Customer
Case Study

Uptime Is Critical for Store Operations at Automotive Parts Retailer

Piston Ring has serviced the automotive aftermarket since 1953 as a family-owned and operated local company, now in its third generation. The company is a member of the Aftermarket Auto Parts Alliance—one of the largest auto parts distribution and marketing organizations in the world.

Industry

Retail

VMware footprint

VMware SD-WAN™

Modern retailers need connectivity that won't fail when sales or customer satisfaction are on the line. Legacy WAN technologies can't keep up with the bandwidth needed to manage Piston Ring store locations. VMware SD-WAN allows the company to use commodity internet lines, spending less money to get better connectivity.

Staying online is crucial for modern retailers

When automotive service company Piston Ring was founded in 1953, its cash registers were manually operated, and parts catalogs were printed and mailed. As the company's stores and systems moved to online operations over the years, the technology progressed from a 56k frame relay to dedicated MPLS circuits. Now, the company uses a sophisticated electronic point-of-sale system, and sales staff can access catalogs online.

However, even the fastest connections aren't efficient when the network is down. Piston Ring stores were experiencing MPLS outages of up to six hours. Although stores had backup internet connections, the cutover would often take systems completely offline.

"When the connection reset, the staff had to close all applications, reopen them, sign in again," says Bartek Wojciechowski, network administrator at Piston Ring. "If you have a customer on the phone, you have that awkward pause from 30 seconds to a minute before you can start looking up parts and helping them again. At the end of the day, if the connection is not there, the store ends up losing money."

> "I would absolutely recommend VMware SD-WAN to small retailers like ours and even big companies. After all, if you have a critical need to be online to run your business, it doesn't matter what size you are."
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> Bartek Wojciechowski, Network Administrator, Piston Ring

Maintaining uptime required complex solutions

To keep uptime as high as possible, Piston Ring employed complex techniques. Most stores used a combination of expensive dedicated MPLS circuits with site-to-site virtual private networks (VPNs) over the internet as a backup. Wojciechowski says, "We are heavy Microsoft 365 users, and for a number of sites, we had to have both MPLS and an internet connection to improve that experience." VPN tunnels were cumbersome to set up because many sites didn't have static IP addresses. DSL modems had to be put into bridge mode to terminate the IP at the Piston Ring firewall and not the internet service provider (ISP) modem.

Piston Ring firewalls required a lot of management overhead, such as firmware updates, and highly manual processes were necessary to funnel traffic to a functioning connection in case the VPN tunnel dropped or there was an issue with the MPLS circuit. "Our point-of-sale solution is incredibly sensitive to VPN tunnel resets and reinitializations, and has very limited functionality when it's offline," says Wojciechowski. "All the keep-alive and timeout settings had to be set to very high values to maintain client-server connectivity."

Moving to simpler, faster SD-WAN

When Piston Ring was introduced to SD-WAN, Wojciechowski was more than ready for a change. He began looking at several SD-WAN vendors. "But when you lift up the hood and start doing a deep dive into the technology and how it functions, a lot of SD-WAN solutions had very limited functionality. Very few would function as active-active. They're always active-standby," explains Wojciechowski.

Wojciechowski and Piston Ring chose VMware SD-WAN because of its active-active and high availability capabilities. Organizations often pay for dual links, but the second link is used only for backup. Companies can't take advantage of dual links in an active-active mode because they don't have ways to manage traffic over both links. VMware SD-WAN can aggregate bandwidth over both links to get more throughput and reliability.

VMware SD-WAN provides continuous link monitoring with Dynamic Multipath Optimization™. As VMware SD-WAN detects congestion, it moves traffic to the best link and performs traffic steering over both links at the same time. This eliminates the wait for a total failure before failover can happen or wait for routes to reconverge, which happens with a legacy router.

If both links experience congestion, the system will send duplicate packets in real time over both links to ensure they get through. This means that VMware SD-WAN can deliver a quality user experience even under suboptimal link conditions.

> "VMware SD-WAN is really good for configuring every connection type that you can specify, whether you want it to be active, as a backup, or as a failover. You have granularity and choice for the configuration of the connections. The bandwidth allocation is more than enough for what we need and, knock on wood, never goes down."
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> Bartek Wojciechowski, Network Administrator, Piston Ring

Spending less to get better connectivity

These capabilities meant that Piston Ring could begin to substitute cheaper internet links for MPLS while getting even better connection speeds. "We were spending about USD $800 per month per store for dedicated MPLS connections at 26 stores," says Wojciechowski. Now, the company has reduced its links at many stores to two internet connections, each from a different ISP, along with some LTE connections for additional failover. "Our internet lines cost about USD $100 each, so that's huge savings across all our stores," says Wojciechowski.

"VMware SD-WAN is really good for configuring every connection type that you can specify," says Wojciechowski, "whether you want it to be active, as a backup, or as a failover. You have granularity and choice for the configuration of the connections. The bandwidth allocation is more than enough for what we need and, knock on wood, never goes down. Since we switched to VMware SD-WAN, we have pretty much 100 percent uptime. There are no disconnect or timeout issues, either. Support calls are down to almost none," he explains.

The company has been very pleased with the VMware support received during testing, implementation and after the sale. Wojciechowski says, "During testing, I had to make a support call. The person who helped me brought in a few other people, and the issue was resolved within 30 minutes. When I wanted to create some network enhancements and expand functionality, they had no problem assisting with that, as well. It's been a really nice experience."

Wojciechowski also explains, "I would absolutely recommend VMware SD-WAN to small retailers like ours and even big companies. After all, if you have a critical need to be online to run your business, it doesn't matter what size you are."

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