serve its customers, and create a more efficient working environment for store-level associates, the retailer developed two major business initiatives — the expansion of its food assortment offering and an enhancement of its in-store operating environment. Though integral to meeting the retailer's goals, the initiatives presented bandwidth problems for the existing WAN. Also, the existing WAN required the retailer's IT team to manage a 7,000-location network with a high service-level expectation. Joshua Jewett, senior VP of IT and procurement at Family Dollar, and his team had to find a partner to increase bandwidth and provide 24/7 management and support so the retailer's IT team could focus on other important functions.

Known for its self-serve, cash-and-carry neighborhood discount store concept in low- to middle-income neighborhoods,

Family Dollar has historically offered everyday consumer basics. So, when the retailer chose to expand its food assortment to include perishable goods, it needed to implement food stamp and other benefits programs customers leverage for food purchases. "Food stamp acceptance adds a great deal of complexity to the POS transaction," says Jewett. "Our existing POS system could neither accept nor process food stamps, and the IT team did not have time to write the code themselves. In addition, we needed a reliable network connection to ensure the completion of all POS transactions."

Increasing the retailer's food assortment meant additional work for the store managers, as they would now be tasked with accounting for the perishable goods deliveries from local third-party supply chain vendors. Store managers aren't tasked with financial reconciliation of the retailer's other products, because those products come directly from one of Family Dollar's nine DCs. To streamline store managers' workload, Jewett's team developed a Web-based manager's toolkit, which includes email, inventory functions, merchandising, and hiring capabilities as well as payroll-to-sales tracking and more. The manager's toolkit is housed at corporate, and store-level managers access it via the retailer's intranet, making a reliable network connection critical. "We realized that coupling the major expansion of our food merchandise with the creation of the toolkit required new and improved store-level IT capabilities," says Jewett. "The old technology within the four walls of a store was limited. Even though the existing technology [i.e. dial-up] worked, we needed a competent network infrastructure that enabled us to achieve the goals aligned with our business initiatives." Therefore, the retailer went through a major change in company-wide technologies, including a complete overhaul of its existing POS software with software from SAP; the installation of VeriFone debit terminals, Toshiba cash regis-

ters, and Honeywell handheld scanners; and the implementation of a frame relay WAN.

Increase Bandwidth To Meet Long-Term Enterprise Goals

The frame relay WAN worked well in the initial years of deployment. But, by 2008, the cost of this WAN began to increase because the number of stores and the retailer's demands on the network were increasing, calling for more bandwidth. For example, sales associates could access information quickly without exchanging paperwork with corporate. They accessed benefits and compensation information, exchanged real-time messages with management, and even posted contest information (e.g. stores create holiday displays and post digital images on the intranet to encourage other locations to do the same).

Once store managers began using the WAN for numerous reasons, the retailer realized it needed more bandwidth. "We were faced with a 7,000-location WAN," says Jewett. "Each location had multiple IP [Internet Protocol] addresses to manage, and each store was running software in a decentralized fashion. Suddenly, we had one of the largest WANs in retail. We went from having limited network management responsibilities to supporting high service-level expectations that we, as an IT team, couldn't support across a national network."

It became clear that in order to meet its business initiative goals, the retailer would have to change its network infrastructure yet again. Some locations needed satellite connection, some needed DSL, while others were able to continue using frame relay. Therefore, the search for a managed IP communications services provider commenced. However, with different flavors of connectivity comes the potential for thousands of disparate bills. "The partner we chose had to supply, manage, and support increased bandwidth capabilities and provide us with one bill and only one bill," says Jewett.

Installation Profile

Technology User:

Family Dollar

Total Stores:

7,000

Problem:

Family Dollar needed increased bandwidth due to two major business initiatives — the enhancement of its food assortment and the creation of the Web-based "manager's toolkit." But, the existing WAN required the retailer's IT team to manage the 7,000-location network with a high service-level expectation.

Solution:

Family Dollar chose the site-to-site MPLS (multiprotocol label switching) VPN service from MegaPath. The vendor provisions, supports, and manages each store's MPLS network 24/7 via its network operations center (NOC), eliminating the need for IT intervention. As a result, Family Dollar increased enterprise-wide bandwidth fivefold.

Primary Vendors:

Honeywell, MegaPath, SAP, Toshiba, VeriFone

A Customized Bandwidth Solution For Each Site

Jewett and his team selected site-to-site MPLS VPN service from MegaPath, a managed IP communications services provider. The MPLS enables Family Dollar to consolidate all of its business applications (e.g. POS and manager's tool-kit) onto a single private network. MegaPath's variety of access technologies (e.g. private DSL, cable, wireless, satellite, T1s) means the company can offer the "best fit" for each store. MegaPath provisions bandwidth and offers a 24/7 fully managed solution. It can even manage Family Dollar stores that operate on separate "mom-and-pop" private networks due to their remote locations. If a store is ready to transfer from frame relay to high speed, MegaPath offers turnkey management of that provisioning installation. From there, MegaPath provides the retailer with managed service to ensure the network is up and running and meeting the SLAs (service level agreements) that are required. The vendor configures the devices, which include a Cisco router and a switch that enables the infrastructure. The store installation process takes 2 hours, including all final cabling, equipment installation, and testing. During the actual conversion, store downtime is limited to 5 or 10 minutes. Also, Family Dollar receives one billing statement from MegaPath regardless of the number of options used to generate connections across the enterprise. To date, 60% of Family Dollar locations operate a MegaPath MPLS network. The remaining 40% will operate MPLS by early 2010.

Once the MPLS service is up and running, MegaPath's network operations center (NOC) technicians monitor the MPLS connections and equipment to diagnose and resolve connection issues (see sidebar). Around-the-clock network monitoring and support services are crucial to Family Dollar's IT staff because those capabilities reduce the obligation for IT's involvement in day-to-day network deployment and management. For instance, Jewett did not have to hire additional staff to manage the expanded network. In addition, IT staff members avoided the severe learning curve associated with knowing all the idiosyncrasies of different broadband access methodologies and technologies used by different service providers.

Empower Your Workforce With MPLS

Family Dollar's switch to an MPLS VPN has been successful, as the retailer improved enterprise-wide bandwidth fivefold versus its former frame relay connections at store level. Also, store managers' work has been facilitated with the intranet applications the MPLS network enables. With the new tools, store managers can allocate labor against the hours of operation and workload and track their performance against goals and budgets. The MPLS makes it possible for their merchandising advice to be store-specific and the tracking of the tasks they assign to their team to be timelier, making local management more nimble and responsive.

The manager's toolkit and the supporting

MPLS infrastructure have been key contributing factors in Family Dollar's improved store manager retention rate. The MPLS network allows the stores to manage their store-specific workloads more efficiently and cost effectively. Because managers have an incentive to perform well, the retailer provides online training on a range of items — not only how to run their

store, but how to select, motivate, and maintain a good team. The MPLS network enables this training, and the training is tailored and tracked for each specific, individual team member. Without the MPLS technology, training would be difficult and costly. For store managers and other team members, the MPLS and the manager's toolkit it enables make available career development and advancement opportunities and training for those interests, too. Team members can investigate any such interests and discuss them with their local management team. "Both locally and corporately, the MPLS allows us to track and cater to team members' specific career interests more effectively," says Jewett.

In addition to optimizing Family Dollar's workforce, the MPLS has benefited several store functions. For instance, many stores have installed energy management systems (EMSs), and the retailer tracks their statistics via the MPLS. "We observe EMSs and accumulate readings from these devices across the MPLS, because it offers us the ability to know local management has set a consistent thermostat temperature in stores," says Jewett. "This keeps them comfortable cost-effectively. We also can track if lights are left on after our standard operating hours and whether HVAC [heating, ventilating, and air conditioning] equipment is functioning effectively. Understanding our regional energy usage patterns also allows us to negotiate more effectively with our utility providers and observe our local and regional environmental impact."

Stores can report maintenance and repair issues, order supplies and fixtures, and correspond with other corporate support organi-

Joshua Jewett, senior VP of IT and procurement at Family Dollar, states the retailer could not administer the technology on its 18,000 cash registers without the MPLS (multiprotocol label switching) network.



Photos by Brian Gomsak

zations via their manager's toolkit. The MPLS network delivers this information instantly and saves the stores the trouble of calling to log an issue and calling again to track the status of their issue.

Expand Assortment Capabilities To Enhance Customer Services

The MPLS network provides ongoing updates to Family Dollar's supply chain and financial systems at corporate in order to drive replenishment activities for these decentralized supply chain operations. It enables the retailer to process payments for only those goods physically received at store level. The timeliness provided by the MPLS tightens up these processes, enabling the retailer to offer new food offerings to its customers daily.

The MPLS also enables the retailer to expand its assortment in other ways, too.

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Joshua Jewett, senior VP of IT and procurement, Family Dollar

Because of the MPLS, Family Dollar can sell and activate gift cards, prepaid Visa and MasterCard cards, prepaid cellular phones, and other similar products. The retailer can operate ATM and financial services kiosks, vending machines that offer DVDs and other media, and issue money orders for its customers.

Family Dollar could not process the critical inventory and pricing activity as effectively as necessary or administer the technology on its 18,000 cash registers without the MPLS. “We know which cash registers are being used, how often, how much power they consume, and whether they are on- or off-line,” says Jewett. “My team even told me the other day

that 11 cash registers were currently powered off — 11 of 18,000. Knowing I would ask the question anyway, they then told me that they had already called the stores to find out why. We called them before they called us. That is proactive management, and it would not have been possible without the MPLS network.”

Retailers are continuously looking for solutions to keep costs low, drive sales higher, and protect themselves from today's increasing network security risks. As Family Dollar discovered, many POS and other store-level functions would not be possible without the bandwidth capabilities of an MPLS VPN. □

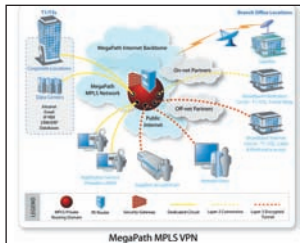
Use Proactive Network Monitoring, Avoid IT Intervention

Two major business initiatives, the expansion of its food assortment offering and an enhancement of its in-store operating environment, presented bandwidth problems for Family Dollar's legacy frame relay WAN. To remedy the issue, the retailer chose a site-to-site MPLS (multiprotocol label switching) VPN service from MegaPath, a managed IP (Internet Protocol) communications services provider. Thanks to the MPLS VPN, the retailer improved bandwidth fivefold and benefits from the 24/7 proactive network monitoring provided by MegaPath's network operations center (NOC).

MegaPath's NOC technicians proactively monitor Family Dollar's MPLS connections and equipment. Should an issue occur, MegaPath technicians repair or replace any nonoperational equipment on-site. The NOC technicians autogenerate tickets and begin to work on the issue immediately. The 24/7 proactive management provides Family Dollar with the peace of mind that enterprise-wide network issues are not only immediately identified but also resolved in a

timely manner.

Partnering with a provider like MegaPath is smart for a retailer of Family Dollar's size. If managing a network infrastructure and building NOCs are not part of your core competency, it is better, faster, and cheaper to rely on your provider to do so. “One of the nice things about MegaPath's NOC operations and network infrastructure is that our IT team doesn't need be involved in day-to-day management of the circuits and underlying carriers,” says Joshua Jewett, senior VP of IT and procurement at Family Dollar. “Since our network is now managed by MegaPath's NOC, our IT team manages the quality of their overall service. By providing a network with enhanced applications, IT has started to answer store managers' questions with ‘how and when’ new capabilities can be delivered instead of with a ‘no and why.’”



Family Dollar relies on MegaPath's network operations center technicians to identify and resolve network issues.

**For More Information On MegaPath
Go To www.megapath.com**



Call 1-877-MEGAPATH or visit www.megapath.com