Doyle Research

SD-WAN Case Study: A Fortune 500 Retailer

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SD-WAN at a Fortune 500 Retailer

Doyle Research interviewed the Director of Networking and Telecom at a large US-based retailer. This retailer has approximately 3,500 stores (around the world) across multiple brands. Revenues exceed $10B per year and it has over 100,000 employees. Each store has several dozen distinct applications, including Point of Sale, which must be linked back to one of its three data centers and to the Internet. Its current WAN environment is a mix of MPLS and VPLS private circuits from a variety of carriers. All stores have some (limited) Internet connectivity. Annual spend on WAN circuits exceeds $25 million per year. The retailer has a sizeable team of IT specialists to support the WAN across its global network.

WAN Challenges

The retailer spends a significant ($25 million+) amount of money every year on its WAN circuit costs plus the related operational costs (millions of dollars per year) to maintain and support the WAN. The company would like to introduce new bandwidth intensive applications at the stores (e.g. video surveillance and cloud-based applications). The leading WAN challenges for the retailer are:

- Cost of the WAN circuits. MPLS/VPLS circuits remain expensive and are costly to upgrade for additional bandwidth. There are a number of specific locations with very high per Mbps WAN costs that need to be addressed.
- Requirements for differential handling of the traffic for store specific (e.g. payment), Guest Wi-Fi, Voice and others applications – each with a different topology and SLA specification.
- Operational Costs. OPEX for the WAN continues to grow and IT talent to support the WAN is often difficult to hire and retain, especially in some geographies. The retailer needs to evaluate solutions to reduce OPEX.
- Centralized Administration. Related to OPEX, the retailer would like to move to a more centralized management structure for the WAN. Significant benefits of central administration, include automation, rapid provisioning, and improved traffic prioritization.

Buying Criteria for SD-WAN

The goal of SD-WAN solutions are to leverage the availability and cost curve of Internet WAN transport to provide reliable, high performance, and secure WAN connectivity. The retailer has the following buying criteria to evaluate SD-WAN solutions for its network, including:

- **High performance at scale.** The solution needs to easily scale to thousands of locations and provide high performance routing.

- Requirement for **multiple logical WAN segments** built on the same physical infrastructure, with different logical topologies and securely isolated from each other:
  - Guest Wi-Fi with local breakout
  - Store-specific applications – hub and spoke topology
  - Surveillance – regional full-mesh topologies
  - More segments needed for future applications
- **PCI compliance and security.** The SD-WAN solution must meet the stringent compliance requirements of PCI, and significantly improve the security of relatively unsecure Internet links.
- **Ease of Operations.** The solution should be "intuitive to use" and help to reduce OPEX costs via centralization provisioning and management.
  - Zero touch provisioning of sites
  - Centralized enforcement of policies
  - Centralized troubleshooting, visibility and reporting

Why the Viptela SD-WAN Solution

After an extensive evaluation and production pilot in a small store footprint, the retailer has selected Viptela's Secure Extensive Network (SEN) solution for deployment to over 1,400 stores during 2015. The retailer is upgrading the current low speed Internet circuits to high speed Internet which provides 3x the bandwidth at 40% of the cost of comparable MPLS/VPLS offerings. The current MPLS network will be phased out in favor of Internet broadband links. Centralized policy is applied to provide Gold, Silver, and Bronze level service for each of the store applications –while the PoS solutions remain on MPLS (for now). The Viptela solution integrates well with the retailer's existing (legacy) WAN products.

The Viptela solution helps the retailer move towards its goal of carrier agnostic WAN transport and migrate its WAN traffic growth to secure Internet transport. The solution provides multiple logical segments, which have different topologies as per the applications (Guest Wi-Fi, store-specific applications, PCI, Surveillance etc.), and each segment is managed with a different policy. The solution provides the ability to add many more logical segments for future needs.

Meet the Author

Lee Doyle is Principal Analyst at Doyle Research, *providing client focused targeted analysis on the Evolution of Intelligent Networks. He has over 25 years' experience analyzing the IT, network, and telecom markets. Lee has written extensively on such topics as SDN, NFV, enterprise adoption of networking technologies, and IT-Telecom convergence. Before founding Doyle Research, Lee was Group VP for Network, Telecom, and Security research at IDC. Lee contributes to such industry periodicals as Network World, Light Reading, and Tech Target. Lee holds a B.A. in Economics from Williams College.*