Ruckus Wireless™ ZoneDirector™ Version 9.9.1

Release Notes

Copyright Notice and Proprietary Information

Contents

About This Release

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Introduction

This document provides release information on ZoneDirector release 9.9.1, including new features, enhancements, known issues, caveats, workarounds, upgrade details and interoperability information for version 9.9.

> **NOTE**: By downloading this software and subsequently upgrading the ZoneDirector and/or the AP to version 9.9.1, please be advised that:
>
> - The ZoneDirector will periodically connect to Ruckus and Ruckus will collect the ZoneDirector serial number, software version and build number. Ruckus will transmit a file back to the ZoneDirector and this will be used to display the current status of the ZoneDirector Support Contract.
> - The AP may send a query to Ruckus containing the AP's serial number. The purpose is to enable your AP to autonomously connect with a wireless LAN controller operated by your choice of cloud service provider. Ruckus may transmit back to the AP, the Fully Qualified Domain Name (FQDN) or IP address of the controller that the AP will subsequently attempt to join.
>
> Please be advised that this information may be transferred and stored outside of your country of residence where data protection standards may be different.

Supported Country Codes

Refer to the Ruckus Wireless Price List for available country certifications.

Supported Platforms and Upgrade Information

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Supported Platforms

ZoneDirector version **9.9.1.0.31** supports the following ZoneDirector models:

- ZoneDirector 1100
- ZoneDirector 1200
- ZoneDirector 3000
- ZoneDirector 5000

Access Points

ZoneDirector version **9.9.1.0.31** supports the following Access Point models:

- R300
- R500
- R600
- R700
- SC8800-S
- SC8800-S-AC
- T300
- T300e
- T301n
- T301s
- ZF7025
- ZF7055
- ZF7321
- ZF7341
- ZF7343
- ZF7352
- ZF7363

- ZF7372
- ZF7372-E
- ZF7441
- ZF7761-CM
- ZF7762
- ZF7762-AC
- ZF7762-S
- ZF7762-S-AC
- ZF7762-T
- ZF7781CM
- ZF7782
- ZF7782-E
- ZF7782-N
- ZF7782-S
- ZF7982

NOTE: ZoneFlex 7321-U, 7351 and 7962 APs are no longer supported as of release 9.9, and cannot be upgraded to ZoneFlex version 9.9.1. ZoneFlex 7025 is no longer supported by the ZoneDirector 1100 controller. If you are using a ZoneDirector 1100 with ZoneFlex 7025 APs, please do not upgrade to 9.9 or later.

Upgrading to This Version

This section lists important notes on upgrading ZoneDirector to this version.

Officially Supported 9.9.1 Upgrade Paths

The following ZoneDirector builds can be directly upgraded to ZoneDirector build 9.9.1.0.31:

- 9.7.2.0.9 (9.7 MR 2)
- 9.8.0.0.373 (9.8 GA)
- 9.8.1.0.99/101 (9.8 MR 1)
- 9.8.2.0.15 (9.8 MR 2)
- 9.9.0.0.205 (9.9 GA)
- 9.9.0.0.212 (9.9 GA refresh 1)
- 9.9.0.0.216 (9.9 GA refresh 2)

If you are running an earlier version, you must first upgrade to one of the above builds before upgrading to this release.

NOTE: The upgrade path from 9.9.1 to 9.10 is not recommended due to the fact that the 9.10 release date occurred before 9.9.1 and therefore 9.9.1 includes bug fixes that are not in the 9.10 code.

ZoneDirector 1100 Upgrade with Smart Redundancy

There is a known issue with upgrading two ZoneDirector 1100 controllers from 9.8 to the 9.9 build with Smart Redundancy enabled:

- Upgrade may fail if multiple web browser windows are open while upgrading.
- Upgrade may fail if memory usage is high.

To avoid this issue, use the following workarounds:

1   If Smart Redundancy is enabled, please make sure to disable it before upgrading.
2   Please make sure only one browser window is open while upgrading. (Supported web browsers: IE and Firefox).
3   Follow the prompt messages to upgrade ZD 1100.
4   After upgrading successfully, repeat these steps to upgrade the peer ZD 1100, and then enable Smart Redundancy if needed.

Enhancements and Resolved Issues

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This section lists new features and enhancements that have been added in this release and resolved issues from previous releases.

Resolved Issues

- The Neighbor APs display function now works properly even in cases when the service schedule of the first WLAN (which may not be the first WLAN configured on ZoneDirector) of the AP's radio is set to always off. [ER-1124]

- Resolved an issue that could allow clients to connect to the Mesh SSID rather than a service SSID when the Mesh SSID was misconfigured (using the same name for the Mesh SSID as a service WLAN). [ER-1297]

  Note: The Mesh SSIDs (and passwords) used for configuring Mesh network components (ie: Mesh APs or eMesh Aps) should NOT be the same as typical client SSIDs.

- Resolved an issue with incorrect IP address being displayed on the Monitor section for connected clients. [ER-1596]

- Resolved an issue where the Apple Bypass CNA feature on the ZoneDirector stopped working after WISPr smart client support was enabled. [ER-1661]

- Resolved an issue with RADIUS rate limiting that would not allow more than 20mbps per client. [ER-1741]

- Resolved a random client disconnect issue on R700 APs running 9.8.1.0.101. [ER-1820]

- Resolved an issue that could prevent APs from successfully downloading new Bonjour Policies from ZoneDirector. [ER-1841]

- Resolved a system restart issue that could occur when the AP manager process hangs under certain conditions. [ER-1866]

- Resolved an issue that could cause APs acting as Bonjour Gateway to reboot repeatedly due to an mDNSproxy internal error. [ER-1870]

- Resolved an issue where the manually assigned IP address/Gateway may not take effect when changing from DHCP to static using ZD GUI settings. [ER-1899]

- Passwords displayed on the printed instructions from the Configure > Users page are now properly displayed as a series of asterisks (*). [ER-1905]

- Resolved a broadcast issue with encrypted WLANs on standalone 802.11ac APs. [ER-1908]

- Resolved an issue that could cause a Smart Redundancy peer to fail to retrieve customization files. [ER-1929]

- Resolved an issue where standalone APs that were obtaining IP address and DNS information directly from ISP could be used for DNS amplification attacks. [ER-1931]

- Resolved an issue where some R700 APs rebooted unexpectedly after experiencing a "target asserted" condition. [ER-1933]

- Resolved an issue with display of French characters in guest pass emails. [ER-1938]

- Resolved an issue with Smart Redundancy ZoneDirectors that could cause flapping between active and standby modes during installation of new APs in rare conditions. [ER-1941]

- Hidden AP CLI commands have been added that allow the customer or admin to disable the Aggregated Mac Protocol Data Unit (A-MPDU) feature on the transmission (Tx) of the WiFi interface. This capability improves transmission under certain conditions and may be helpful in finding errors. By default the A-MPDU is enabled on the AP. [ER-1943]

- Resolved an issue where guest passes could not be delivered via SMS when using a paid Clickatell account. [ER-1974]

- Resolved an issue where the 5G WLAN took significantly longer than the 2.4G WLAN to become available when the country code on the AP was set to China. [ER-1993]

- Resolved an issue where some R700 APs experienced "target asserted" condition after being upgraded to release 9.9. [ER-1999]

- Resolved an issue where FTP ACL blocking worked in release 9.7.2.0.9 but not in releases 9.8.0 and 9.8.2. [ER-2002]

- Resolved an issue where when Performance Monitoring (PM) was enabled, the Real Time Monitoring (RTM) module would record CPU and memory utilization even when RTM was disabled. [ER-2003]

- Resolved an issue that could cause DPSK authentication to fail on iOS 8.1.1 clients when dot11r Fast Bss Transition feature is enabled. [ER-2008]

- Resolved an issue where none of the settings on the AP Group page of the ZoneDirector web interface could be edited. [ER-2014]

- Resolved an AP SNMP issue that could cause the RuckusRadioTxPower SNMP MIB to incorrectly always report 0. [ER-2023]

- Resolved an issue where no alarm or SNMP trap is generated when the RADIUS server goes down if only one radius server is configured. [ER-2033]

- Resolved an issue with cookies in guest pass authentication that could allow guests to continue accessing the network after their authorized session has expired. [ER-2044]

- Resolved an issue that could cause HTTP/HTTPS redirect to fail when Smart Redundancy is enabled after upgrading to 9.9. [ER-2050, ER-2063]

- Resolved an issue with display of generated DPSK keys after a Role has been deleted. Roles can now only be deleted after all DPSKs that use the Role have been removed. [ER-2056]

- Resolved an issue where APs could not be upgraded from release 9.8.2.0.15 to 9.8.2.018 because the ZoneDirector was blocking FTP connections. [ER-2061]

- Resolved an issue with AP groups displaying incorrect client count when running 9.8.2.0.15. [ER-2064]

- Resolved an issue where, in a Smart Redundancy setup, the primary ZoneDirector stopped responding after it was upgraded to release 9.8.2. [ER-2066]

- Resolved an issue that could allow DPSK users to create additional accounts using the same Active Directory user name but with different upper- and lower-case letters. [ER-2115]

- Resolved an issue with ZoneDirector 5000 that could cause the controller to reboot due to inability to handle kernel paging requests in certain rare scenarios. [ER-2150]

- Resolved an issue that could prevent Android clients connecting to a Zero-IT WLAN from being presented the manual setup option. [ER-2156, ER-2158]

- Resolved an NTP memory leak issue that could cause R700 APs to reboot. [ER-2157]

- Resolved an issue where the AP broadcasted only one SSID after its 5GHz channel width was changed. [ER-2162]

- Resolved a typo in the "client disconnected" SNMP trap. [ER-2170]

- Resolved an issue that could cause ZoneDirector's system clock to drift from NTP time by about 5 seconds a day. [ER-2190]

- Resolved an issue with SpeedFlex failing to display downlink results when testing for both uplink and downlink throughput. [ER-2195]
- Resolved an issue where Daylight Savings Time would not be properly adjusted for Brazil time zone. [ER-2233]
- Resolved a memory leak issue that could cause ZoneDirector 1100 firmware to reboot under high density conditions.[ER-2242]
- Resolved a display issue on the AP Monitor tab where a DFS blocked channel would be displayed repeatedly. [ER-608]
- Resolved an issue with incorrect traffic counters and duplicate acct-session-id values in Radius Accounting messages [ER-2172].
- Resolved an issue with ZoneDirector transmitting UE host names containing non-UTF-8 characters incorrectly encoded in XML to FlexMaster for reporting, which could result in FlexMaster failing to produce some reports correctly. [ER-2263]
- Resolved an issue with the Currently Managed AP Groups widget where the widget would not display configured AP groups after upgrading to 9.9. [ER-2296]
- Resolved an issue with Japanese translation of client details page information. [ER-2309]
- Resolved an issue with Daylight Savings Time rules being incorrectly applied to other time zones. [ER-2305]
- Updated the link to the Ruckus Support website from the Product Registration page to point to the new URL: https://support.ruckuswireless.com/warranty_registration. [ER-2303]
- SNMP no longer returns incorrect WLAN Rate Limiting Downlink values. [ER-2428]
- Resolved an issue that could cause the Most Active Clients report on the Dashboard to fail to display some clients. [ER-2374]
- Resolved an issue that could cause the ZoneDirector 1100 web UI to stop responding after upgrading. [ER-2427]
- Resolved an AP kernel panic issue that could occur under certain rare conditions. [ER-2390]
- Resolved an issue with standalone R500 APs when configured with 802.1X authentication that could result in missing NAS-IP-Address fields in RADIUS Access Request messages. [ER-2208]

- Resolved an issue that could cause client counts to differ between those shown during an SNMP walk and those displayed on ZoneDirector's web interface. [ER-2065]
- Directed multicast can now be configured from the ZoneDirector CLI using the AP group model-specific settings for any AP model. [FR-962]

Caveats, Limitations, and Known Issues

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This section lists the caveats, limitations, and known issues in this release.

Ethernet Port Settings

ZoneDirector 1100 and ZoneFlex AP Ethernet ports can become disabled if half duplex is forced on any port. (ID ER-1208, ER-1229)

This problem affects the following:

- ZoneDirector: ZD 1100
- APs: ZoneFlex 7341, 7343, 7363, 7761, and 7762

Workaround: Uplink switch ports must be set to 100Mbps auto-negotiation or 1000Mbps auto-negotiation.

Web Interface

ZoneDirector release 9.9.1 supports the following Web browsers:

- Firefox 31 and later
- Internet Explorer 10, 11
- Chrome 36 and later

R500, R600, R700 and T300 Series APs

The following features are not included in this release:

- Airtime Fairness on 5 GHz radio
- Smart Mesh
- Spectrum Analysis on 5 GHz radio
- WLAN prioritization on 5 GHz radio
- Packet Capture on 5 GHz radio

Interoperability Information

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ZoneDirector Controller and RuckOS Controller Interoperability

To ensure reliable network operations, it is recommended that ZoneDirector controllers and RuckOS controllers (SCG, vSCG, SZ, SAMs controllers) not be deployed on the same IP subnet or in such a way as the controllers share the same DHCP address scopes and domain name servers (DNS) as there may be limitations or restrictions in AP controller discovery capabilities. An effective network segmentation strategy should be developed when ZoneDirector and RuckOS controllers co-exist in the same network.

Redeploying ZoneFlex APs with RuckOS Controllers

Note that a supported ZoneFlex AP configured to operate with ZoneDirector will require an upgrade to a compatible RuckOS controller approved software release prior to interoperating with a SmartCell Gateway, vSCG, SmartZone or SAMs controller. Once the AP firmware is updated, the AP will no longer be able to communicate with its old ZoneDirector controller. The AP must be reset to factory-default setting before attempting to configure the AP from the RuckOS controller.

NOTE: There are established ZoneDirector to RuckOS controller migration tools and procedures. Contact support.ruckuswireless.com for the latest available procedures and utilities.

ZoneFlex Release 9.9 and AP Standalone Mode and FlexMaster Managed Mode Operation

Starting January 1, 2015 the default image that ships from the factory on Ruckus access points (APs) will change from ZoneFlex Release 9.8.x to ZoneFlex Base Image Release 100.0.x. Most customers will not notice any difference in AP operation. The APs will continue to support standalone mode and FlexMaster managed mode operations and will automatically discover and connect to ZoneDirector or RuckOS controllers.

Beginning in ZoneFlex Release 9.9 and higher, the AP has a new behavior: once an AP connects to a controller the AP will no longer support standalone mode and FlexMaster managed mode operation after the controller completes the necessary AP firmware update during initialization.

An AP removed from a controller managed network may be restored to operate in standalone mode and FlexMaster managed mode operation by updating the AP firmware back to ZoneFlex Base Image Release 100.0.x or to a ZoneFlex-AP Release 9.8.x or lower.

These software images are available on the Ruckus support site, see support.ruckuswireless.com for more information.

AP Interoperability

APs with ordering number prefix 901- (example 901-T300-WW81), may now be supplied with an AP base image release 100.0. or higher.

The AP base image is optimized for controller-discovery compatibility to support all Ruckus Wireless controller products including ZoneDirector, SCG, vSCG, Smart-Zone and SAMS.

Once the AP discovers and joins a controller (for example ZoneDirector), the AP is updated to the compatible controller-specific AP firmware version. The updated AP firmware version becomes the factory-default image. The updated AP firmware version (for example ZoneFlex 9.9) will remain persistent on the AP after reset to factory defaults.

An AP configured with base image release 100.0 may be managed by the Flex-Master management tool or may be used in standalone controller-less operation if controller discovery is disabled on the AP web UI.

Client Interoperability

ZoneDirector and ZoneFlex APs use standard protocols to interoperate with third-party Wi-Fi devices. Ruckus Wireless qualifies its functionality on the most common clients.

The following client operating systems and browsers have been tested for compatibility with this release (for specific OS and browser limitations, including compatibility with Zero-IT, see subsequent sections below).

PC OS:

- Windows 7
- Windows 8
- Windows 8.1
- Mac OS 10.8.3
- Mac OS 10.8.5
- Mac OS 10.9.3
- Mac OS 10.9.4

Smart Phone/Tablet OS:

- iOS (5.x, 6.x, 7.x, 8.0, 8.1)
- Android (4.0.3, 4.1.2, 4.2.2, 4.3, 4.4, 4.4.2, 4.4.4)
- Windows Phone 7.5, 8, 8.1
- BlackBerry OS 10.1.0.4633
- Kindle (7.4.2)

Officially Supported Browsers:

- Internet Explorer 10, 11
- Firefox 31 and later
- Chrome 36 and later

Not Officially Supported Browsers:

Safari, Dolphin, Opera Mini, Android Default, BlackBerry Default, etc.

Zero-IT Compatibility with Client Devices

Table 1.   Zero-IT Compatibility

	WPA2 WLAN			802.1x EAP (external Radius Server)		
OS	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
IOS 7.0.3	Y	Y	N(ZF-2888)	Y	Y	N(ZF-2888)
IOS 8.0	Y	Y	N(ZF-2888)	Y	Y	N(ZF-2888)
IOS 6.1.3	Y	Y	N(ZF-2888)	Y	Y	N(ZF-2888)
IOS 8.1	Y	Y	N(ZF-2888)	Y	Y	N(ZF-2888)
IOS 7.1	Y	Y	N(ZF-2888)	Y	Y	N(ZF-2888)
IOS 7.0.4	Y	Y	N(ZF-2888)	Y	Y	N(ZF-2888)
IOS 7.1.2	Y	Y	N(ZF-2888)	Y	Y	N(ZF-2888)
IOS 7.0	Y	Y	N(ZF-2888)	Y	Y	N(ZF-2888)
IOS 6.1.3	Y	Y	N(ZF-2888)	Y	Y	N(ZF-2888)
Mac OS 10.9.5	Y	Y	Y	Y	Y	N(ZF-4699)
Mac OS 10.10.1	Y	Y	Y	Y	Y	N(ZF-4699)
MAC OS 10.8.5	Y	Y	Y	Y	Y	N(ZF-4699)
MAC OS 10.9.4	Y	Y	Y	Y	Y	N(ZF-4699)
Mac OS 10.9.3	Y	Y	Y	Y	Y	N(ZF-4699)
Windows 8.1	Y	Y	Y	Y	Y	Y
Windows 7	Y	Y	Y	Y	Y	Y
Windows 8	Y	Y	Y	Y	Y	Y
Windows Phone 7.5	N (ZF-3478)	N (ZF-3478)	N (ZF-3478)	N (ZF-3478)	N (ZF-3478)	N (ZF-3478)
Windows Phone 8	N (ZF-3478)	N (ZF-3478)	N (ZF-3478)	N (ZF-3478)	N (ZF-3478)	N (ZF-3478)
BlackBerry OS 10	N (ZF-6402)	N (ZF-6402)	N (ZF-6402)	N (ZF-6402)	N (ZF-6402)	N (ZF-6402)
Kindle 7.4.2	Y	Y	Y	Y	Y	Y
Android 4.2.2	Y	Y	Y	Y	Y	Y
Android 4.4.2	Y	Y	Y	Y	Y	Y
Android 4.3	Y	Y	Y	Y	Y	Y
Android 4.0.3	Y	Y	Y	Y	Y	Y

Table 1.　Zero-IT Compatibility

WPA2 WLAN			802.1x EAP (external Radius Server)		
Android 4.1.2	Y	Y	Y	Y	Y	Y
Android 4.4	Y	Y	Y	Y	Y	Y
Android 4.4.4	Y	Y	Y	Y	Y	Y
Android 5.0.1	Y	N (ZF-12632)	N (ZF-12632)	Y	N (ZF-12632)	N (ZF-12632)
Chrome	N (ZF-8076)	N (ZF-8076)	N (ZF-8076)	N (ZF-8076)	N (ZF-8076)	N (ZF-8076)

- Step 1: Download Zero-IT file
- Step 2: Install Zero-IT script
- Step 3: Automatically connect to the appropriate SSID

Client Interoperability Issues

- iOS clients do not connect to Zero-IT WLANs automatically; users must manually switch WLANs after Zero-IT installation. (ZF-2888)
- No Zero-IT support for Windows phone 8. (ZF-3478)
- Zero-IT is not supported on Blackberry Z10 devices. (ZF-6402)
- Mac OS 10.7 and 10.8 cannot automatically connect to an 802.1x EAP WLAN after installing Zero-IT script. (ZF-4699)
- Zero-IT app is not working on Chrome book as prov.exe file type is not supported. (ZF-8076)
- Safari browser on iPhone 5, 5s, iPad2 (iOS 7, iOS 8) not redirecting to user's intended page after successful authentication (ZF-10177)

  Workaround: Clear cookies (Safari > Reset Safari), or try another browser.
- Mac OS 10.8.5 clients may be unable to connect to a WPA2-PSK WLAN when 802.11r is enabled. (ZF-10290)
- Zero-IT apk file fails to decompress on Android 5.0. (ZF-12632)