



INDUSTRY

AUTOMOTIVE DEALERSHIP

HEADQUARTERS

SANDY, UT

KEY CHALLENGES

- Growing business made it difficult to keep everyone connected
- Intermittent loss, frequently degraded WAN connectivity
- Slow application performance and availability
- Lower productivity and negative business impact due to network issues

BUSINESS RESULTS

- Enhanced availability, redundancy, and intelligent application optimization
- Multiple transport options provide flexibility
- No infrastructure downtime
- Better visibility and easier troubleshooting of network issues

Larry H. Miller Dealerships Supercharges Network Infrastructure with SD-WAN

This case study can serve as a blueprint for any enterprise that wants to enhance or transform its infrastructure to take advantage of cloud, 5G, and other emerging connectivity innovations. Learn more about how this top automotive dealer had network issues, and how VMware SD-WAN by VeloCloud solved them.

One of the top automotive retailers in the country, Larry H. Miller Dealerships, thrives on state-of-the-art tech to stay ahead of the competition. With 65 dealerships located across the western United States, seamless communication helps keep this disparate organization connected and working in sync. This is why the company's infrastructure technology matters so much to their operational efficiency, and ultimately to their success.

The company's previous network suffered from a variety of problems. To address these issues, LHM Dealerships engaged their technology integration partner, Lightstream, to jointly architect and implement a highly resilient infrastructure with VMware SD-WAN™ by VeloCloud® platform as a foundation. VMware SD-WAN provided significant advantages that helped LHM Dealerships transform its legacy network into a valuable competitive differentiator.

Background

As a large organization with dealerships spread across the western United States, keeping everyone connected in real time was paramount. Unfortunately, LHM Dealerships' network suffered from intermittent loss as well as frequently degraded wide area network (WAN) connectivity. This had a significant negative impact on the company's ability to transact business and serve its customers.

These issues made applications slow or even unavailable, especially with cloud-based software as a service (SaaS) offerings, most notably the company's dealership management software (DMS). The DMS software serves as the company's enterprise resource planning (ERP) application for their car dealers, and its availability and performance are mission-critical to the organization's sales operations.

“It’s just opened our eyes to things we haven’t seen on our network before, and facilitates a lot of troubleshooting that we’ve been able to do without the need to have a CCIE on staff.”

MICHAEL VAN ORDEN
CIO, LHM DEALERSHIPS

New LHM Dealerships CIO, Michael Van Orden began to research networking options. He believed the continued emergence of software-defined WAN showed promise as an enterprise-level solution for his organization. In fact, LHM Dealerships used an early example of SD-WAN technology from a different vendor. The company decided that their fast-growing business needed an enterprise-class network infrastructure. After evaluating a variety of products in this nascent market, in June 2019 LHM Dealerships decided VMware SD-WAN was the right fit.

Proof of concept

After deciding on VMware SD-WAN, the network team at LHM Dealerships engaged Lightstream for a proof of concept (POC). This initiative took place from August to October 2019 and was deployed at two data centers, LHM Dealerships headquarters, and three dealership locations. The project completely replaced the older networking platform with the new VMware SD-WAN solution at these three dealerships.

LHM Dealerships saw the VMware SD-WAN advantages immediately. Staff remarked on the improved network visibility at the dealerships involved with the POC. This enhanced monitoring capability wasn’t possible with the older networking technology.

The POC was, however, not without its challenges. For example, shortly after the migration, one of the dealerships began experiencing VoIP handset reboots and call drops during business hours. LHM Dealerships engineering staff, Lightstream engineering personnel, VMware support, and the telephony vendor support converged on the problem and ultimately identified the issue as outdated telephony code resulting in non-standard Session Initiation Protocol (SIP) formatting that was thus incorrectly matched by the VMware traffic policy engine. Once identified, the problem was easily remediated on the telephony platform. The two dealerships on a different, newer telephony solution experienced no such issues. Other issues surfaced throughout the POC which were identified, diagnosed, and resolved by the combined LHM, Lightstream, and VMware teams.

Stress-testing VMware SD-WAN also offered a few insights during the project. The project team engaged multiple video streams, data traffic, and phone calls at one of the dealerships in the POC, essentially flooding the branch site with network traffic. The VMware SD-WAN logic prioritized the network traffic per their requirements with no end-user problems.

The team then disconnected one of the two primary network circuits. They could see the remaining circuit flooded with all the traffic but the software again prioritized the packets. And even though some video was delayed, the prioritized voice phone calls and data requests to the data center were not affected.

Next, the team disconnected the remaining primary circuit and all traffic rolled over to the standby cellular network. VMware handled the transition so well, the phone calls didn’t even drop while rolling over to the standby cellular network, handling all the extra bandwidth traffic and disconnects with no issues. In the end, a successful POC led to a full rollout of VMware SD-WAN across LHM Dealerships’ entire network infrastructure.

Project implementation timeline

For the full rollout of the VMware SD-WAN platform, the LHM Dealerships and Lightstream team formulated an aggressive project plan. The goal involved installing the new networking solution in the rest of the company’s 62 dealerships by the end of 2019, while accounting for blackouts during peak holiday periods. An aggressive timeline was required to ensure a successful project outcome. The project team began the implementation in the second week of October, with a projected completion date of December 23.



LIGHTSTREAM

Lightstream's expertise lies in taking the complexity out of On-Premise and Cloud Convergence, including network integration, cloud migration, security and system monitoring, all supported through 24/7 managed services. We work alongside the world's leading cloud, technology and telecommunications companies and provide value to our customers through unique engineering, project management and service-oriented solutions. We do this through level headedness, solid communication, technical competency and a fanatical commitment to customer needs and concerns. Visit us at www.lightstream.tech or connect with us on [LinkedIn](#).

Project results

The LHM Dealerships networking team immediately noticed the tangible benefits of the VMware SD-WAN solution. Van Orden highlighted the enhanced availability, redundancy, and intelligent application optimization enabled by the VMware SD-WAN Dynamic Multipath Optimization™ (DMPO) algorithm across a hybrid WAN consisting of Multiprotocol Label Switching (MPLS), Dedicated Internet Access (DIA), broadband Internet, and 4G/LTE paths. "We no longer had to manually direct traffic flows across individual circuits," said Van Orden, "The VMware SD-WAN platform just figures it all out dynamically on its own, while allowing us the freedom to override in special cases if we wish."

Operationally, Lightstream provides full managed services on the infrastructure, including carrier event management, as well as Tier 3 network architecture and operational support. Even though the infrastructure now self-heals by adjusting around network or hardware failures, Lightstream's managed services ensures such failures are quickly identified, diagnosed, and remediated, thus preventing end-user outages resulting from the confluence of an unremediated failure coupled with a future failure.

Since deployment of the VMware SD-WAN solution, LHM Dealerships reports no infrastructure downtime, arguably the most important metric of any network. "Through multiple tests as well as unplanned outages with a hard-down primary WAN circuit," Van Orden noted, "the built-in forward error correction (FEC) still optimizes the traffic with one circuit. When both primary circuits go down, the redundancy provided by the VMware SD-WAN platform seamlessly performs a rollover to a wireless cellular circuit serving as a backup."

LHM Dealerships also highlighted how the VMware DMPO algorithm helps network circuits optimize their applications, ensuring bottlenecks never cause performance issues for critical applications. Additionally, the enhanced monitoring capabilities provided by the VMware SD-WAN Orchestrator coupled with Lightstream's managed services makes troubleshooting and resolving any network problem a simpler and faster process. "It's just opened our eyes to things we haven't seen on our network before, and facilitates a lot of troubleshooting that we've been able to do without the need to have a CCIE on staff," said Van Orden.

Next-generation SD-WAN: A critical component of business transformation

The next-generation software-defined VMware infrastructure benefits both LHM Dealerships and its customers. Previously, a customer in a dealership waiting room streaming Netflix programming potentially caused network performance issues for the mission-critical operations. Now, LHM Dealerships can keep the guest wireless access on a separate segment and configure that segment with a lower network priority, while guaranteeing top priority for critical company functions—a positive "customer experience" on multiple fronts.

In the end, the VMware SD-WAN platform offers significant benefits to LHM Dealerships. Improved application performance, layers of redundancy, fewer support tickets, and happier employees and customers all provide a significant return on the company's investment in a state of the art networking infrastructure. Isn't it time for your organization to consider adopting VMware SD-WAN?

For more information about VMware SD-WAN, visit www.velocloud.com.

