Leader in vehicle safety assures manufacturing uptime and high quality of end-user experience with business-driven SD-WAN

IMMI boosts application performance, reliability, and efficiency across global locations with Unity EdgeConnect SD-WAN edge platform and Unity Boost WAN optimization

IMMI is on a mission to bring safety to everyone, from people driving in their cars and children riding on school buses, to commercial truck drivers, motorcoach travelers, and first responders. As a leading innovator and manufacturer of vehicle safety products, including seat belts and air bags, IMMI's life-saving products inspire passion among its employees—like Vice President of Enterprise Technology, Tom Braden.

Braden says, "It feels good going to work for a company that's literally saving children's lives. We're the leading producer of seat belts for school buses, and our crash test data shows scientifically how seat belts can protect children on school buses from serious injury and even death in an accident."

Bringing such life-critical products to market requires an extensive range of business capabilities,

20% FASTER APPLICATIONS

99.965% AVERAGE UPTIME

HIGHER USER SATISFACTION

from design and engineering, through prototyping and testing, all the way to manufacturing and distribution. IMMI has facilities around the world to make this happen, but all the data and applications that employees need to do their jobs, like enterprise resource planning (ERP) and computer-aided design (CAD), are in two data centers in the U.S. This presented serious connectivity challenges.

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Last year we had average uptime of 99.965 percent across all sites, and I attribute that directly to Silver Peak. Now, if we lose connectivity at 2:00 a.m., I don't lose a wink of sleep."

— Tom Braden, vice president of enterprise technology, IMMI

Braden explains, "The biggest issue is the geographic disparity of our sites. Our manufacturing plant in China has lots of CAD engineers. No matter how fast your WAN connection is, pulling a CAD file over such a great distance is going to introduce high latency and packet loss, which impacts the user experience."

SD-WAN overcomes geographic disparity issues

SD-WAN was in the news, and Braden recognized how it could mitigate the issues of connecting global sites to IMMI's data centers. The question was, which vendor to choose.

After a thorough evaluation of Silver Peak, Cisco, Riverbed, and VMware, Braden selected the Silver Peak Unity EdgeConnect™ SD-WAN edge platform.

Why? "The EdgeConnect platform has the features we need to ensure high availability, eliminate packet loss, and minimize latency," Braden states. "It offered the best all-around combination of capabilities for the money."

Braden and his team deployed the EdgeConnect platform at their worldwide locations, most in redundant configurations for high availability. At each site, EdgeConnect is terminated with two circuits, typically Dedicated Internet Access (DIA) or business-class broadband, with the China site using a combination of MPLS and broadband. Using the unified routing interoperability and stateful zone-based firewall within EdgeConnect, Braden retired IMMI's legacy routers and firewalls at remote sites to consolidate and simplify the WAN edge. The optional Unity Boost™ WAN optimization performance pack provides much-needed application acceleration at IMMI's China and UK locations.

Deployment was easy. Anyone at the remote site could simply connect EdgeConnect to the internet service and power it on. Configuration was then done centrally using the cloud-based Unity Orchestrator™ management interface. The site could be up and running on the SD-WAN in less than an hour.

Dramatically improves quality of the end-user experience

Today, with the Silver Peak SD-WAN solution, connectivity and performance problems are now a thing of the past. Features like path conditioning, quality of service, and dynamic path control provided by the

EdgeConnect platform mitigate common issues such as packet loss and variations in circuit quality.

Braden notes, "The unique capabilities provided by EdgeConnect make a noticeable difference in the quality of experience for our users. Applications perform at least 20 percent faster on the Silver Peak SD-WAN."

He adds that Boost WAN optimization is also key. "When Boost is applied at a site like China, it neutralizes latency to the point where it's no longer noticeable. We can move huge CAD files, 20 to 30 megabytes each, around the globe with no problem. This improves productivity and has led to a great deal of user satisfaction. What matters most to me is the user experience."

By enabling local internet breakout at all locations, users also have a higher quality of experience accessing SaaS applications like Salesforce and Microsoft Office 365. That traffic is no longer backhauled through the data centers like before; instead, users automatically connect to the nearest cloud instance, improving efficiency and application performance.

Assures uptime and performance for mission-critical applications

Another important factor is the ability to prioritize applications and apply unique QoS policies to guarantee each class of application gets the network resources required to meet business needs. Braden has created business intent overlays for real-time applications, like the Cisco Unified Communication phone system, and mission-critical Oracle Enhanced Business Suite (EBS), the company's ERP application, to ensure they always get highest priority on the network. Just as important he also created overlays for less-important traffic such as streaming media from sites like You Tube.

As a manufacturer, keeping locations up and running 24/7 is top priority for IMMI. Business intent overlays, in conjunction with redundant EdgeConnect appliances configured for high availability and sub-millisecond circuit failover, play a crucial role in assuring uptime for IMMI's global locations.

Braden points out that he may not be able to control when a provider has a circuit outage or brownout, but using Silver Peak he can work through that issue without sites going down. "I have overlays specifically to maintain uptime at the sites — to get maximum throughput and maximum reliability. EdgeConnect uses both connections simultaneously, and where we apply intelligent business intent overlays, we have seamless failover. Last year we had average uptime of 99.965 percent across all sites, and I attribute that directly to Silver Peak. Now, if we lose connectivity at 2:00 a.m., I don't lose a wink of sleep."

Next on the horizon for Braden is extending the Silver Peak SD-WAN to the cloud. His cloud strategy is to eventually move all infrastructure and applications into Microsoft Azure along with a virtualized EdgeConnect appliance.

"From an SD-WAN perspective, we won't have to learn anything new when we move to the cloud," Braden says. "We can take advantage of all the same application tuning and business intent overlays we already have in place. Nothing will change, except sites will be connecting to Azure instead of physical data centers. I have no doubt Silver Peak will make our cloud journey an enjoyable experience."

For more information on Silver Peak and our solutions, please visit: silver-peak.com

Customer

IMMI is an industry leader in the design, testing, and manufacturing of advanced vehicle safety systems. Headquartered in Westfield, Indiana, IMMI operates in multiple locations worldwide. Founded in 1961 as Indiana Mills and Manufacturing, Inc., IMMI has grown from four employees and two sewing machines into a global company that specializes in bringing innovative, customized safety solutions to people all over the world.

Challenge

IMMI has global manufacturing plants and warehouses that must connect to U.S.-based data centers to access mission-critical applications. Internet and SaaS traffic were also backhauled to the U.S. High latency and packet loss on its traditional WAN degraded application performance and created a poor user experience, and circuit outages or brownouts would cause costly downtime for an entire site, negatively affecting productivity.

Solution

IMMI deployed the EdgeConnect platform at all of its worldwide locations, primarily in high-availability configurations. At most sites, EdgeConnect is terminated with Dedicated Internet Access (DIA) and business-class broadband, with its China site using MPLS and broadband. Boost WAN optimization is applied at IMMI's China and UK locations to accelerate applications and large file transfers. The company uses Orchestrator to configure business intent overlays to prioritize various classes of applications for optimal performance and reliability, and to centrally manage the global SD-WAN.

Results

> Improves application performance by 20 percent, elevating quality of experience for end users

> Increases productivity by accelerating large file transfers across the globe using Boost, mitigating issues with latency and packet loss

> Assures business continuity to meet product delivery timelines thanks to average network uptime of 99.965 percent across all locations

> Streamlines access to SaaS applications like Salesforce and Microsoft Office 365, eliminating inefficient backhauling

> Simplifies site deployments with plug-and-play appliance and centralized, cloud-based configuration using Orchestrator

> Enables seamless transition to Microsoft Azure, preserving investments in SD-WAN

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