



RETAIL NETWORK REQUIREMENTS: ELIMINATE NETWORK OUTAGES WITH HIGH AVAILABILITY CONFIGURATIONS WHILE REDUCING COSTS



INDUSTRY

RETAIL

HEADQUARTERS

ANAHEIM, CA

CHALLENGES

- Lack of network visibility and redundancy
- Slow network connections with frequent outages
- High network costs

RESULTS

- Network visibility enables problem identification and remediation
- Significant network cost and maintenance reduction
- High availability configuration eliminated network outages
- Traffic prioritization and segmentation: PCI, web browsing
- Simplified and quick deployments

With a high transaction-based business, Northgate needed to eliminate network outages and add services, while reducing costs. With SD-WAN, it did.

Problem Situation

Northgate Markets had grown to 41 stores through market demand and acquisition of similar grocery chains, resulting in disparate systems and high network costs. As it introduced additional services to its retail locations to better service its customer base, Northgate was reaching limitations as its network was not robust enough to handle the increased demand and clientele and was becoming increasingly more expensive to manage.

In order to continue its goals of expansion, delivering an exception customer experience, lowering network management and maintenance costs, and eliminating network outages, Northgate knew it needed to improve its network to support its long-term goals.

Solution Selection and Implementation: AT&T, Configure Inc., and VMware SD-WAN™ by VeloCloud®

Northgate worked directly with its provider, AT&T, to develop a new network strategy. Together with VeloCloud, now part of VMware, AT&T proposed shifting to SD-WAN, which would provide Northgate with the network requirements it needed to meet its goals.

Northgate's primary relationship is with AT&T, which provides all the network infrastructure services and hardware, but for deployment and long-term network management, it engaged AT&T's managed service provider partner Configure Inc.

To determine if SD-WAN would be able to meet Northgate's requirements, Configure Inc. conducted a proof of concept (POC) in two phases. Both test proved the reliability, redundancy, and overall high quality of the solution.

Phase I

In the first phase of the POC, VMware SD-WAN by VeloCloud was installed at three sites that included two core locations (data centers) and at one grocery store. The data centers each had a high availability installation with two VMware SD-WAN Edges to ensure continuous uptime and business continuity and the one grocery store had a single VMware SD-WAN Edge. Each of the three locations had two broadband connections as well as a Cradlepoint 4G LTE devices for a third back-up option.

“Northgate needed to ensure continuous network uptime, which is critical when running a business that is transactional-based. SD-WAN was able to proactively manage outages and reduce our expenses all while maximizing bandwidth and providing high availability.”

HARRISON LEWIS
CHIEF INFORMATION OFFICER
NORTHGATE MARKETS

Results

The performance difference was significant. Immediately, Configure was able to view all network activity and performance via the VMware SD-WAN Orchestrator, which wasn't available before. It provided Northgate with reports that identified which network applications were utilized across the network as well as who was using those applications.

Phase II

The second phase of the POC involved failover testing at night at one of the three deployed sites from Phase 1. The test involved making a VoIP call while simultaneously performing credit card transactions on the same network connection.

Results

While the call and credit card transaction was in process, one of the two broadband circuits running to a VMware SD-WAN Edge was disconnected. The failover to the secondary broadband connection was instantaneous and seamless with no drop in traffic or quality. Then the second broadband connection was disconnected and the failover to the LTE was again seamless, with no degradation in traffic or quality. The engineer then plugged the two broadband connections back into the VMware SD-WAN Edge and the calls were transferred to the primary connection while the call was still live. Business continued as usual.

Following the success of the POC, Northgate approved the deployment of VMware SD-WAN across its entire network. Configure worked with the team at Northgate to ensure the deployment went smoothly across all 41 sites, which included the two data centers. Configure continues to manage the entire network today, even sitting in on all of Northgate's IT-related meetings and are viewed as an extension of Northgate's IT infrastructure.

Network Visibility Enables Problem Identification

With VMware SD-WAN, Northgate and Configure have complete visibility into the behavior and performance of the entire network at any second of the day and historically when needed. Through the VMware SD-WAN Orchestrator, IT staff is able to view in real-time how the network is performing. When any downtime occurred on any connection, at any node, the Orchestrator would flag it and record that activity for any analysis that needed to be performed later.

High Availability Configuration Eliminated Network Outages

Following the deployment of VMware SD-WAN, Northgate designated Configure the manager of the Northgate network with a mandate that its IT team did not want to be involved or notified of any network issue unless that network issue impacted business operations.

“Without the visibility afforded by SD-WAN, managing a customer’s network can be laborious and obstacle-ridden. But now, we’re able to quickly identify issues and rely on the solution to proactively and intelligently fix problems that could impact Northgate’s ability to serve its customers.”

MIKE BRAZEAU
DIRECTOR OF SALES, CONFIGURE, INC.

The redundancy capabilities of VMware SD-WAN intelligently and automatically remediates any network issues that could potentially be of harm. During a standard IT status meeting, Northgate had been under the impression that there had been no outages to network connections as they had not been notified by Configure. But Configure presented them with reports that showed connection outages were an occurrence. Specifically, in Northgate’s “#10 store,” both of the connected broadband links were going down at the same time for 30 minutes each time. The failover functionality that had been tested in a controlled environment during the POC performed as expected in a real-world scenario as it directed network traffic to the backup LTE connection, allowing business to continue uninterrupted. This was not possible with the previous network infrastructure.

Traffic Prioritization and Segmentation

As a grocery chain, the most business-critical interaction is the transaction. Without the ability to transact, the business would cease to exist. Ensuring that the network is transaction-ready at all times is critical, and this includes insuring that credit card data is prioritized above all other network traffic.

Prior to the implementation of SD-WAN, all credit card transactions were not separated from other forms of network traffic, nor prioritized, which would sometimes prevent the transaction from clearing as other traffic surged on the line. Now with SD-WAN, that is no longer a concern as transaction traffic is prioritized and PCI protected, even across regular broadband links, and sent back to the designated Northgate data centers that house the primary ERP system. The remaining network traffic (such as web browsing) is routed to the Internet and the cloud, which is then filtered for content with Zscaler used for security.

Simplified Deployments

Implementing a new network infrastructure can be a lengthy, laborious, and costly activity. It often involves highly training technical personnel, extensive configurations, and complicated installation of equipment. However, Configure found that with VMware SD-WAN, deployment of SD-WAN was none of these things. Instead, it proved to be quick, painless, and inexpensive.

A typical branch VMware SD-WAN deployment took about 20 – 25 minutes. This included removing the VMware SD-WAN Edge from its box, plugging in the two broadband links and LTE modem, cutting over the previous infrastructure and allowing the Edge to download configuration from the VMware SD-WAN Orchestrator. Because each grocery store was busy transacting during opening hours, the VMware SD-WAN Edge would be plugged in during those working hours and the cutover would occur once the store was closed.

