Ruckus™ WIRELESS

SMARTER, SIMPLY SUPERIOR WI-FI FOR HEALTHCARE

SMARTER WI-FI INCREASES OPERATIONAL PROCESS AND IMPROVES PATIENT CARE; IT'S A REQUIRED PRESCRIPTION.

FASTER, MORE RELIABLE WI-FI CONNECTIVITY FOR PATIENT CARE IS FUNDAMENTAL. IT MUST PENETRATE A WIDE RANGE OF CONSTRUCTION MATERIALS, WORK WITH A WIDE RANGE OF MULTIMEDIA MEDICAL DEVICES AND CLINICAL APPLICATIONS, BE HIPAA SECURE, AND EASY TO IMPLEMENT AND MAINTAIN FOR IT STAFF. RUCKUS IS THE HEALTHIEST CHOICE FOR HEALTHCARE.

ULTRA-RELIABLE WI-FI ACCESS

Mobility is a key element for healthcare organizations to meet their quality, productivity and patient safety objectives. The ability to receive actionable clinical information regardless of location and react and communicate in real-time is required for the adoption of EMR/EHR applications. With Ruckus dual-band 802.11n access points, clinicians have a high level of confidence in the reliability and integrity of their critical EMR information, VoIP communications, high-resolution video and medical image delivery.

Ruckus Smart Wi-Fi was designed for latency-sensitive EHR/EMR applications that require consistent and dependable connectivity.

Ruckus Smart Wi-Fi systems deliver stronger, focused signal gain and better receive sensitivity for devices such as Vocera Voice Badges.

UNMATCHED MULTIMEDIA SUPPORT

Wireless VoIP, RTLS locationing, patient monitoring/telemetry, infusion devices, medical imaging, bedside video, mobile workstations, and smartphones are raising Wi-Fi performance requirements. The Ruckus ZoneFlex™ WLAN system combines patented BeamFlex™ long-range, directional Wi-Fi beamforming and beamsteering technology and patent pending SmartCast™ traffic engineering technology to classify, prioritize, and optimize multimedia traffic delivery per-client, per-traffic-class QoS, so that every client and traffic flow (voice, video, data) is given the right prioritization over standard 802.11 Wi-Fi.

MORE RELIABLE WI-FI EVERYWHERE WITH FEWER APS

Hospital construction such as poured concrete, metal panels and lead-lined walls severely challenge RF signal penetration. Dropped calls and clinicians reauthenticating their workstations due to inadequate coverage can potentially result in negative outcomes or worse, sentinel events. With its unique ability to constantly monitor the air and steer Wi-Fi signals around interference in real time, the Ruckus ZoneFlex WLAN system delivers unmatched wire-like performance, suitable for critical EMR information and wireless-enabled voice handsets at a fraction of the cost of competing systems.

"Before deploying ZoneFlex, we constantly had physicians complaining about dropped connections and poor Wi-Fi service. We found that intermittent electromagnetic interference from CAT scan, MRI and other radiology equipment was killing our network. After deploying the Ruckus gear that integrates dynamic beamforming and active interference rejection, those calls have disappeared and we've seen a 90% drop in Wi-Fi trouble tickets to our help desk."
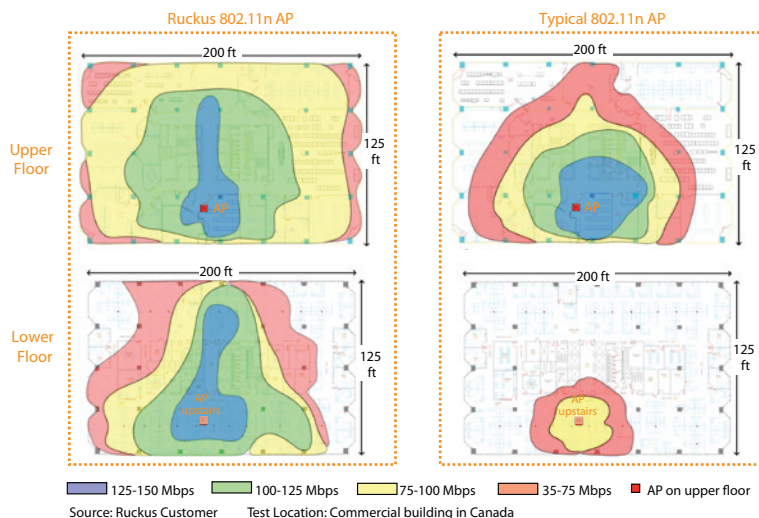
CARL LABBADIA
IT Director
Grove Hill Medical Centers

RUCKUS SMART WI-FI DELIVERS
MORE CONSISTENT PERFORMANCE
AT LONGER DISTANCES

Ruckus Smart Wi-Fi versus the alternative

| 125-150 Mbps | 100-125 Mbps | 75-100 Mbps | 35-75 Mbps | AP on upper floor |

Source: Ruckus Customer   Test Location: Commercial building in Canada

STRONG SECURITY, SIMPLE TO ADMINISTER

Healthcare organizations require strong security to meet HIPAA requirements. In addition to supporting the standard 802.1X security framework, the patented Dynamic Pre-Shared Keys technology eliminates complexity by automating the process of configuring wireless client and installing encryption key on every laptop. Guest WLANs can be created without requiring special configuration of authentication and encryption settings on client devices and blocked from accessing any or all of the subnets connected through the ZoneDirector and its managed access points.

Patented smart antenna arrays in every access point provide longer range and more reliable Wi-Fi connections, requiring fewer APs than competitive alternatives.

EASY TO IMPLEMENT, AT-A-GLANCE DASHBOARD OF WLAN SYSTEM HEALTH

With limited budgets and minimal IT staff, healthcare organizations need a simpler approach to deploying a ubiquitous Wi-Fi network. Administrators can configure an entire Ruckus WLAN in minutes versus hours for a typical system using an intuitive, point-and click wizard. From the dashboard, administrators can quickly and easily drill down to specific APs and clients to test Wi-Fi connectivity, and perform a number of other monitoring and configuration tasks.

The Ruckus ZoneFlex WLAN system steers Wi-Fi signals around interference, minimizing packet loss, latency and delay.

REAL-TIME LOCATION TREACKING FOR ASSET MANAGEMENT AND CONTEXTUAL CARE

IT staff can easily implement RTLS to track and manage valuable assets to reduce theft and better manage asset utilization, and locate the most qualified clinician based on proximity to a patient event. Ruckus works with leading RTLS vendors to develop and interface with their location engines to receive information from the Ruckus WLAN system, invoke this capability by simply checking a box in the Ruckus ZoneDirector during the provisioning process.

TOP 10

RUCKUS DELIVERS TOP 10 WI-FI **MUSTS** FOR HEALTHCARE

1. Better Wi-Fi coverage / No dead spots
2x to 4x coverage improvement through integrated long-range, high-gain antenna array

2. Stable mobile client connectivity
High-gain, directed signals and adaptive beamsteering avoids interference and steers transmissions over best performing path

3. Highest Wi-Fi performance at range
Massive antenna diversity and client feedback ensure consistent data rates to end stations

4. Multimedia support
Automatic interference mitigation ensures glitch-free streaming of IP video and voice for applications such as information displays

5. HIPAA security compliance
Standard 802.1X support, automatic generation and installation of unique per user encryption keys (Dynamic PSK) provide complete HIPAA compliance

6. Elegant, simplified guest networking
Separate WLAN provides guest and patient connectivity to the Internet

7. No new cabling
Highly adaptive and reliable smart Wi-Fi meshing eliminates the need to cable every AP

8. Flexible deployment options
Deploy APs with or without controller, install controllers onsite or remotely

9. Real-time locationing tracking
Checkbox provisioning in the ZoneDirector for passing information to location applications

10. Easy to configure and deploy
Graphical user interface with easy to understand point and click commands

SMART ORGANIZATIONS ARE CHOOSING **RUCKUS SMART WI-FI SOLUTIONS** TO SOLVE CHALLENGES

PROBLEM	RUCKUS SMART WI-FI SOLUTION
SPOTTY COVERAGE	High-gain smart antenna system extends Wi-Fi signals two to four times farther, requiring fewer APs per hospital
UNSTABLE WI-FI CONNECTIVITY	Patented smart antenna array technology dynamically forms its beam on roaming clients ensuring stable connectivity and mitigating packet loss to ensure the highest performance
NO MULTIMEDIA SUPPORT	Provides up to 32 discrete WLAN networks that can be used to concurrently support IP-based video, voice, and EMR applications
INSUFFICIENT SECURITY	Advanced security mechanisms needed to meet HIPAA compliance
GUEST NETWORKING	Intuitive, browser-based facility lets reception generate a unique and timed Wi-Fi guest pass in less than 60 seconds for waiting room visitors
TOO MANY APS TO MANAGE	Requires one-third to one-half the number of APs over conventional omnidirectional Wi-Fi products
EXTENDS WI-FI TO AREAS WITHOUT ETHERNET	Provides meshing for indoor and outdoor APs that enables Wi-Fi signals to be extended without Ethernet drops and rem tely managed centrally by the ZoneDirector
COMPLEX INSTALLATION AND MANAGEMENT	Entire WLAN configures in minutes; APs self-configure by automatically discovering the controller; distributed forwarding architecture enables a single centrally located NOC to manage an entire medical complex Wi-Fi infrastructure without sitting in the data path

WE'RE **FEELING THE LOVE** FROM A MARQUEE LIST OF WORLD RENOWNED CUSTOMERS

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Health Services

SevenHills
HOSPITAL

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Meaux

CHADRON COMMUNITY HOSPITAL
& HEALTH SERVICES

Salem Health

## RUCKUS BENDS WI-FI SIGNALS AT SATILLA MEDICAL CENTER

Located in Waycross, GA, Satilla Medical Center is a full service hospital consuming over 370,000 square feet, Satilla Regional Medical Center employs more than 1,300 staff with more than 150 beds. The hospital comprises two conjoined buildings — one which was built in the 1950s, and a newer building constructed in 2002.

Satilla selected the Ruckus ZoneFlex Smart 802.11n Wi-Fi system at the main hospital, as well as at two nursing home facilities and rehabilitative centers it operates in the area. Satilla considered refreshing the network with Cisco 1142 802.11n APs but determined it would require 115 APs and three controllers. The hospital also considered Aruba's system that would have required 200 APs.

Satilla installed 65 ZoneFlex 7962 dual-band indoor 802.11n access points and two ZoneDirector 3100 controllers. The hospital also plans to utilize Ruckus smart wireless meshing technology, which will enable them to deploy additional APs in areas where Ethernet cabling is not available — such as in training rooms and at the other medical facility sites. The Ruckus ZoneFlex system will provide ubiquitous hospital-wide wireless to support more than 300 Wi-Fi enabled devices and a wide range of current and future applications such as the MEDITECH Healthcare Information System, PatientSafe IntelliDOT bedside medication system, Hospira Mednet Infusion System, RTLS/RFID, smart phones, and guest Wi-Fi access.

RUCKUS SMART WI-FI DELIVERS
# HEALTHCARE'S MOST FLEXIBLE DEPLOYMENT OPTIONS

Internet Access • Multimedia Services • VoIP • Medical Images • IPTV Streaming
Guest Networking • Staff Administration • RTLS/RFID

Physician Offices

Patient Rooms

Emergency & Surgery

Rehab
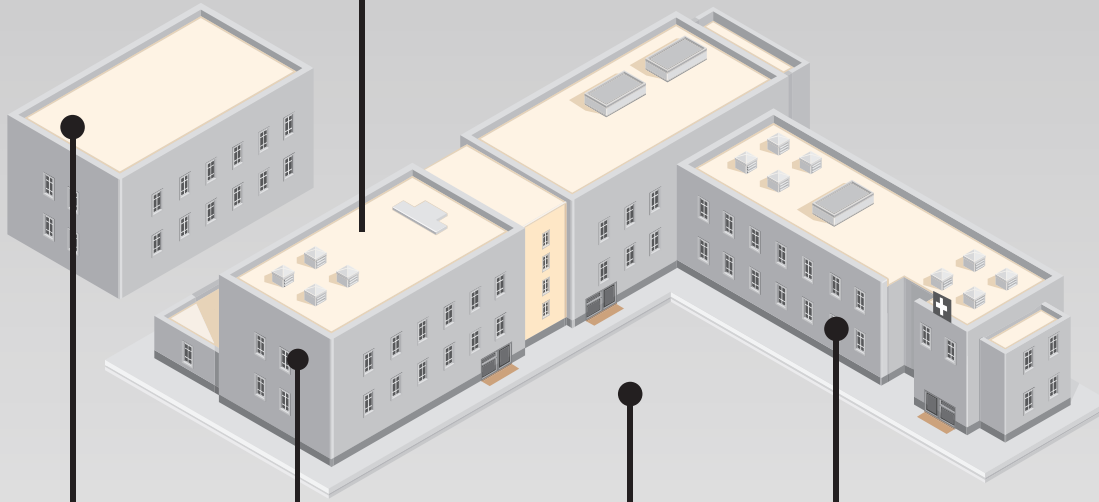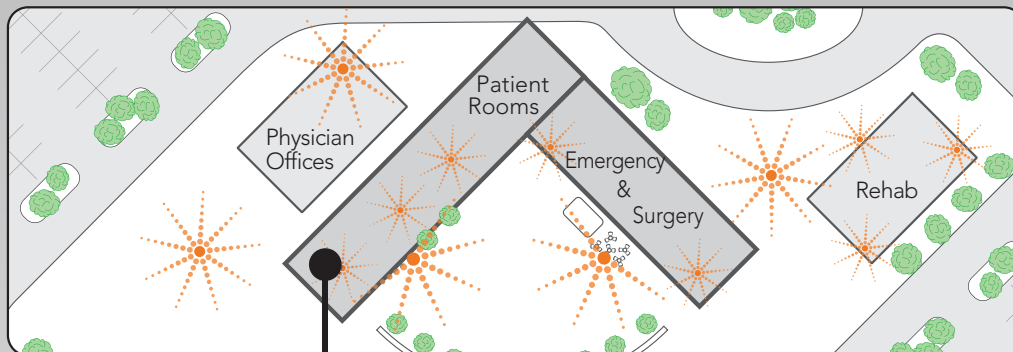
Patented beamforming/beamsteering minimizes delay for EMR/EHR apps
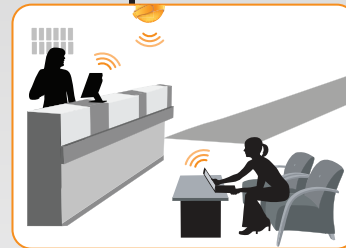
Reliable and simplified guest WLANs with no special configuration of client devices
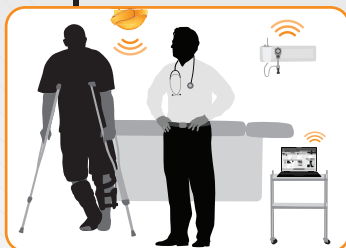
Intelligent antenna arrays automatically reject interference and penetrate obstacles other APs can't

FlexMaster EMS

ZoneDirector
3XXX or 1XXX
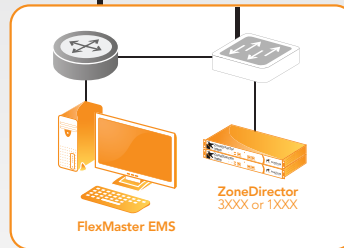
Controllers out of the datapath, deployed onsite or offsite

Unified end-end management of entire indoor/outdoor system

HEALTHCARE

RUCKUS (REALLY) SMART WI-FI PRODUCTS

ZoneFlex 7962
Indoor dual-band, two-port 802.11n AP with integrated smart antenna array and PoE (802.3af) support

ZoneFlex 7300
Indoor single- and dual-band, three-port 802.11n AP with integrated smart antenna array and PoE (802.3af) support
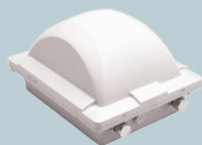
ZoneFlex 2942
Indoor single-band, two-port 802.11b/g AP with integrated smart antenna array and PoE (802.3af) support

ZoneFlex 7025
Indoor 802.11n wall jack with five ports of Ethernet

ZoneFlex 7762
Outdoor dual-band, two-port 802.11n AP with integrated smart antenna array and PoE (802.3at/af) support

ZoneFlex 2741
Outdoor single-band, one-port 802.11b/g AP with integrated smart antenna array on PoE (802.3af) support

ZoneFlex 7731
Outdoor long-range, point-to-point 802.11n 5GHz bridge

FlexMaster
Linux-based remote Wi-Fi system management software

ZoneDirector Controllers
Central wireless LAN controllers supporting from 6 to 500 Ruckus APs

ZoneSwitch 4000
Fully Managed 12/24 port Layer 2 Gigabit Smart Switches with 802.3af/at PoE

ruckus™ WIRELESS

SMART MOBILE NETWORKING

RUCKUS