

CASE STUDY



UNITED STATES



HEALTHCARE

**REGIONAL HEALTHCARE INSTITUTION MOBILIZES,  
SECURES, AND DIGITALIZES 1M SQ FT, WHILE  
SAVING 1,800 IT HOURS, WITH ARUBA ESP**



**ENLOE**  
MEDICAL CENTER

Advance a tradition of healthcare innovation and excellence by combining an adaptive, SD-WAN with an AI-powered, future-ready, high-performance, secure, reliable, network to power medical advances, improve patient care, and continue digitalizing the enterprise.



After a distant construction project severed the lone networking connection to its regional cancer care facility on a busy weekday, Enloe Medical Center decided it needed to harden its infrastructure without adding significantly to IT resource and overhead costs.

"Each of our facilities had a single switched Ethernet circuit connecting them to our data center," explains Christopher Webb, Director of Technology. "As a locally-governed nonprofit healthcare institution with a history of medical innovation, we needed to make our network more resilient."

### POWERING TRADITION OF EXCELLENCE WITH ARUBA

For over a century, the Enloe Medical Center has provided patient-centric care for the residents of eight counties surrounding the Northern California city of Chico. With an enterprise footprint totaling nearly 1 million square feet, the nationally-ranked comprehensive healthcare institution is recognized for excellence in delivering the latest medical advances in patient-centered care, all of which depend on high-performance network connectivity.

Already partnered with HPE Aruba Networking for wired and wireless networking, Enloe decided to adopt a software-defined WAN (SD-WAN) solution to achieve the needed branch networking resilience.

This strategy would enable Enloe to deploy the most reliable and cost-effective telecom technologies, as well as ending its dependence on a single carrier by diversifying connections among multiple companies, further reducing outage risks and costs associated with private circuits.

"We consulted with our trusted solutions provider, Converge, and learned that Aruba also offered a market-leading SD-WAN solution that would complement our existing deployment," says Webb. "Our evaluations determined Aruba provided the

### REQUIREMENTS

- Complement wired and wireless networking with innovative SD-WAN
- Deploy resilient, cost-effective, high-performance infrastructure
- Streamline and simplify infrastructure and management

### SOLUTION

- Aruba Wi-Fi Access Points
- Aruba 7200 Series Controllers
- Aruba CX 8360 Switch Series
- Aruba CX 8320 Switch Series
- Aruba 5400 Switch Series
- Aruba 2930M Switch Series
- Aruba EdgeConnect Enterprise for SD-WAN
- Aruba Beacons & Tags
- Aruba Location Services
- Aruba User Experience Insight
- Aruba AirWave for network management
- Aruba ClearPass for network access control
- Aruba Professional Services

### OUTCOMES

- Powers advanced patient-centric care across nearly 1M sq. ft.
- Infuses resiliency, doubles capacity, and streamlines management while reducing costs 10%
- Saves 1,800 hours annually with automated provisioning
- Reduces troubleshooting from days to seconds
- Empowers business users and decreases capital costs with real-time asset tracking
- Gains an agile, flexible, expandable, future-ready network



flexible, carrier-agnostic, resilient, and cost-effective SD-WAN solution we required."

### COMPREHENSIVE, FUTURE-READY NETWORK ACHIEVED

By combining Aruba's EdgeConnect Enterprise SD-WAN with its existing Aruba ESP wired and wireless infrastructure, Enloe has implemented a comprehensive, reliable, and expandable network with robust, intuitive, and automated management. The solution includes Aruba access points (APs) for high-perfor-



“Aruba’s solutions perform as advertised, they’re issue-free, and they’re extremely agile – in short, they just work. It’s the best networking experience we’ve ever had by far.”

**CHRISTOPHER WEBB**

Director of Technology, Enloe Medical Center

mance Wi-Fi connectivity, along with Aruba mobility controllers, managed by Aruba AirWave.

For wired, Enloe relies on the intelligence, automation, and resiliency technologies built into the Aruba CX Switching portfolio, with the CX 8360 Switch Series and the CX 8320 Switch Series the core. Aggregation and edge access switches include the 5400R Switch Series and the 2930M Switch Series.

**Streamlined administration and best-of-breed integrations**

Enloe is also streamlining wired, wireless, and SD-WAN policy administration using Aruba’s built-in zero trust security capabilities. This includes rolling out Aruba Dynamic Segmentation along with Aruba ClearPass for network access control (NAC) and policy management.

“In addition to supplying flexible and strong policy-based NAC, ClearPass has simplified the process of provisioning our guest network,” Webb says. “It’s also helping us manage on-demand bandwidth needs by ensuring clinical applications take priority over guest traffic.”

Further, Enloe appreciates the vendor-agnostic ability to integrate ClearPass with other best-of-breed solutions, such as Palo Alto Network’s IoT Security. “This is another plus with Aruba,” Webb says. We have the refreshing ability to integrate with any other vendor that we choose.



**INTELLIGENCE AND RESILIENCE AT A SAVINGS**

With its unified wired, wireless, SD-WAN infrastructure, Enloe has realized multiple operational and cost benefits, including utilizing IT teams existing Aruba experience while adding extensive WAN orchestration features.

This permitted the institution to reinvested the savings in patient care improvements, such as being one of the few institutions nationally – of any size – with an MRI Linear Accelerator, which is delivers exceptionally precise radiation treatments and enables treating more types of tumors.

**Doubling capacity and improving experiences using EdgeConnect**

From an SD-WAN perspective, deploying EdgeConnect enabled Enloe to implement redundant telecom connections for each of its nearly 30 locations, gain intuitive toolsets and reduce costs by 10 percent over its legacy system.

“In addition to doubling our bandwidth for resiliency and performance, adopting EdgeConnect allowed us to deploy cost-effective Direct Internet Access (DIA) circuits with diverse carriers,” Webb says. “And we’re saving on capital and operating expenses as well.”

What’s more, EdgeConnect automatically load balances traffic between each facility’s the two circuits and seamlessly reroutes traffic in the event of a failure. “We’ve only experienced a few circuit outages, but EdgeConnect immediately compensated so business users didn’t even know it happened,” says Webb.

**100% accessibility for 24/7 care**

Similarly, Enloe’s wired and wireless networks support critical patient care applications, including an extensive Epic electronic medical record (EMR) implementation and a host of connected devices.

“We have 20,000 to 30,000 devices connected to our network, from infusion pumps and neonatal baby monitors to physical security devices like badge readers and cameras, all of which require connectivity around the clock,” says Webb.

“Plus, our Aruba ESP deployment ensures caregivers can access Epic on their iPhones, iPads, and other corporate-issued devices, one hundred percent of the time,” he adds.

**REAL-TIME LOCATION SERVICES DIGITALIZES ASSET TRACKING**

To tackle the ubiquitous healthcare challenge of locating physical assets, Enloe is adding real-time asset tracking with Aruba Location Services, including Aruba Meridian and Aruba Tags.

“When an asset is misplaced, it not only impacts responsiveness to patient needs and reduces employee productivity, but



also triggers purchasing a duplicate," says Webb. "Supply chain disruptions due to COVID-19 and other factors makes properly locating our existing assets particularly important."

### **Intuitive tools for business users without added IT overhead**

As Enloe's supply department is responsible for asset tracking, digitalizing this function requires deploying a streamlined and cost-effective solution for IT to administer, with an intuitive interface for non-technical supply department staff to use.

With Aruba's Location Services solution, Enloe has both. IT benefits from having the needed BLE beacon technology resident in Aruba's APs. "It's a testament to Aruba's technology that we can simply leverage our existing infrastructure for asset tracking, rather than requiring a forklift upgrade," Webb says.

For the supply department, Aruba's intuitive interface empowers the business with a new digital capability. "Using Aruba, our business users can quickly and confidently learn the process for tagging and tracking assets," says Webb.

### **REGAINING 1,800 IT HOURS ANNUALLY WHILE SPEEDING ISSUE RESOLUTION**

Another significant Aruba advantage is an enterprise-wide reduction in IT overhead. This results in multiple productivity enhancements and budgetary advantages, such as streamlining the deployment of new and replacement devices.

"We provision and deploy 150 to 300 devices monthly," says Webb. "With our Aruba infrastructure automating the process we're saving at least 1,800 hours of IT time annually, which we re-direct to higher-value, business-critical initiatives."

### **Granularity and control reduces troubleshooting from hours to minutes**

Enloe also appreciates Aruba's granular insights and controls. These capabilities speed troubleshooting and mean-time-to-resolution, which benefits IT and business users alike.

"For instance, when one of our facilities logged numerous application performance complaints, we used EdgeConnect to determine that guest traffic was causing a bottleneck and

ClearPass to make the necessary adjustments with a few clicks," Webb says.

"In other words, for any given connectivity issue, we're routinely reducing hours of troubleshooting to minutes or seconds," he adds.

### **ADOPTING AIOPS TO DELIVER HEALTHCARE INNOVATION**

Looking ahead, Enloe plans to evolve its future-ready network by adopting Aruba Central, for comprehensive cloud-based artificial intelligence IT operations (AIOps) that provides AI-powered insights, workflow automation, and edge-to-cloud security while unifying wired, wireless, and SD-WAN management

Among other benefits, Central will help Enloe increase support for on-site telehealth, like providing access to specialists on-demand whenever a patient needs immediate expertise. Central will also give Enloe the ability to use AI-powered Client Insights to accurately profile all connected IoT, guest, and IT managed devices for security and bandwidth planning purposes.

Further expansions could involve deploying Aruba Meridian's wayfinding capabilities for the institution's larger buildings, like a planned 200,000 sq ft cancer center, and exploring ways to leverage its network for maximizing workspace utilization in today's hybrid work environment.

"When we're speaking with our medical department heads about new technology initiatives, we explain that Aruba connects all of their devices, all of the time, and guarantees their staff can access what they need so they can concentrate on treating their patients," says Webb. "Our leadership loves it."

### **Aruba + HPE = Exceptional outcomes**

No matter which healthcare innovations Enloe pursues, the institution will continue relying on its Aruba and HPE partnerships. "We've received exceptional support from Aruba, for our networking infrastructure, and HPE, for our data center infrastructure such as our Pointnext environment," says Webb.

"We've worked with multiple networking companies and our experience with Aruba is the best we've had by far," he continues. "Aruba's solutions perform as advertised, they're issue-free, and they're extremely agile. In short, they just work."