CHAPTER 7

SECURE DEVICE ACCESS AND CLOUD-MANAGED NETWORKING

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The global BYOD market is expected to register a compound annual growth rate of over 15% between 2019 and 2025, with the trend most pervasive in North America. BYOD adoption is being driven by increasing use of mobile devices in everyday life to access information anywhere and everywhere, be it work related or personal information. Other related factors include work-from-home culture; and government Smart City initiatives.

Moreover, failure to secure network access is a risk that many organizations cannot ignore. Aligned with simple ways to improve security related to wired and wireless access, the CommScope RUCKUS portfolio of solutions bolsters data security with increased visibility and control over devices and users allowed on the network.

SECURE ONBOARDING

Expectations of enterprise end-users, especially for self-service, have been shaped by their experience as consumers. Users are familiar with the common set-it-and-forget-it experience of activating a new cell phone at the carrier retail outlet or connecting to a home Wi-Fi network.

But in the enterprise environment, IT organizations typically rely on cumbersome methods for device onboarding and authentication, like MAC authentication and conventional pre-shared keys (PSKs) that are built into their networking infrastructure.

A better fit for onboarding is self-service with the right mechanism in place so that it is easy and intuitive for users. This calls for a purpose-built system for secure network access where users only have to go through the onboarding process once without IT intervention.

CLOUDPATH ENROLLMENT SYSTEM

RUCKUS Cloudpath Enrollment System software streamlines network onboarding for BYOD users, guests and IT-owned devices. It enables IT teams to define and manage policies for role-based access; delivers visibility and granular control over what devices users can access on the network; and reduces help desk tickets related to network access.

Cloudpath secures every connection with WPA2-Enterprise, protecting data in transit between the device and the AP with encryption. Internal users can self-provision any device for network access using their existing login credentials. A digital certificate for network authentication ensures that after the initial connection, users do not need to hassle with Wi-Fi passwords.

Guest users access a self-service login portal and receive credentials for internet access via email or SMS. Be it cloud-based or virtualized on-premises deployment, the solution supports any user, device, and network infrastructure.

IOT ENDPOINT ONBOARDING

Secure device onboarding is also a challenge for organizations seeking to deploy IoT solutions in the face of a fragmented ecosystem of standards, devices and services. Common IoT access addresses these issues by consolidating multiple physical-layer networks into a single converged network.

This common network establishes uniform security protocols and converges IoT endpoint management and policy setting. The RUCKUS IoT Suite simplifies the creation of such an access network through the reuse of LAN and WLAN infrastructure, thus shortening deployment duration and reducing cost to support multiple IoT solutions.

This concept has been applied in various verticals such as manufacturing, hospitality, healthcare and education. In hotels, an increasing number of wireless devices and systems for both guests and staff connect to Wi-Fi as well as other forms of wireless protocols such as Zigbee, LoRa or BLE. Unifying these wireless protocols within a single AP enables hotels to save physical space and streamline secure device on-boarding.

RUCKUS CLOUD

The CommScope RUCKUS Cloud converged network management-as-a-service platform enables IT departments to provision, monitor, optimize and troubleshoot an enterprise-grade Wi-Fi and switching network via a single web dashboard or mobile app.

Using advanced artificial intelligence (AI) and patented machine learning techniques, RUCKUS Cloud gives IT the troubleshooting tools to react quickly to service-affecting issues and to stop network anomalies from rising to the service-affecting level. It even classifies issues by severity, so IT knows where to focus first.

SUCCESS STORY: DEL MAR COLLEGE, TEXAS, USA

CLOUD-MANAGED NETWORKING ELEVATES LEARNING EXPERIENCE

Del Mar College (DMC), located in Corpus Christi, Texas, has been at the leading edge of digital learning with its innovative education programs and models, including its nationally recognized nursing program's clinical simulation lab.

However, the community college's existing Wi-Fi network was lagging in performance. Students had difficulty finding an adequately consistent Wi-Fi signal to complete assignments. They could not register multiple mobile devices on the campus network. Neither could the Wi-Fi network support bandwidth-intensive applications such as the live-streamed video-based instruction used by the nursing program. The CIO mandated a modernization of the Wi-Fi infrastructure to address these challenges and to reduce infrastructure and management costs.

SOLUTION

DMC's IT team deployed RUCKUS APs that could each support up to 100 concurrent users. This translated to far fewer APs per classroom and building and lower associated costs like cabling and electrical.

The RUCKUS Cloud service simplified management of DMC's Wi-Fi network covering 45 buildings and 25,000 users across two campuses; new buildings under construction then; and two off-campus centers.

BENEFITS

The superior performance and coverage of the RUCKUS APs delivers high-quality Wi-Fi to students, faculty and visitors. At the clinical simulation lab, complaints about connectivity, download speeds, or stability became a thing of the past.

The network also promoted the BYOD trend, allowing students to access the Wi-Fi network using multiple devices, and faculty to experiment with new teaching models.

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The IT team began spending less time on monitoring and troubleshooting; just two network specialists manage the rapidly growing Wi-Fi network. In the nursing program, the network supports more patient stations equipped with cameras and audio systems while faculty can send video to any classroom in the building.

In line with IT's initiative to move strategic applications such as learning management and ERP systems to the cloud, the RUCKUS Cloud platform easily extended the cloud-managed network to distributed locations.

Unlike the high manual overhead with the old network, RUCKUS APs handle high-density environments with ease while cloud-managed Wi-Fi makes it easy to set up guest networks. At the DMC's off-campus Center for Economic Development, which is available for rent to community and business organizations for large meetings, just two RUCKUS APs are needed to serve the Wi-Fi needs of up to 250 people. A new SSID can be assigned for each event within a minute through the RUCKUS Cloud dashboard from a mobile app.