



Universal Health Services ramps up telehealth to deliver patient care remotely across Aruba SD-WAN

Customer Profile

Universal Health Services (UHS) is one of the largest and most respected providers of hospital and healthcare services in the U.S., with acute care hospitals, behavioral health facilities, and ambulatory centers focused on making healthcare a positive experience for patients.

Vertical: Healthcare

Location: King of Prussia, Pennsylvania, US

Customer size: Approximately 90,000 employees across 400 locations

Use Case

Improve network agility to support increased use of cloud-based applications while prioritizing network resources for critical clinical and business applications running in a central data center.

REQUIREMENTS

Optimize connectivity for more locations and increasing application traffic

Handle surging demand for telehealth and other digital services

Assure high performance at each location for on-premises and cloud applications

SOLUTION

Aruba EdgeConnect SD-WAN

Aruba Orchestrator

Aruba Boost WAN Optimization

OUTCOMES

Meets growing demand for telehealth sessions with assured network performance and reliability

Improves business performance and efficiency by reducing data traffic on the network by up to 85%

Elevates quality of experience for clinicians and business staff accessing cloud and data center applications

With facilities all across the U.S., Universal Health Services (UHS) is a leader in hospital and healthcare management. When the COVID-19 pandemic struck, greatly limiting onsite visits, UHS turned to telehealth. However, its legacy MPLS WAN infrastructure lacked the agility to handle the surge in cloud-destined traffic.

Kevin Fitzpatrick, information services manager at UHS, says his team decided to transform its WAN infrastructure to improve agility and increase performance for accessing cloud-based applications like Zoom. "We adopted a new standard configuration, using locally available broadband at each location for adaptive breakout to trusted cloud applications."

Assuring Access to Critical Healthcare Services

One of the shining pillars in the UHS service portfolio is its behavioral health hospitals. These facilities are on the front lines of the opioid crisis, they treat veterans suffering from PTSD, and help people cope with depression, anxiety, bipolar and countless other behavioral disorders.

Reliable access to clinical and business applications is critical, and connecting distributed facilities across MPLS to these applications running a central data center served well. But as UHS continued to expand, it needed more WAN flexibility to support critical applications and a growing number of cloud applications.

These applications included vital electronic medical record (EMR) systems, pharmacy applications like McKesson, general business applications such as Kronos human resource management, cloud applications like Microsoft 365 and its Talkdesk call center. UHS had also to tackle the increased use of telehealth based on Zoom video conferencing and needed IT to respond more quickly and agilely when the business opens new locations.

Transforming the Network Infrastructure With SD-WAN

Based on previous success with Aruba (formerly Silver Peak) WAN optimization, Fitzpatrick and his team chose the Aruba EdgeConnect SD-WAN platform, a self-driving SD-WAN by Aruba, a Hewlett Packard Enterprise company for their WAN transform. The team deployed the EdgeConnect platform at approximately 200 UHS behavioral health facilities in the U.S., with about 50 sites remaining.

The team built bonded tunnels across both MPLS and broadband to optimally use both links together simultaneously, leveraging path conditioning, quality of service, and dynamic path control capabilities. In the event of packet loss or brownouts/outages on one circuit, EdgeConnect automatically fails over the affected traffic to the other circuit in less than a millisecond to ensure uninterrupted connectivity.

Additionally, UHS implemented Aruba Boost WAN optimization for Microsoft 365, Veeam, and CIFS at remote locations prone to latency. The deduplication and compression provided by Boost achieves data reduction for Microsoft 365 of approximately 85 percent, while Veeam and CIFS data reduced by 45 percent and 40 percent, respectively.

"With increased need for telehealth, we could bump up bandwidth and easily configure EdgeConnect to take advantage of it. This allows our facilities to provide the care patients need..."

KEVIN FITZPATRICK, IS MANAGER, UNIVERSAL HEALTH SERVICES



Optimizes WAN resources based on business priorities

Using the Aruba Orchestrator management console, Fitzpatrick and his team also configured business intent overlays, using the routing interoperability and stateful zone-based firewall within EdgeConnect to break out cloud application traffic locally, and to prioritize application traffic heading to the corporate data center.

For example, one business intent overlay directs real-time applications like Zoom, Talkdesk, and Microsoft 365 traffic across local broadband as the preferred link for adaptive breakout to the cloud. Similarly, another overlay steers data center applications such as Kronos and McKesson across MPLS as the preferred link, prioritized as "critical."

"If we didn't break out Zoom and other cloud traffic locally with EdgeConnect, we would completely flood our MPLS network," Fitzpatrick notes.

Delivers Higher Performance, Uptime, and Agility

With a reliable, high-performing, and agile SD-WAN in place, Fitzpatrick and his team were able to respond quickly and keep pace with the surge in telehealth sessions and business employees working remotely.

"With the increased need for telehealth, the number of concurrent Zoom sessions at each location went from one or two a day to ten or more," Fitzpatrick says. "We've been able to bump up the bandwidth on our local ISP networks and easily configure EdgeConnect to take advantage of it. This allows the facility to still function and provide the care patients need."

Fitzpatrick points out that breaking out locally to cloud applications, and prioritizing data center applications on MPLS circuits, improved application performance and end-user quality of experience. Consequently, clinicians and business staff can work productively to deliver the exceptional level of behavioral health services for which UHS is known.

Network flexibility for an expanding business

The SD-WAN also improved network uptime. Fitzpatrick reports, "Network stability is much better at the hospitals. We've had a number of situations where EdgeConnect has failed over traffic and prevented network downtime. So people in the hospitals are able to serve patients without being held up by network problems."

Moreover, as UHS continues to expand by opening new locations, the SD-WAN provides Fitzpatrick and his team with greater agility to respond to those business demands as they arise. "The Aruba SD-WAN opens new opportunities for us," he says.

Fitzpatrick concludes, "If UHS has an outpatient site opening in three weeks, we can establish connectivity using local broadband to get them up and running until an MPLS circuit can be installed. It just gives us a lot more flexibility in supporting the business, and ultimately patients."

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