



Semiconductor test equipment manufacturer enables higher productivity and customer responsiveness with global, business-driven SD-WAN

Cohu accelerates application performance and file sharing across multinational engineering and manufacturing sites with the Unity EdgeConnect SD-WAN edge platform

When working on a laptop, chatting on the phone, or summoning a smart speaker, most people don't think about whether the microchips in those devices will work properly. We take that for granted. But Cohu doesn't. For more than 50 years, Cohu has specialized in designing and manufacturing test and handling equipment for the semiconductor industry—precisely to ensure that when a chip or circuit board goes out to market in a cool new product, it works.

To design and build equipment for this market, Cohu requires sophisticated engineering applications and computer-aided design (CAD), as well as modern enterprise resource planning (ERP) systems to manage global logistics. Many of Cohu's design and engineering teams are in disparate locations around the world, so the company relies heavily on its wide-area network (WAN) to enable access to applications in several data centers and the cloud, as well as to replicate design data to far-off manufacturing sites.



25% WAN TRAFFIC REDUCTION



20% HIGHER APP PERFORMANCE



60% LOWER COSTS

The speed and efficiency of applications and data sharing is critical to productivity and Cohu's ability to deliver responsive service to its semiconductor customers. However, the WAN had become an obstacle.

Cohu's legacy WAN was built on Cisco FlexVPN, and the company used Riverbed for WAN optimization. However, these products lacked visibility into application traffic, and disconnected VPN tunnels increased latency and slowed response time for certain applications. When Cohu acquired another company that had its own separate WAN using MPLS and Check Point firewalls, the situation reached an inflection point.



Comprehensive, flexible platform for SD-WAN

Smith and his team evaluated several SD-WAN vendors, including Cisco Viptela, Riverbed, and Silver Peak. WAN optimization was a critical factor, which positioned both Riverbed and Silver Peak as top contenders.

Ultimately, Cohu chose Silver Peak and the [Unity EdgeConnect™](#) SD-WAN edge platform with optional [Unity Boost™](#) WAN optimization.

"Silver Peak has a lot more time in the market," says Smith.

"Also, the way Silver Peak Boost licensing works is far better than

Riverbed, where Boost is a pool and you can allocate it as needed

across the EdgeConnect appliances. With

Riverbed you have a set level on each device, so you have to buy a bigger device to get more WAN optimization. Silver Peak is much more flexible and comes in at a far better price point."

Cohu has deployed the EdgeConnect platform across all 37 of its global locations, configuring several larger sites with dual EdgeConnect appliances for high availability. At most locations, EdgeConnect is terminated with two dedicated internet access (DIA) circuits or a combination of DIA and broadband. The company takes full advantage of the advanced SD-WAN capabilities available in EdgeConnect, including tunnel bonding, [path conditioning](#), quality of service (QoS), and [dynamic path control](#). At each branch location, the EdgeConnect appliance is also service chained with Palo Alto Networks next-generation firewalls for additional security inspection.

In addition, Cohu deployed virtual EdgeConnect appliances in five Microsoft Azure environments—U.S. east and U.S. west, Europe, Japan, and Singapore—running workloads such as software engineering, document management, domain controllers, and backup archives from local sites. EdgeConnect governs data flow into and out of Azure, and Boost is applied to accelerate network traffic.



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— Russell Smith, IT Infrastructure Manager, Cohu

Russell Smith, IT infrastructure manager with Cohu, explains, "Expanding either one of the legacy WANs would only lead to more complexity and increased visibility problems. I'd been hearing about SD-WAN for a while and we decided it was the right time to look into it."

Smith notes, “It was easy to get EdgeConnect set up in Azure. It allowed us to eliminate our Azure VPN Gateways and connect directly to Azure through EdgeConnect, just like any other office on our network.”

Using the [Unity Orchestrator™](#) management interface, Smith has configured four business intent overlays, defining classes of applications with associated QoS policies to ensure each application is prioritized on the SD-WAN according to business need. These application classes include “real-time” for voice over IP, “critical” for applications such as ERP and document management, “bulk” for data replication and backups, and “default” for everything else.

Visibly noticeable performance impact

Since building its SD-WAN on the EdgeConnect platform, Cohu has improved application performance by approximately 25 percent. This is due to increasing available bandwidth by up to 200 percent with DIA and broadband, combined with the path conditioning and other SD-WAN capabilities enabled by EdgeConnect. As a bonus, Cohu also reduced its network spend about 60 percent by eliminating MPLS and moving to all DIA and/or broadband.

The most dramatic performance impact on applications has been from Boost, which reduced WAN traffic over long distances by 25 percent. “The response time when browsing file shares and transferring data across the ocean is visibly noticeable,” says Smith. “We actually get a lot of compliments from our users about how applications are performing better.”

He adds, “With EdgeConnect and Boost, users have a better experience accessing file shares, which helps improve productivity and responsiveness to customers. If it takes 20 minutes to copy a file versus an hour, that’s time they get back to do other things. Some of our work is custom where we have to meet specific customer design requirements, so the faster we can copy data over to design a new part and get customer buy-off, the faster we can move that part into production.”

Smith also reports that visibility of the SD-WAN through Orchestrator is a vast improvement over the past. Information from across the global SD-WAN is observable through a single, centralized interface—from detailed insights into application traffic flowing through each EdgeConnect appliance to how much Boost performance is applied to a particular application.

“Orchestrator is very intuitive. We have a view of any EdgeConnect appliance around the world and get countless amounts of information. That helps a lot with troubleshooting by narrowing down the root cause of an issue. It’s a big time-saver.”

As Cohu continues to evolve toward a cloud-first strategy, Smith foresees the EdgeConnect SD-WAN edge platform being a vital enabler. “We’ve already seen how easy it is to deploy EdgeConnect in Azure. Our cloud presence will only increase over time, and as it does, EdgeConnect will help us extend our SD-WAN into those environments easily and seamlessly.”

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



Customer

Cohu was founded in 1957 and has grown to become a global leader in test and handling equipment, thermal subsystems, interface solutions, vision inspection and MEMS test solutions supplying the semiconductor industry and its test subcontractors, and a leader in printed circuit board test. Headquartered in Poway, California, Cohu has approximately 3,600 employees providing service and expertise to serve customers around the world. The company has R&D, manufacturing, sales, technical support and service operations throughout the Americas, Europe, and Asia.

Challenge

Cohu has design, engineering, and manufacturing facilities around the world, but its previous WAN was complex, lacked visibility, and experienced high latency slowing down critical applications and inhibiting productivity. After acquiring another company, Cohu had two legacy WANs, adding to the complexity. This drove Cohu to evaluate SD-WAN as the solution.

Solution

Cohu deployed the EdgeConnect platform across all of its 37 global locations, as well as five Microsoft Azure environments. The company also replaced Riverbed and implemented the optional Boost WAN optimization performance pack with EdgeConnect to selectively accelerate key applications. At each branch location, the EdgeConnect appliance is also service chained with Palo Alto Networks next-generation firewalls for additional security inspection. Cohu uses Orchestrator to centrally manage the global SD-WAN.

Results

- > Improves application performance by 20 percent
- > Reduces WAN traffic over long distances by 25 percent
- > Lowers WAN costs by approximately 60 percent
- > Elevates the end-user experience, improving productivity and customer responsiveness
- > Increases available bandwidth up to 200 percent
- > Enables expansion of cloud-first strategy
- > Saves management time with centralized control and observability of global SD-WAN



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