



ADTRAN's vWLAN

Solution Replaces Ruckus Wireless to Eliminate Wi-Fi Complexity and Maximize Cost Savings

About PRTC

PRTC provides wireless, Internet, telephone, and satellite television to consumers and businesses of Laurens County, SC and the surrounding areas.

The Challenge

Plagued with a costly and complex WLAN solution, PRTC needed to replace their hardware-controller-based Ruckus Wireless Wi-Fi solution to provide stable, cost-effective, easy-to-manage Wi-Fi connectivity seamlessly across all of their locations.

The Solution

To achieve cost efficiencies and greatly simplify WLAN management, PRTC deployed ADTRAN's Virtual Wireless LAN (vWLAN) control and management software with integrated guest access on an appliance, along with Bluesocket high performance, 802.11n access points.

The Benefit

As a result of replacing the Ruckus Wireless solution with ADTRAN's vWLAN solution, PRTC was able to:

- Provide reliable, seamless, cost-effective Wi-Fi connectivity across all of their locations
- Eliminate network complexity and ensure uncomplicated management
- Launch guest access for visitors
- Achieve on-going cost savings enabled by vWLAN's enormous scaling capacity
- End costly investments in WLAN hardware controllers

Serving Consumers and Businesses for Over 60 Years

PRTC was formed as Piedmont Rural Telephone Company in 1950 with a mission to provide reliable phone service to the rural residents of Laurens County. Today, PRTC is a leader in the industry, a total communications provider offering not only local and long distance phone service, but also high-speed Internet, TV, and wireless service. PRTC prides itself on delivering one-to-one customer service and technical support that only a locally-based company can provide.

Complicated, Costly Wi-Fi = a "Ruckus"

PRTC's I.T. department consistently struggled with the high cost and the overall complexity of their legacy, hardware-controller-based solution from Ruckus Wireless. The need for ongoing hardware investments and the complicated management of the Ruckus Wireless solution restricted PRTC from either expanding the Wi-Fi® coverage to all of its locations (an additional four locations) or deploying guest access to provide contractors and visitors with wireless connectivity. It became clear to PRTC that continued use of the Ruckus Wireless solution, which required significant I.T. resources, was just too costly.

Hardware Controller Architectures: High Cost with Inherent Operational Limitations

WLAN hardware controllers have inherent complexities and operational limitations. All access point traffic is required to pass through the hardware controller which becomes a potential bottleneck and a central point for a malicious attack. This legacy architecture requires a substantial, ongoing investment in hardware since a controller device is needed at every physical location and upgrading the solution requires a forklift upgrade.

Since the conventional method of scaling this architecture is to add more and more hardware controllers, the constant addition of WLAN controller hardware is not only extremely costly—it's especially difficult when faced with the control and management of the network across geographically dispersed locations.



"With ADTRAN's vWLAN solution, we can now provide high performance wireless connectivity to our employees and visitors—reliably, securely, and cost effectively throughout all of our locations."

Corey Crowley
Director, Information Technology Services

Wi-Fi Virtualization = Freedom from Hardware Controller Challenges

Designed on the premise that the same benefits provided by server virtualization can be brought to the Wi-Fi network, ADTRAN's Virtual Wireless LAN (vWLAN) solution virtualizes user control and device management functions with a software controller that runs on a virtual appliance—eliminating the need for hardware-based controllers within the wireless network.



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vWLAN® moves the data plane to the Access Point (AP)—this removes the potential for bottlenecks and attacks since all AP traffic is no longer routed back through a central point. With vWLAN, upgrades no longer require multi-site hardware replacement; a simple download and installation of the new software version is all that's needed.

In traditional controller-based networks, the network design revolves around the number of APs, users, and aggregate bandwidth. With vWLAN, adding more APs (data plane) doesn't drive an increase in the control plane or a need for additional control plane investment. vWLAN makes scaling the network simple and cost effective—allowing an enterprise to “grow as they go”.

vWLAN's cloud-based control and management and the elimination of location-specific controller hardware significantly reduces the complexity of Wi-Fi administration.

vWLAN's Distributed Architecture Delivers Key Operational and Cost Advantages

Unlike hardware controller architectures where the data and the control plane are bonded to the controller, vWLAN is designed as a software-based, distributed architecture which separates the control and management plane from the data plane and provides significant advantages including separate, flexible scaling, greater capacity and simplified administration.

By moving the control and management plane to the cloud, the vWLAN control and management software and Bluesocket® APs can be located independent of each other—making it possible to control APs from anywhere in the world. Not only does this provide a more dynamic and flexible solution to address network demands in real time, it also provides optimal multi-site connectivity—delivering a standardized solution across all locations without a hardware controller at each site.

ADTRAN's vWLAN solution can support 1,500 APs and 48,000 users per software instance. In addition, system capacity is no longer determined by the backplane capacity of the hardware controller; rather with vWLAN, capacity is a function of the aggregate throughput of all access points combined.

“Overall, ADTRAN's vWLAN solution was more cost-effective, faster, and much easier to implement and manage than our previous Ruckus Wireless Solution.”

Corey Crowley
Director, Information Technology Services

vWLAN's centralized, cloud-based control and management of any AP, regardless of physical location, delivers network administrators with a complete view and control of the entire network, not a limited subset of managed devices.

Abolishing the need for hardware controllers, vWLAN eliminates the associated hardware costs such as CAPEX and OPEX. vWLAN decreases the Total Cost of Ownership (TCO) and will dramatically reduce energy usage since legacy hardware controllers typically account for 80% of the total energy usage within a Wi-Fi network.

ADTRAN's vWLAN Ends PRTC's Internal “Ruckus”

It was imperative that PRTC migrate to a reliable, cost-effective, easy-to-manage Wi-Fi solution to provide seamless coverage within their headquarters facility as well as guest access for visitors. PRTC selected ADTRAN's vWLAN solution for its ability to deliver proven reliability and performance, seamless roaming, unprecedented scalability, an integrated guest access solution and a cost saving alternative to expensive hardware controller-based architectures.

ADTRAN's vWLAN solution has enabled PRTC to reduce WLAN expenditures, deliver critical Wi-Fi access to ensure an exceptional user experience, and increased productivity across the entire organization. vWLAN's comprehensive management tools deliver real time network visibility, allowing PRTC to easily accommodate changes as needs arise and ensure optimal performance throughout the entire Wi-Fi network.

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