What's New in ZF Version 9.13?

This application note describes the new features available in Version 9.13 of Ruckus Wireless ZoneFlex family. This document assumes familiarity with the Ruckus ZoneFlex product line and the features of earlier releases till ZF version 9.12.

Highlight of this Release

ZoneFlex software release 9.13 provides Enterprises, HotZone Operators and Managed Service Providers a higher performing, more reliable, and easier to deploy WiFi network to provide wireless access to diverse groups of users across multiple locations.

This release introduces

- Support for indoor 802.11ac Multi-User MIMO (MU-MIMO) Wave 2 AP R510
- Support for outdoor 802.11ac Multi-User MIMO (MU-MIMO) Wave 2 AP T710
- ATF for 11ac APs
- WLAN Prioritization for 11ac APs
- DVLAN on R710
- WAVE-2 11ac Mesh support
- AP Certificate replacement
- Application Recognition & Control using DPI (Deep Packet Inspection)
- Secure Software Upgrade (HTTPS Upgrade)
- Secure internal Guest Captive Portal (external HTTPS captive portal is already supported)
- AP Image Signing
- Zero-IT support for Android 6.0
- Ability to disable radios via AP group
- SCI Enhancement
- SPoT Enhancement

Supported Platforms

- FlexMaster v.9.13
- ZoneDirector Remote Control 9.12 (Mobile App for iPad and Android phones)
- ZoneDirector 1200 Smart/OS v.9.13
- ZoneDirector 3000 Smart/OS v.9.13
- ZoneDirector 5000 Smart/OS v.9.13
- ZoneFlex R710 802.11ac Multi-User MIMO (MU-MIMO) v.9.13
- ZoneFlex R510 802.11ac Multi-User MIMO (MU-MIMO) v.9.13
- ZoneFlex T710 802.11ac Multi-User MIMO (MU-MIMO) v.9.13
- ZoneFlex T710S 802.11ac Multi-User MIMO (MU-MIMO) v.9.13
- ZoneFlex R310 802.11ac Dual-band Access Point v.9.13
- ZoneFlex R300 802.11n Dual-band Access Point v.9.13
- ZoneFlex R500 802.11ac Dual-band Access Point v.9.13
- ZoneFlex R600 802.11ac Dual-band Access Point v.9.13
- ZoneFlex R700 802.11ac Dual-band Access Point v.9.13

- ZoneFlex T300 802.11ac Dual-band Access Point v.9.13
- ZoneFlex T300E 802.11ac Dual-band Access Point v.9.13
- ZoneFlex T301N 802.11ac Dual-band Access Point v.9.13
- ZoneFlex T301S 802.11ac Dual-band Access Point v.9.13
- ZoneFlex H500 802.11ac Dual-band Wired/Wireless Wall Switch v.9.13
- ZoneFlex 7055 802.11n Dual-band Wired/Wireless Wall Switch v.9.13
- ZoneFlex 7352 802.11n Dual-band Access Point v.9.13
- ZoneFlex 7372 802.11n Dual-band Access Point v.9.13
- ZoneFlex 7372-E 802.11n Dual-band Access Point v.9.13
- ZoneFlex 7982 802.11n Dual-band Access Point v.9.13
- ZoneFlex 7781-CM 802.11n Dual-band Outdoor Access Point with Cable Modem v.9.13
- ZoneFlex 7782 Dual Band 802.11n Outdoor Access Point with Omni Antenna v.9.13
- ZoneFlex 7782-S Dual Band 802.11n Outdoor Access Point with Sector Antenna v.9.13
- ZoneFlex 7782-E Dual Band 802.11n Outdoor Access Point with External Antenna v.9.13
- ZoneFlex 7782-N Dual Band 802.11n Outdoor Access Point with 30 deg. Narrow Sector Antenna v.9.13

EoL (End of Life) APs

The following AP models have reached end-of-life (EoL) status and, therefore, are no longer supported in ZF 9.13 release. If your ZoneDirector is currently managing any of these models, a warning will appear when you attempt to upgrade to ZF 9.13. If your ZoneDirector is currently managing any of these models, do NOT upgrade to this release. ZoneDirector will be unable to manage them.

- ZoneFlex 7321 802.11n Access Point v.9.13
- ZoneFlex 7321-u 802.11n Access Point v.9.13
- ZoneFlex 7341 802.11n Access Point v.9.13
- ZoneFlex 7343 802.11n Access Point v.9.13
- ZoneFlex 7363 802.11n Dual-band Access Point v.9.13
- ZoneFlex 7441 802.11n Access Point for In-Building Distributed Antenna Systems v.9.13
- ZoneFlex 7761-CM 802.11n Dual-band Outdoor Access Point with Cable Modem v.9.13
- ZoneFlex 7762 802.11n Dual-band Outdoor Access Point v.9.13
- ZoneFlex 7762-S 802.11n Dual-band Outdoor Access Point with Sector Antenna v.9.13
- ZoneFlex 7762-T 802.11n Dual-band Outdoor Access Point with High Gain 2.4 GHz Omni Antenna v.9.13
- ZoneFlex 7762-AC Dual-band 802.11n Outdoor Access Point v.9.13
- ZoneFlex 7762-S-AC Dual-band 802.11n Outdoor Access Point with Sector Antenna v.9.13
- SmartCell 8800-S Dual Band 802.11n Outdoor Access Point with Sector Antenna v.9.13
- SmartCell 8800-S-AC Dual Band 802.11n Outdoor Access Point with Sector Antenna v.9.13

Support for 802 11ac Multi-User MIMO (MU-MIMO) Wave 2 AP R510

The ZoneFlex R510 is brings cutting edge 802.11ac Wave 2 to the mid-tier segment.
It improves aggregate network throughput and benefits both Wave 2 & non-Wave 2 clients.
It combines Ruckus patented technologies and best-in-class design with the next generation of 802.11ac features to deliver outstanding Wi-Fi performance and reliability.
It future proofs the customer for emerging Internet of Things (IoT) technologies.

With throughput capacities of 300 Mbps (2.4GHz) and 867 Mbps (5GHz), the ZoneFlex R510 brings cutting edge Wave 2 technology for the mid-tier segment. 802.11ac Multi-User MIMO (MU-MIMO) support allows the R510 to simultaneously transmit to multiple client devices, drastically improving airtime efficiency, overall throughput, and availability.

ZoneFlex R510 is purpose-built for medium density, high performance and interference-laden environments such as schools, universities, small medium businesses, hotels, MDUs and conference centers

Key Features

- Fully functional in 802.3af PoE operating mode including USB port operation, no need to upgrade to expensive 802.3at switches
- MU-MIMO
- Tx Beamforming
- USB port - to future proof customer for emerging technologies like BLE & other IoT technologies.
- Improves aggregate network throughput for Wave 2 & non-Wave 2 clients
- Deep Packet Inspection based Application Recognition & Control

Support for 802 11ac Multi-User MIMO (MU-MIMO) Wave 2 AP T710

The ZoneFlex T710 is the industry's first and highest performing 802.11ac Wave 2 Outdoor AP. The T710 combines Ruckus patented technologies and best-in-class industrial grade design with next generation of 802.11ac features to deliver industry-leading Wi-Fi performance, reliability and coverage for challenging high density outdoor deployments. The T710 is ideal for deployment in dynamic outdoor environments with high density utilization and interference, like public outdoor hotspots, smart cities, outdoor enterprise and schools, where support for high client densities and/or data intensive streaming multimedia applications (like HD IP video) is imperative.

Key Features

- 802.11ac Multi-User MIMO (MU-MIMO)
- 2,533 Mbps maximum PHY rate (1733 Mbps in 5GHz; 800 Mbps in 2.4GHz)
- Antenna options: omni-directional and 120x30 degrees sector
- Dedicated dual band RF monitor enabling enhanced performance while providing Zero-Wait DFS capability
- 2 10/100/1000 Ethernet ports
- SFP Fiber Interface providing flexibility to backhaul to fiber
- AC power input (100-250 Vac, 50/60 Hz)
- 802.3at (PoE+) PoE Input mode of operation

- 802.3at PoE Output Power Sourcing Equipment (PSE) mode of operation, useful for daisy chaining and powering an additional Mesh AP or another device like an IP Surveillance Camera

802.11ac Access Point Enhancements

This release adds support for the following features on 802.11ac APs:

- **802.3af mode for R710**

  A new PoE Operating Mode option allows users to configure the number of active 2.4 GHz radio chains for 802.3af PoE mode via CLI command.

- **Air Time Fairness (ATF) for 11ac APs**
- **WLAN Prioritization for 11ac APs**
- **Dynamic VLAN support for R710**
- **WAVE-2 11ac Mesh support**

AP Certificate Replacement

For secure communication between controller and AP, Ruckus APs are installed with Ruckus PKI (Public Key Infrastructure) signed certificate. The validity of Ruckus PKI signed certificate will end in November 2016. So, Ruckus has established a new Ruckus PKI. As SmartZone operating system based controllers SCG-200, SZ100, and vSZ all communicate with APs over HTTPS by default, to avoid service disruption, customers are requested to upgrade the AP certificate ASAP. It is a simple and straight forward process. This knowledge based article <(https://support.ruckuswireless.com/answers/000005390> explains the process step-by-step for SZ/SCG-200 deployments.

By default, in ZD based deployments AP securely communicates with ZD via LWAPP (not using HTTPS). Hence, even after APs certificate expires ZD based deployments will not experience any service disruption. However, Ruckus recommends customers to update the AP certificate. This knowledge based article (https://support.ruckuswireless.com/answers/000005390) explains the process step-by-step for ZD deployments.

Customer Benefits

- Helps to migrate from ZD to SZ deployments without service disruption because of AP certificate expiration
- Allows direct AP access via HTTPS
- Continues secure communication between SZ controllers and APs

Application Recognition & Control using DPI (Deep Packet Inspection)

ZD release 9.13 introduces Deep Packet Inspection (DPI) based Application Recognition & Control (ARC). DPI based ARC can recognize over 2200 applications.

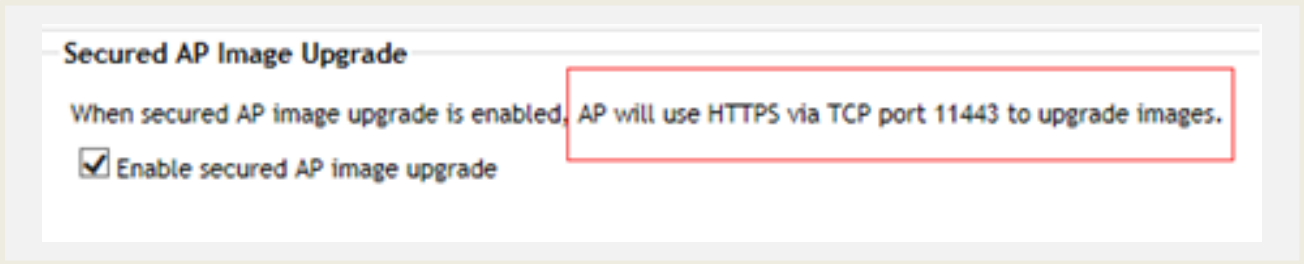
Customer Benefits

- 2200+ applications can be recognized more accurately
- Once recognized those applications can be controlled by applying policies

Secure Software Upgrade (HTTPS Upgrade)

As Ruckus hardens the product in every release, the ZF 9.13 release introduces secure software upgrade option. With this option, customers can now enable 'Secure AP image Upgrade' that is available on ZD's 'Administer->Upgrade' page which enables AP firmware upgrades over HTTPS rather than FTP. If the AP cannot support HTTPS upgrade, it will fall back to FTP.

By default, this option is not enabled in ZF 9.13.



Customer Benefits

- Enables secure AP software upgrade from controller to APs

Secure internal Guest Captive Portal (external HTTPS captive portal is already supported)

To improve security prior to authentication, Guest Access captive portal pages are now delivered via HTTPS rather than HTTP.

Customer Benefits

- Ensures guests sign-in happens securely when ZD's internal captive portal is used.

AP Image Signing

Improves security by requiring verification of AP firmware images to ensure the file has not been modified and that the source code executed by the system is authentic code provided by Ruckus Wireless.

Customer Benefits

- Improves overall system security

Zero-IT support for Android 6.0

ZF release 9.13 introduces Zero-IT support for Android 6.0.

Customer Benefits

- Helps customers to leverage Ruckus' built-in BYOD solution, Zero-IT, for the latest Android OS 6.0

Ability to disable radios via AP group

Added a "WLAN Service" enable/disable option to the AP and AP Group configuration pages, allowing users to easily disable WLAN service on the 2.4 or 5 GHz radio for a single AP or an entire AP group with a single button.

Customer Benefits

- Flexible configuration option

SCI Enhancement

A new "SmartCell Insight Management" section has been added to the 'Configure > System' page, which allows ZoneDirector to communicate with SCI when the ZD is behind a firewall without having to open firewall ports for SCI-ZD communications.

Customer Benefits

- Ease of ZD + SCI deployment
- Enhanced network security as no new firewall port need to be opened

SPoT Enhancement

This feature implements two new request/response message pairs between the SPoT Location Server and the ZoneDirector which allow the Location Server to query and synchronize AP system time.