

Why Modern Enterprises Need SD-WAN

Featuring 7 VMware SD-WAN Success Stories

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New Challenges Call for Better Network Technologies

Enterprises are transforming their applications, adopting multi-cloud and SaaS, and enabling users to access these resources from the office, home or anywhere. But the path to cloud and SaaS is often through a legacy network designed for an era when most applications lived in a data center and most employees worked in an office. This can compromise security, strain resources, slow connections, and ultimately frustrate the very users that these resources are supposed to empower.

As companies shift from a centralized to a distributed model of applications and work, they need a new cloud-delivered, software-defined approach to networks and infrastructure.

Software-defined wide area network (SD-WAN) technology is evolving beyond simply providing fast, flexible hybrid WAN and cloud connectivity. SD-WAN can solve the challenges of moving workloads out of the data center to the cloud or shifting to SaaS. It can meet the needs of highly distributed, latency-sensitive workloads, apps and devices at the edge. And it will ultimately lead the way to a secure access service edge (SASE) architecture.

A modern SD-WAN solution should:

- Pave the way to multi-cloud, securely connecting users and branches without consuming data center resources
- Empower enterprise employees to work anywhere—remotely, securely, easily, and productively
- Enable enterprises to take on new applications and use cases at the edge
- Harness the power of AIOps to rapidly identify root causes and remedial actions associated with poor application performance, reducing operational complexity
- Offer choice and interoperability, allowing enterprises to build their ideal network and transition smoothly to SASE

What is SD-WAN?

SD-WAN is the application of software-based network technologies that virtualize WAN connections. SD-WAN decouples network software services from underlying hardware to create a virtualized network overlay. Enabling the connection of users anywhere to applications anywhere, SD-WAN offers flexibility, simplicity, performance, security, and cloud scale. It also boasts ease of deployment, central management and control and assured application performance.

Why Choose VMware SD-WAN?

Start your journey with a proven leader. VMware SD-WAN™, the foundation of VMware SASE™, has a matchless array of features that bring cloud-delivered networking, security, and AIOps together with compute to support ubiquitous access for a distributed workforce, along with modern edge applications.

SASE PoPs

VMware and its partners provide over 200 points of presence (PoPs) around the world to simplify connectivity to the cloud and SaaS. The PoPs have direct paths to cloud and SaaS providers, for low-latency handoff without the need for IT to deploy SD-WAN resources in cloud provider networks.

SD-WAN client

Enterprises need an SD-WAN solution for employees on the road, or when a hardware appliance is not feasible. The VMware SD-WAN Client follows the principles of zero trust to extend the benefits of reliable, optimal, and secure connectivity for end user devices.

Dynamic Multipath Optimization

Ensuring a reliable user experience requires understanding the network and adapting to network issues in real time. Beyond simple error correction, Dynamic Multipath Optimization™ (DMPO) ensures high bandwidth, reliable connectivity, and the lowest latency for business-critical application traffic.

Interoperability

Architected based on the concept that “the cloud is the network,” VMware SD-WAN and SASE support a wide range of services offered by AWS, Azure, and Google Cloud, including AWS Cloud WAN, Azure Virtual WAN, and Google Cloud Network Connectivity Center.

Integrated AIOps

Maintaining a rich user experience with cloud applications is easy with VMware SD-WAN. In addition to collecting application performance information, integrated VMware Edge Network Intelligence™ uses network statistics to understand and communicate the root cause of degraded application performance—even in the Wi-Fi networks of work-from-home users.

Security certifications

VMware meets the strict security standards for products sold to US Federal government agencies including FedRAMP, SOC2 Type 2, and ICASA certifications. Customers can feel confident about the integrity of VMware SD-WAN and SASE to secure their networks and users.

Edge security choices

Customize and enforce intelligent security policies across the network. Easily interoperate with third-party firewall and cloud security services. Protect, prioritize, and isolate traffic via zero trust end-to-end segmentation.

SD-WAN: The Cornerstone of SASE

SASE is cloud-native and cloud-delivered networking and security for the distributed edge. These are the components of industry-leading VMware SASE:

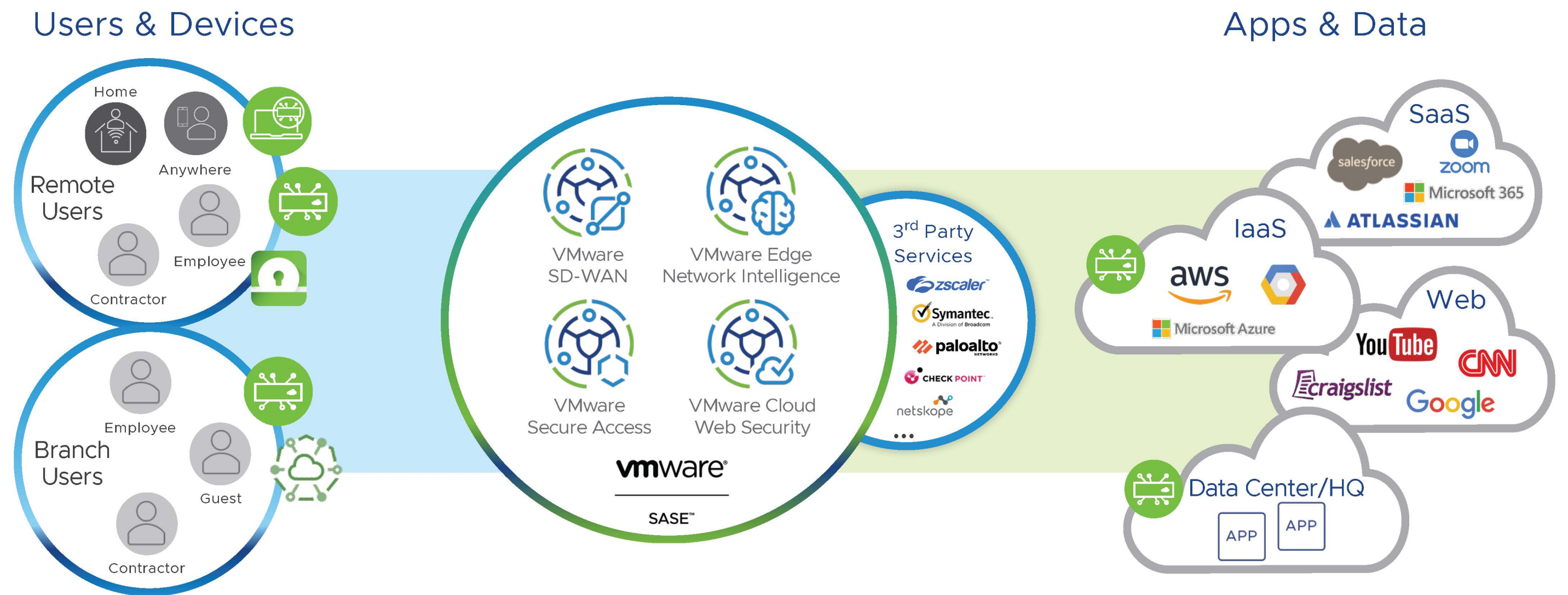
VMware SD-WAN brings compute and networking together for enterprise application transformation while delivering security and ubiquitous access for the distributed workforce.

VMware SD-WAN Client provides enterprise IT with an easy and secure VPN replacement for remote workers that optimizes last-mile connection quality. It sets up in minutes, provides a rich user experience, and uses zero trust principles to reduce organizational risks against breaches.

VMware Cloud Web Security™ is a cloud hosted service that protects users and infrastructure accessing SaaS and Internet applications from threats, offering visibility, control, and compliance.

With **VMware Secure Access™**, VMware SD-WAN and VMware Workspace ONE come together to enable secure, optimized, and high-performance access for remote and mobile workers.

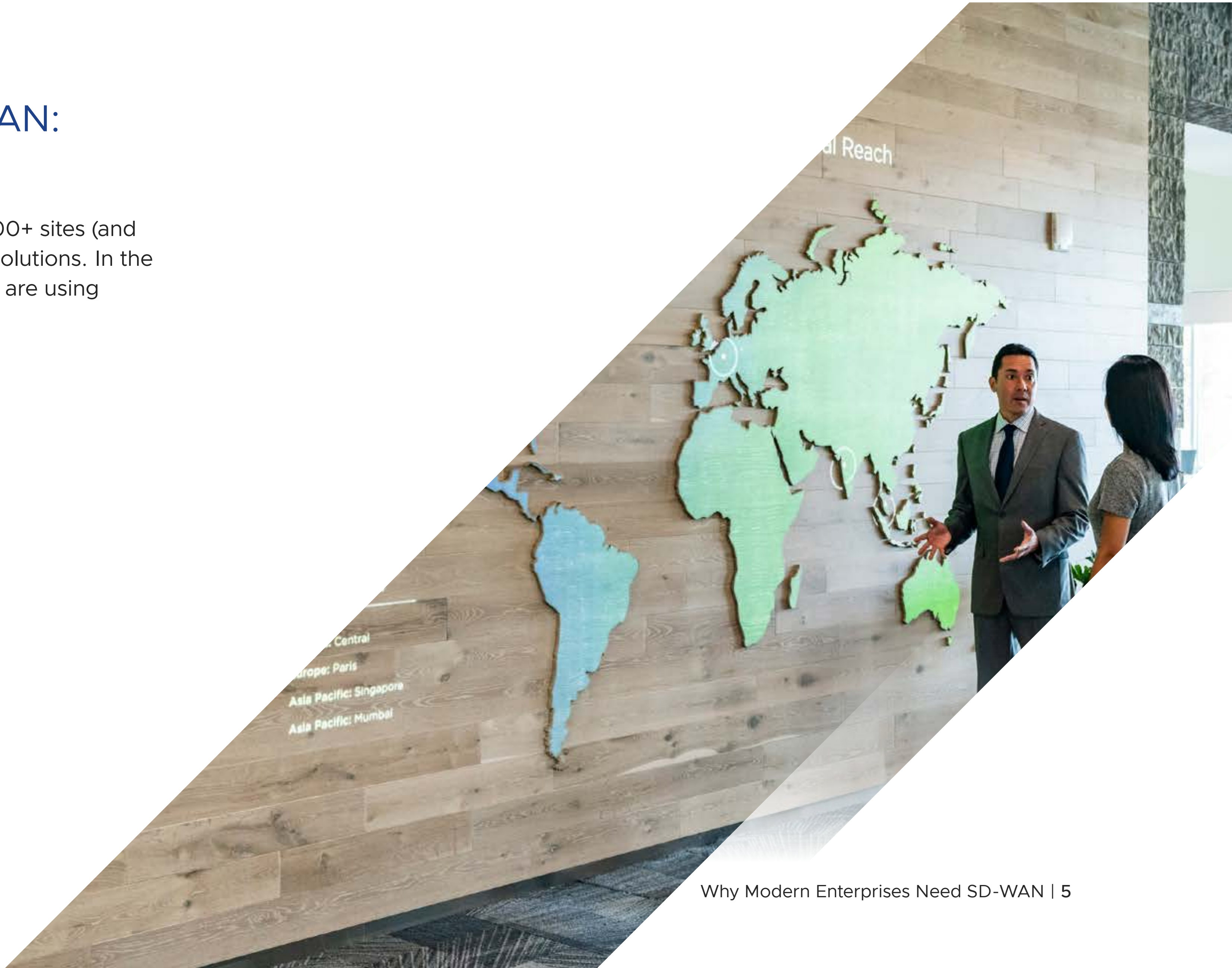
VMware Edge Network Intelligence proactively manages client experience with AIOps for end user and IoT device performance, security, and self-healing in wireless and wired LAN, SD-WAN, and SASE.



Enterprises Choose VMware SD-WAN: Customer Success Stories

More than 18,000 customers in 180 countries across 580,000+ sites (and adding more every day) trust VMware SD-WAN and SASE solutions. In the pages that follow, see how companies in different industries are using VMware SD-WAN to move their businesses forward.

- Retail
- Healthcare
- Financial Services
- Public Sector
- Manufacturing
- Energy-Utilities



Growing the Retail Wireless Experience

Whole Foods and its parent company Amazon rely on data to keep stores, warehouses and management systems running smoothly. To provide a full picture of their networking infrastructure, they needed a monitoring solution that would give them a comprehensive view of network health. With VMware Edge Network Intelligence, the company has true visibility into the root causes of network problems.

Challenges

Whole Foods relies on wireless networks to keep distribution centers and stores running as efficiently as possible, and to delight customers with tools that rely on in-store wireless networks such as cashierless checkout, ordering prepared foods, and in-store fulfillment for online orders.

When connectivity problems happen, the costs can include lost sales, bottlenecks in the flow of goods, IT time and frustration, and, worst of all, unhappy customers.

The company had point solutions that would give them pieces of the puzzle, but they needed a single tool that provided a comprehensive view of network health across a global network of interconnected locations.

Solution

The IT team at Whole Foods estimates they have saved hundreds of staff hours since implementing VMware Edge Network Intelligence.

With VMware Edge Network Intelligence, Whole Foods was able to solve a problem with wireless handheld scanners a full nine months sooner than would have been possible with traditional tools.

Whole Foods deployed VMware Edge Network Intelligence as a virtual image, eliminating the need for additional hardware and staff at store locations.

[Read the Whole Foods story](#)

“The data we get from VMware Edge Network Intelligence reflects the actual experience that people are having, the packets flowing to and from devices. We not only can look at network health in aggregate at a high level, but breaking data out per client and being able to drill down to individual clients has been pretty excellent.”

Paul Jorgenson, Senior Network Development Engineer, Whole Foods Market



Healthcare Group Ensures Availability of Patient Services

Olios Health and its affiliate company, Synovation Medical Group, rely on advanced unified communications, telehealth, and video technologies to serve 1.2 million patients. To optimize quality of service (QoS) and keep these demanding applications running at their best, the companies need deep visibility and insight into network performance at multiple sites. Ollos Health turned to TPx, a leading managed services provider, to migrate its infrastructure to VMware SD-WAN.

Challenges

The companies were expanding aggressively, increasing traffic and complexity in their environment. They needed a way to better manage the quality of service for applications, through better analytics and metrics.

MPLS network was becoming more complex and difficult to see and manage as Ollos Health grew.

An available cloud ramp was a key requirement to begin a migration to the cloud.

Solution

With its managed service from TPx, Ollos Health gained access to a modern WAN infrastructure that delivers the observability and control it needs to keep critical applications for its organization and its healthcare partners running at their best.

VMware SD-WAN provides visibility for better traffic management and network management through the single-pane-of-glass VMware SASE Orchestrator. Being up 24x7, with consistent, reliable, fast access to applications and platforms is key to optimal patient care.

Flexible, scalable VMware SD-WAN accommodated the increased demand for telehealth and remote access to electronic health records during the pandemic, as patients were seen virtually and staff worked from home.

[Read the Ollos Health story](#)

“Troubleshooting is easier with VMware SD-WAN, and we have achieved a 30% reduction in cost. In the past, our IT team spent much of its time just trying to figure out what was going on in different network segments. SD-WAN allows you to identify the applications that are being utilized at the end point, and having that visibility is priceless.”

Damian Dyer, CIO, Ollos Health/Synovation Medical Group



Large Finance and Insurance Company Stays Productive from Home

With a workforce of over 30,000 US-based employees, this company needed a dependable and accessible network platform. The company already relied on VMware SD-WAN and partner QOS Networks to support dependable voice and video calls for work-from-home representatives. When the pandemic sent thousands more employees home, VMware and QOS delivered and deployed almost 9,000 VMware SD-WAN Edges in 10 business days.

Challenges

Before VMware SD-WAN, network changes had to be manually scripted, which could take hundreds of days across all the company's sites.

The company's business model relied on home-based service representatives. Bandwidth and network access in employees' homes could be unpredictable, making it difficult to serve customers.

COVID-19 caused even more employees to work-at-home, making existing problems more widespread.

Solution

The company had already deployed 5,000 work-at-home sites in 32 days. In March 2020 VMware, partner QOS Networks, and the company pre-provisioned and delivered almost 9,000 new VMware SD-WAN Edges within 10 business days, keeping a new cohort of work-from-home employees productive and connected.

Home users easily installed VMware SD-WAN using zero-touch provisioning, while network managers could easily see and troubleshoot any issues through the VMware SASE Orchestrator.

Vastly improved bandwidth supported both voice and video calls, direct access to customer records that were housed in various locations, and online training.

[Read the QOS Networks story](#)

With VMware SD-WAN, quality scores for voice and video skyrocketed. Video call quality scores were 5.67 out of 10 before VMware SD-WAN. With Dynamic Multipath Optimization (DMPO) technology that prioritizes voice and video calls over other network traffic, video scores improved to 9.85, and voice quality scores reached an incredible 9.89—no matter the quality of the underlying transport.



Connecting 200 Sites Worldwide

Famed global manufacturer Michelin needed better connectivity options for its more than 120,000 employees in 170 countries. With partner AT&T, Michelin chose VMware SD-WAN to put them on the path of network self-determination, with the ability to control cost and bandwidth utilization.

Challenges

Michelin began to migrate on-premises collaborative applications to SaaS solutions, effectively doubling bandwidth requirements.

The company was finding that it had to increase network capacity by almost 100% every 12 or 18 months, which became a technical and a financial issue.

Michelin's network team was completely dependent on local providers' ability to provide enough bandwidth through MPLS links, or to deploy additional fiber. Lack of competition increased prices and employees were dissatisfied with connection quality.

Solution

Cloud-delivered VMware SD-WAN lets Michelin deploy new sites faster, and choose the best quality-price ratio in places where it is difficult to get a network.

Michelin has independence from the information transport layer and from network providers, allowing the company to keep business and application rules consistent no matter the site or the network.

VMware SD-WAN provides detailed visibility into network traffic. The company can use all available bandwidth in active-active mode, while optimizing traffic flow according to business needs.

[Read the Michelin story](#)

“We now measure the real quality of service of the networks we buy, not just the SLA measured by the service providers. And we have very precise visibility into the bandwidth actually used, congestion rates, latency... Finally, all this allows us to buy more bandwidth at a lower cost. In the end, the ROI of our SD-WAN was achieved in 16 months and users are much more satisfied. Once you've had a taste of SD-WAN, you can't do without it!”

Pauline Flament,
Chief Technology Officer, Michelin



Connectivity Is a Public Service

Surrey Police and Sussex Police have over 8,300 officers and staff serving more than 2 million people in two of the UK's most densely populated counties. With partners Breeze Networks and Softcat, Surrey and Sussex Police chose VMware SD-WAN to help them move to cloud and SaaS services, save costs, reduce their carbon footprint, and ultimately put them in a better position to serve their communities. The next step is a project that can place VMware SD-WAN Edges in vehicles, greatly improving mobile communications for police and emergency services.

Challenges

Surrey and Sussex Police needed to comply with a national program that standardizes technology platforms on Microsoft Azure and Microsoft 365 for police programs across the UK.

A complex, aging, inflexible WAN service with expensive support contracts was difficult for skilled engineers to maintain and scale.

The network did not have enough bandwidth to support the platform used to manage content from officers' body-worn video cameras. Uploading and downloading footage was a difficult, multi-step process that took officers away from their operational policing duties.

Solution

Dynamic Multipath Optimization (DMPO) speeds both local network processing and the organizations' connectivity to Microsoft Azure, making daily tasks much faster and simpler.

Surrey and Sussex Police were able to remove legacy point-to-point networks and implement connection diversity over multiple broadband and MPLS links.

The VMware SD-WAN solution was implemented in record time—between 10-15 sites per week—without skilled engineering staff or high costs.

[Read the Surrey and Sussex Police Story](#)

“VMware SD-WAN was chosen as it is the best in class to support our ongoing operational business needs ... VMware SD-WAN is a very powerful platform to help us get to the heart of any faults and repair them more quickly.”

Dr. Steve Conn, Technical Project Manager of Connectivity and Security, Surrey and Sussex Police Forces



Cloud Innovation at Sporting Goods Retailer

A large sporting goods retailer with 400+ sites wanted to expand and optimize cloud services and applications that support its core business operations at stores throughout the western U.S. Working closely with Hughes Managed Services, the retailer deployed Azure VMware Solution together with VMware SD-WAN to support its multi-cloud infrastructure, backed by next-generation security for on-premises network elements.

Challenges

The retailer wanted to enhance its ability to monitor application performance and integrate robust security at the infrastructure edge and cloud services.

To ensure fast and efficient payment transactions, build customer loyalty, and streamline operations, the company wanted to update and future-proof its network.

The retailer needed a cloud-forward infrastructure platform that was simple to install and use, and would enable it to quickly move workloads to the cloud, without compromising security.

Solution

With Azure VMware Solution, the retailer can migrate workloads from its on-premises environments, create or deploy new virtual machines, and consume Azure services from private clouds using familiar VMware tools.

The retailer gets excellent visibility into network applications from VMware SASE Orchestrator. This scalable, web-based central management tool provides real-time insight into performance by drilling down into traffic flows, WAN circuit performance metrics, application flow metrics, and more.

[Read the Hughes story](#)

“The ability to take something new from VMware—Azure VMware Solution—work on it together, get it spun up and tested in just a couple of days, and get it deployed into our customer environment in less than a week, speaks to the strength of our partnership and the strength of the technology.”

Mike Tippetts, VP of Enterprise Marketing & Organizational Development, Hughes



Separating Network Traffic Across Multiple Isolated Sites

MPC Kinetic is an Australian-based company providing essential upstream services to some of the country's leading energy and resource industries. The company was challenged by a fast-growing network spread over 15-20 sites in extremely remote areas. VMware and partner Coevolve implemented a VMware SD-WAN solution that provided total network control, automation, enhanced security and visibility, increased bandwidth, and cost reduction.

Challenges

The company struggled to effectively separate traffic for different business units and joint venture partners, and needed to fully separate its core network infrastructure from its branch offices.

MPC Kinetic requires a robust network that can extend to multiple project sites, including some sites in remote areas such as the Australian desert.

MPLS could not support MPC Kinetic's need to set up new sites in weeks, rather than months, in areas with little to no terrestrial connectivity.

Solution

MPC Kinetic has comprehensive visibility and control by enabling them to connect to all network endpoints from the centralized VMware SASE Orchestrator.

VMware SD-WAN provides enhanced security with the ability to apply network-wide security policies and providing local, third-party and cloud security services wherever they are needed.

VMware SD-WAN is able to economically expand bandwidth by aggregating and optimizing all kinds of WAN circuits. This was particularly beneficial for MPC Kinetic construction workers at remote camp sites, who used VMware SD-WAN as a gateway to the internet to watch videos on streaming services.

[Read the MPC Kinetic Story](#)

“Seeing VMware SD-WAN enable performance even in harsh and remote conditions, has enabled us to avoid significant additional expenditure and time on private MPLS.”

Brian Carroll, Group Manager IS&T, MPC Kinetic



Get a Competitive Advantage with VMware SD-WAN

VMware SD-WAN™ and VMware SASE™ bring cloud-delivered networking, security, and AIOps together with compute to support ubiquitous access for branch and remote workers as well as digital transformation at the edge. They feature a single management interface that leverages artificial intelligence to simplify operations.

Cloud-native by design, VMware SD-WAN and SASE leverage a global network of over 200 PoPs deployed by VMware and its partners that provide unparalleled self-healing access to major cloud and SaaS providers. The solution is available as a managed service backed by 285+ service providers worldwide or using a self-managed model.

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