SOLUTION OVERVIEW

A HOSPITAL'S HEALTH STARTS WITH ITS NETWORK INFRASTRUCTURE

As the push toward personalized healthcare grows increasingly reliant on mobile devices and apps, clinics and hospitals are being forced to examine the health of their network infrastructure.

Old legacy infrastructures were not designed to handle the influx of mobile devices used by healthcare constituents – physicians, nurses, administrative staff, lab technicians, patients, and their families. Nor were they designed to handle high volumes of traffic or accommodate services that today's mobile apps deliver.

Today's mobility infrastructures can grant network access to anyone. The real challenge is ensuring that your mobility infrastructure is always on, enforces the highest level of security and patient privacy, and provides self-service workflows for guests and staff.

That's what Aruba Networks® delivers – a secure, industry-compliant mobility infrastructure that's always on and ultra-dependable. The Aruba infrastructure for healthcare accommodates any number of users, devices, and apps to ensure the best possible mobility experience.

This is especially critical as the industry embraces a tougher competitive model of managed care where providers focus on the quality of patient care and preventive health maintenance to increase revenue and reduce costs.

SUPPORT CRITICAL HEALTHCARE APPS OVER WI-FI

The context-aware network infrastructure and mobility solutions from Aruba are used by thousands of hospitals and clinics to satisfy a wide range of critical healthcare applications.

Epic, Cerner and other EHRs at the point-of-care
Wi-Fi-enabled mobile devices have been certified with the Aruba high-performance 802.11ac WLAN to securely access electronic medical records. The integrated role-based firewall from Aruba prevents unauthorized access to health records to protect patient privacy and ensure HIPAA compliance.

Voice over Wi-Fi
The Aruba application-aware 802.11ac WLAN allows access to health records while simultaneously providing disruption-free access to Wi-Fi voice handsets and communication badges. This helps boost medical staff productivity by saving time and promoting efficiencies.

Telemetry and portable patient monitors
Improve the quality of care and reduce facility costs with the use of portable patient monitors and telemetry devices. Aruba technology allows for unique over-the-air quality-of-service that mitigates congestion to ensure error-free operation of patient monitors and telemetry equipment – all on the same wireless network as voice and data devices.

Asset tracking
Reduce the costs associated with the loss of shared medical equipment with RFID tags, such as wheel chairs, diagnostic carts and infusion pumps, by using the built-in, real-time location tracking capability.

Telemedicine
Reduce facility costs and securely extend data, voice and medical device access beyond the hospital using zero-touch Remote Access Points (RAPs). Easily deployed in doctors' offices, ambulatory facilities and patient residences, they provide fast, secure connectivity to centrally located medical resources.

HEALTHCARE-GRADE PERFORMANCE AND RELIABILITY

Gigabit Wi-Fi
Network congestion is a major concern as more devices are brought into healthcare environments. As application vendors transition to mobile platforms, the number of devices and traffic they create increases exponentially.

Although the Aruba gigabit Wi-Fi infrastructure is built to handle the highest concentrations of devices and apps, bandwidth alone can't guarantee performance or reliability.

Hospitals and clinics must also contend with an eclectic mix of old and new mobile devices, a wide range of healthcare mobile apps, ever-changing floorplans, and a dynamic workforce that's always on the move. So, mobility infrastructures have to be fast and smart.

> **"** Aruba Wi-Fi positions us for mobile point-of-care, telemedicine, and the connectivity required for our electronic health records platform. **"**
>
> **Mark Crandall,**
> CIO, Consulate Health Care

Vital applications get the highest priority

Built-in wireless application management lets IT make better informed decisions about how to allocate bandwidth for critical apps instead of waiting until traffic traverses the data center. For example, traffic from wireless patient care monitors can get priority treatment over guest Wi-Fi traffic.

Aruba AppRF™ technology optimizes the connection for every device, regardless of type. An intuitive dashboard provides the visibility needed to quickly identify the apps being used and the volume of traffic generated by users.

Accommodate old and new devices

Legacy devices make hospitals unique as older Wi-Fi clients must coexist with the latest 802.11ac devices. The issue is that older, slower devices have lower transmit rates that slow everything down – including the newest gigabit Wi-Fi clients. It's like a Porsche getting stuck behind a slow-moving truck on a one-lane road.

Aruba airtime fairness capabilities ensure that all Wi-Fi clients get equal access on the wireless medium, regardless of client type or operating system. This prevents older clients from monopolizing RF bandwidth resources.

Better roaming performance

Healthcare practitioners are constantly on the move with their mobile devices, going to patient rooms, nurse stations, and between floors. Unfortunately, Wi-Fi clients often get stuck to one wireless AP as users roam, which causes performance to suffer.

The Aruba patented ClientMatch™ ensures that roaming clients always associate with a better performing or less congested AP, resulting in a faster data rate for devices. The end result is a performance boost for all devices, even those with older Wi-Fi radios.

Staying clear of obstacles

Wi-Fi uses an unlicensed radio frequency, making it susceptible to interference from Bluetooth and ZigBee devices, microwave ovens, and other 2.4- and 5-GHz devices. Even certain building materials within a hospital or clinic can interfere with RF signals.

Aruba Adaptive Radio Management™ (ARM) technology optimizes Wi-Fi RF behavior and ensures that APs stay clear of interference. Automatic channel reassignments and adjustments to transmit-power settings on Aruba APs, result in a more reliable, higher-performing WLAN.

Wi-Fi that runs like a utility

To keep things running, the high-availability capability – AP Fast Failover – reduces the service disruption time that APs and clients can experience when an outage occurs. Aruba APs establish simultaneous connections with active and standby Mobility Controllers and clients reauthenticate in less than a second.
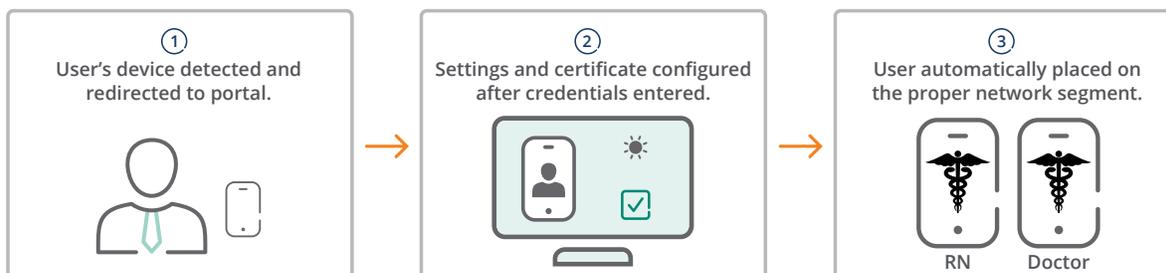
In non-Aruba environments, client connections are dropped when an AP fails over to a backup controller. The AP must reestablish a connection to a backup controller and clients must reauthenticate.

STAY CONNECTED NO MATTER WHERE YOU ARE

Workflows that offload IT

Today, clinicians, patients, and their families expect a secure Wi-Fi connection when they bring their own smartphones and tablets into hospitals and clinics. Managing the secure access of clinicians is a necessity; customer satisfaction drives the need to provide Wi-Fi access for patients and visitors, too.

AUTHENTICATION WITH UNIQUE DEVICE CERTIFICATES

① User's device detected and redirected to portal.

② Settings and certificate configured after credentials entered.

③ User automatically placed on the proper network segment.

RN   Doctor

Consequently, healthcare IT requires a simple, automated way to control and manage secure access on a case-by-case basis, based on user roles, device types, location, app usage, and time-of-day. Aruba is the only vendor that offers secure workflows for any multivendor network environment, as shown by the illustration above.

BYOD for healthcare practitioners
It's now commonplace for healthcare practitioners to access patient information using a personally-owned device or hospital-issued device. Managed care is far more efficient when practitioners stay securely connected.

Aruba ClearPass Onboard allows healthcare employees and contractors to self-configure their personally-owned devices before they connect at work. The key is the Aruba policy management platform and built-in certificate authority that differentiates access by user role, device, location, app usage, and time-of-day.

Wi-Fi access for patients and families
While many hospitals are still using legacy guest applications or wide-open SSIDs, the increasing number of devices and exposure to threats is changing the stakes. It is now prudent to manage guest access to ensure strong security and compliance with HIPAA and other regulatory mandates.

Aruba ClearPass Guest utilizes the policy management platform to separate guest traffic from hospital traffic. It also simplifies the way IT grants per-user access, keeps an accounting of connected users, and performs troubleshooting. Guests go through a simple onboarding process to get network access with no IT intervention.

" Aruba positioned us to reliably and securely handle all our current and future wireless needs. "

Brad Blake,
Director of Information, Boston Medical Center

PATIENT SATISFACTION THROUGH MOBILE ENGAGEMENT

Everyone stays connected

It can be a challenge for patients and healthcare staff to navigate their way through large hospitals and medical centers. They know where they're supposed to be and when, but finding it can turn into a formidable undertaking.

Given that an increasing number of patients, visitors, clinicians, and staff carry mobile devices, that creates an unprecedented opportunity to reach out, engage, and assist them on an individual basis.
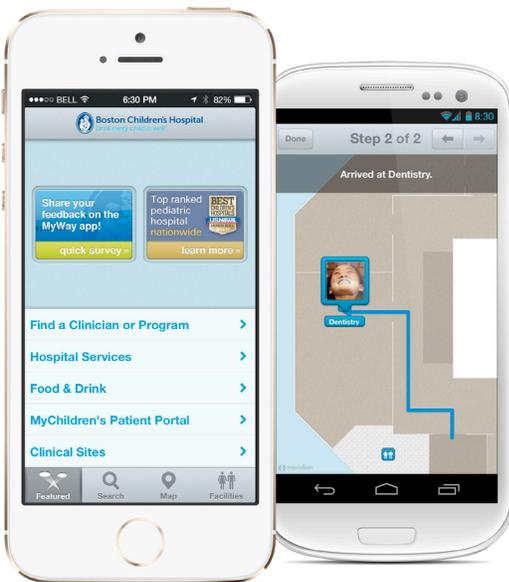
Aruba Beacons are available in battery and USB powered versions for indoor location-based services.

Turn-by-turn directions

The Aruba Meridian mobile app platform enables hospitals and clinics to create mobile apps or improve existing apps with features such as indoor wayfinding that offers turn-by-turn directions to appointments.

Aruba Location Services, powered by Aruba Bluetooth low-energy beacons, integrate with the Meridian mobile app platform to improve the patient experience with location-aware features like a glowing blue dot on an indoor map.

In addition to guiding patients and visitors to clinical departments, Boston Children's Hospital uses the Aruba Meridian mobile app to point the way to onsite food-and-drink options as well as nearby offsite amenities.

Personalized push notifications

Patients, visitors, physicians, nurses, and other staff can opt in to get personalized push notifications on their mobile devices. So patients can be notified in real time when their prescription is ready and get turn-by-turn directions to the pharmacy.

The Meridian platform also enables hospitals to add a variety of functionality to their custom mobile apps. The Meridian platform makes it easy to integrate patient services systems, staff directories, and social media with their mobile apps.

Aruba integrates best-in-class enterprise Wi-Fi and Aruba Location Services with self-service device onboarding and mobile app platforms into one integrated solution that's quick and easy to deploy.

> " As families balance their busy schedules with their child's health needs, the Boston Children's Hospital app, powered by Meridian, will become an essential tool for many. "

Margaret Coughlin,
Senior Vice President and Chief Marketing Officer,
Boston Children's Hospital

GET SECURE WI-FI WHEREVER YOU WORK

Remote access without the hassle

No matter where they need to work, secure Wi-Fi for your healthcare staff and their business-critical applications is a top priority. It's critically important to securely connect multiple devices to a hospital's wireless network – and it doesn't have to be a complicated undertaking for IT.

Aruba Instant™ lets multiple people and devices connect securely to a hospital's network and resources through a single AP and VPN. Any location can be easily converted to a mobile healthcare site where computers, printers, and phones stay wirelessly connected to vital resources.

The Instant difference

Not only can multiple people and devices connect over a single VPN, Aruba Instant supports broadband and cellular connections using the same AP. There's no need to provide credentials or use two-factor authentication to get work done. Role-based access even determines who can access certain resources.

SUMMARY

IT decisions that promote better health for the network infrastructure now center on fast, secure and reliable Wi-Fi, smart policy management, enforcement based on user roles, and mobile engagement that improves the healthcare experience of patients and practitioners.

As hospitals and clinics scramble to meet the growing demand for personalized healthcare, the Aruba mobile enterprise infrastructure is becoming the foundation for a more meaningful and positive experience – one that physicians, nurses, administrators, patients and their families can rely on.

aruba ®
NETWORKS

1344 CROSSMAN AVE | SUNNYVALE, CA 94089
1.866.55.ARUBA | T: 1.408.227.4500 | FAX: 1.408.227.4550 | INFO@ARUBANETWORKS.COM

www.arubanetworks.com