

aruba

a Hewlett Packard
Enterprise company



SOLUTION OVERVIEW

**Deliver modern
and personalized
healthcare
experiences
for patients,
providers, and
administrators**

BUILD A PREDICTABLE
AND SECURE NETWORK
INFRASTRUCTURE WITH
ARUBA EDGECONNECT
SD-WAN

SOLUTION OVERVIEW
DELIVER MODERN AND PERSONALIZED HEALTHCARE EXPERIENCES
FOR PATIENTS, PROVIDERS, AND ADMINISTRATORS



The COVID-19 pandemic has put the healthcare industry under extreme pressure to support surges in demand for care. The crisis has also demonstrated the need to open new healthcare facilities quickly to tackle the high number of hospitalizations. After demonstrating resiliency throughout the crisis, the healthcare industry must now reimagine itself to get back to a new normal. The crisis has accelerated some trends that already existed before the pandemic. One of them is telehealth. Telehealth is here to stay as both patients and care providers are now willing to use it for its greater safety and efficiency, but also due to regulatory changes that enable greater access and reimbursement.

The shift to “smart hospitals” has also accelerated the need to improve quality and efficiency. In addition to telehealth, it includes artificial intelligence (AI), robotics, 3-D printing, augmented reality/virtual reality, IoT sensors, enhanced digital imaging capabilities like PACS (picture archiving and communication system) to securely store and digitally transmit electronic images such as X-rays and MRIs.

This shift translates into more networking bandwidth to transmit heavy and numerous digital images as well as telemedicine that requires high-quality video, teleconferencing and online communications. Additionally, the healthcare sector is migrating their storage to the cloud, including medical images and patient data systems, as well as their business applications such as accounting and patient management systems so that the data center is no longer the central hub of all network connections.

Healthcare organizations must also provide network security to their users to ensure protection of patient medical records while ensuring compliance with the Healthcare Insurance Portability and Accountability Act (HIPAA).

The use of traditional MPLS line is no longer suited to the needs of the healthcare industry in the post COVID-19 era.

Not only the high cost of MPLS inhibits deploying large amounts of bandwidth but also its lack of flexibility prevents healthcare providers from quickly opening new facilities as it could take two to three months to provision a new MPLS line. It also forces healthcare providers to backhaul the traffic to the main data center while applications and data mostly reside in the cloud. It does not provide out-of-the-box security capabilities to protect patient data or ensure compliance to healthcare regulations such as HIPAA.

Aruba EdgeConnect can help!

ARUBA SOLUTIONS FOR AMAZING DIGITALLY CONNECTED USER EXPERIENCES

Based on these above challenges, let’s look at how adopting an advanced SD-WAN platform can help the healthcare industry tackle these challenges.

Improved network experience and cost reduction

Aruba EdgeConnect tunnel bonding feature combines multiple WAN transport services including MPLS, internet broadband and 5G to create a single, higher bandwidth logical link. It enables healthcare organizations to use internet instead of expensive and complex MPLS and get a similar performance as private lines. Internet and wireless links indeed often suffer from packet loss and jitter and are more prone to outages. With Aruba’s EdgeConnect Forward Error Correction (FEC) feature, lost packets are automatically reconstructed. In addition, when load-balancing traffic between multiple WAN transport services using tunnel bonding, Packet Order Correction (POC) re-orders any packets that arrive out of sequence at their destination. Aruba Boost WAN Optimization also significantly accelerates the transmission of data such as medical images by applying TCP protocol acceleration as well as data deduplication and compression.

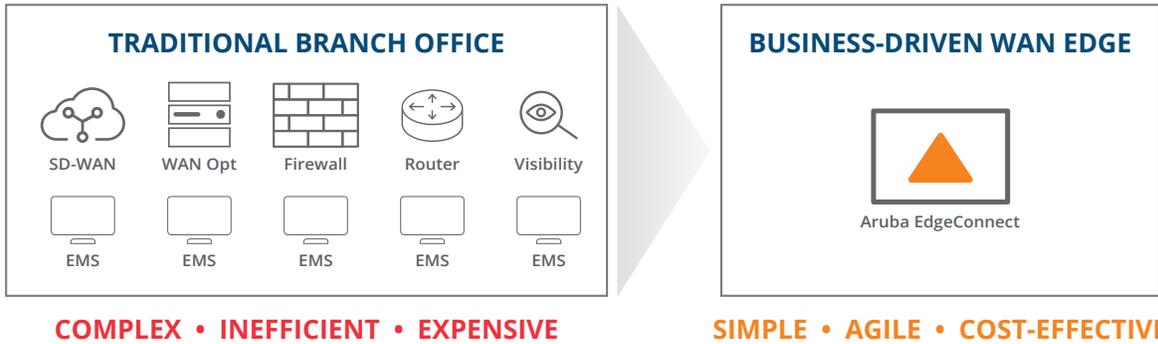


Figure 1: Aruba EdgeConnect enables healthcare providers to move from a complex architecture to a simple cost-effective network infrastructure

Simple deployments

Aruba EdgeConnect SD-WAN helps reduce equipment sprawl in healthcare organizations, as it integrates a certain number of features that are generally scattered in multiple devices such as WAN optimization, routers and firewall devices. Additionally, Aruba SD-WAN is centrally orchestrated. With its zero-touch provisioning feature, settings, as well as security parameters, are automatically sent to remote clinics so that it doesn't require any experienced IT staff to configure Aruba EdgeConnect at a local healthcare facility.

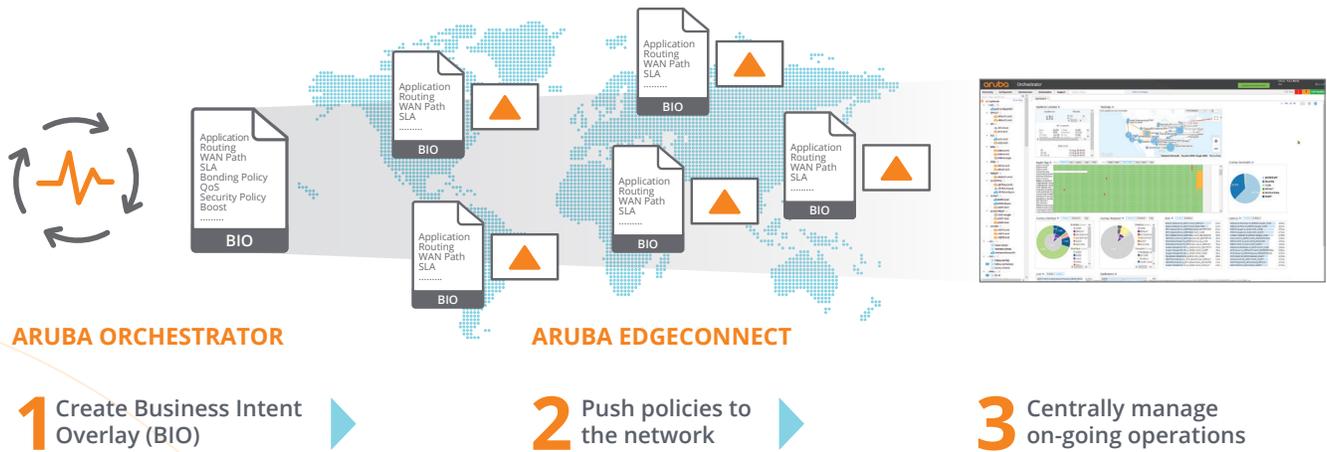


Figure 2: Simplify and accelerate deployments and improve with a top-down model and business-driven policies



Advanced security

With secure internet breakout, the EdgeConnect First-packet iQ™ feature identifies and classifies applications based on the first packet, enabling automatic traffic steering to the internet or to the data center according to security requirements. With this feature, healthcare organizations can build security policies that:

- send trusted cloud application traffic, such as Office 365 or UCaaS traffic, directly to the internet,
- send internet-bound traffic, including Salesforce, Facebook, YouTube, and web browsing traffic, to a third-party cloud-delivered security solution before it is handed off to the SaaS provider
- backhaul untrusted applications to the data center for advanced security inspection

Additionally, Aruba EdgeConnect embeds an app-user aware firewall, providing stateful capabilities that controls incoming traffic and blocks packets that do not belong to a valid session. The built-in firewall also uses deep packet inspection that checks both data packet headers and the packet payload.

SUMMARY

The COVID-19 crisis has reshaped the healthcare industry and it now needs to fully adopt a digital-first strategy to create the best modern and personalized patient experience. Traditional and inefficient MPLS lines are no longer relevant to support digital transformation efforts in the healthcare sector. Aruba EdgeConnect SD-WAN is the foundation of this improved experience by virtualizing network links and providing private line like performance over the internet and wireless connections. It offers advanced security features such as zone-based firewall, network segmentation and encryption. Through central orchestration and zero-touch provisioning, the solution is easy to deploy and manage. Aruba EdgeConnect enables healthcare providers to deliver the best telemedicine experience, accelerate the transmission of digital images, open new clinics quickly, and comply with industry standards such as HIPAA. In addition, Aruba provides a unified network infrastructure by centrally managing and monitoring WLAN, LAN, and SD-WAN, improving network security and monitoring.

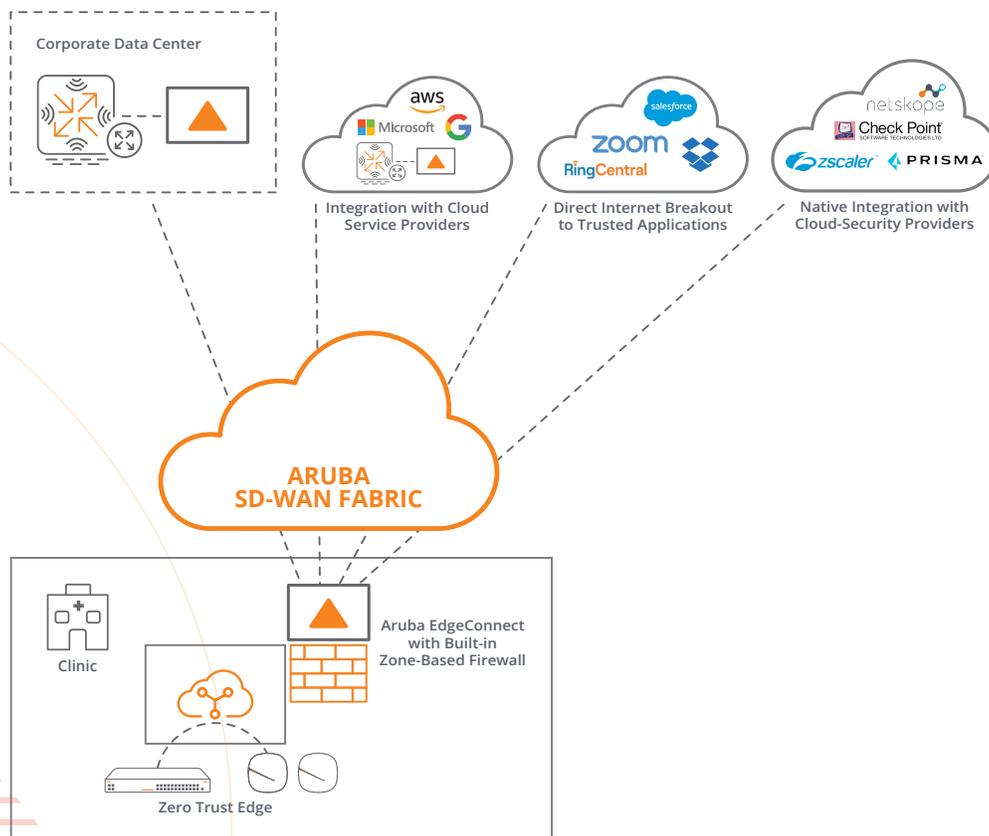


Figure 3: Automate security orchestration based on application type and threat with Aruba EdgeConnect



KEY FEATURES & BENEFITS	
Provide an advanced network experience while reducing costs	
Higher performance and cost reduction	Aruba EdgeConnect SD-WAN combines multiple line protocols including MPLS, internet, 4/5G in a virtual link. It enables the use of efficient and flexible internet and 4/5G lines, instead of rigid and expensive MPLS lines at a lower cost and higher flexibility.
Enhanced medical image transmission	With its WAN optimization feature, data is compressed and deduplicated reducing the amount of data to be transferred. This is especially useful to transmit a high volume of heavy medical images.
Unified wireless and wired network experience	Completely integrated with Aruba Central that monitors Aruba access points and the wired network, Aruba Unified Infrastructure simplifies and improves IT operations with a cloud-native, uniform console for WLAN, LAN, and SD-WAN across local stores and corporate data center locations.
Easily deploy new locations and monitor network activity	
Quick deployments	With zero-touch provisioning, Aruba EdgeConnect is easy to install and doesn't require an experienced IT staff in healthcare organizations. It is centrally orchestrated so that configurations and security policies are easily deployed in minutes to remote clinics or mobile units.
Full visibility	Aruba EdgeConnect provides specific details into SD-WAN health and performance. A health map provides an aggregated view of EdgeConnect appliance status and network health based on configured thresholds for packet loss, latency and jitter. Network operations are centrally monitored bringing a quick response to potential issues.
Cloud ready	Aruba EdgeConnect provides end-to-end connectivity to any of the public cloud providers by extending the SD-WAN fabric and deploying a virtual instance of EdgeConnect in any or all the four public cloud providers. It avoids backhauling the internet traffic to a headquartered data center providing predictability and application performance.
Improve security and comply with regulations	
SASE at your own pace	Aruba EdgeConnect provides native integrations and automated orchestration with multiple cloud security vendors. It enables healthcare organizations to choose the best-of-breed SASE capabilities including CASB, SWG and ZTNA to build the best SASE architecture with Aruba EdgeConnect as the foundational element.
Micro-segmentation with zone-based firewall	Aruba EdgeConnect includes a zone-based firewall that segment the traffic into zones. Segmentation improves security and protects data by splitting the network into subnetworks, limiting the spread of cyberattacks and malwares. It also helps reduce congestion and improve operations.
Compliance with HIPAA	Aruba EdgeConnect helps comply with HIPAA by providing an embedded zone-based firewall to keep attackers out and help prevent violations of privacy policies by unauthorized insiders. Transmissions are encrypted using IPsec tunnels with 256-bit AES encryption.

ADDITIONAL RESOURCES:

- Healthcare Networking Solutions
- Why Healthcare Organizations Choose Aruba
- Edge to Cloud Security in Healthcare
- Healthcare Solution Overview
- Aruba ESP in Healthcare



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