

# Ruckus ZoneDirector 10.2.1 Refresh 3 Release Notes

Supporting ZoneDirector 10.2.1 Refresh 3

# Copyright, Trademark and Proprietary Rights Information

© 2019 CommScope, Inc. All rights reserved.

No part of this content may be reproduced in any form or by any means or used to make any derivative work (such as translation, transformation, or adaptation) without written permission from CommScope, Inc. and/or its affiliates ("CommScope"). CommScope reserves the right to revise or change this content from time to time without obligation on the part of CommScope to provide notification of such revision or change.

## Export Restrictions

These products and associated technical data (in print or electronic form) may be subject to export control laws of the United States of America. It is your responsibility to determine the applicable regulations and to comply with them. The following notice is applicable for all products or technology subject to export control:

*These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. government or as otherwise authorized by U.S. law and regulations.*

## Disclaimer

THIS CONTENT AND ASSOCIATED PRODUCTS OR SERVICES ("MATERIALS"), ARE PROVIDED "AS IS" AND WITHOUT WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED. TO THE FULLEST EXTENT PERMISSIBLE PURSUANT TO APPLICABLE LAW, COMMScope DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, FREEDOM FROM COMPUTER VIRUS, AND WARRANTIES ARISING FROM COURSE OF DEALING OR COURSE OF PERFORMANCE. CommScope does not represent or warrant that the functions described or contained in the Materials will be uninterrupted or error-free, that defects will be corrected, or are free of viruses or other harmful components. CommScope does not make any warranties or representations regarding the use of the Materials in terms of their completeness, correctness, accuracy, adequacy, usefulness, timeliness, reliability or otherwise. As a condition of your use of the Materials, you warrant to CommScope that you will not make use thereof for any purpose that is unlawful or prohibited by their associated terms of use.

## Limitation of Liability

IN NO EVENT SHALL COMMScope, COMMScope AFFILIATES, OR THEIR OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, SUPPLIERS, LICENSORS AND THIRD PARTY PARTNERS, BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, PUNITIVE, INCIDENTAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER, EVEN IF COMMScope HAS BEEN PREVIOUSLY ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, WHETHER IN AN ACTION UNDER CONTRACT, TORT, OR ANY OTHER THEORY ARISING FROM YOUR ACCESS TO, OR USE OF, THE MATERIALS. Because some jurisdictions do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of liability for consequential or incidental damages, some of the above limitations may not apply to you.

## Trademarks

ARRIS, the ARRIS logo, CommScope, Ruckus, Ruckus Wireless, Ruckus Networks, Ruckus logo, the Big Dog design, BeamFlex, ChannelFly, Edgelron, FastIron, HyperEdge, ICX, IronPoint, OPENG, SmartCell, Unleashed, Xclaim, and ZoneFlex are trademarks of CommScope, Inc. and/or its affiliates. Wi-Fi Alliance, Wi-Fi, the Wi-Fi logo, Wi-Fi Certified, the Wi-Fi CERTIFIED logo, Wi-Fi Protected Access, the Wi-Fi Protected Setup logo, Wi-Fi Protected Setup, Wi-Fi Multimedia and WPA2 and WMM are trademarks or registered trademarks of Wi-Fi Alliance. All other trademarks are the property of their respective owners.

# Contents

---

<b>About This Release.....</b>	<b>4</b>
<b>Supported Platforms and Upgrade Information.....</b>	<b>4</b>
Supported Platforms.....	4
Upgrading to This Version.....	5
<b>Enhancements and Resolved Issues.....</b>	<b>6</b>
Enhancements.....	6
Resolved Issues in Build 147.....	6
Resolved Issues in Build 135.....	7
Resolved Issues in Build 129.....	7
Resolved Issues in Build 75.....	8
<b>Caveats, Limitations and Known Issues.....</b>	<b>8</b>
<b>Client Interoperability.....</b>	<b>8</b>
PC OS.....	8
Smartphone/Tablet OS.....	9
Officially Supported Browsers.....	9
Not Officially Supported Browsers .....	9
Zero-IT Compatibility with Client Devices.....	9
Client Interoperability Known Issues.....	10

# About This Release

This document provides release information on ZoneDirector release 10.2, including new features, enhancements, known issues, caveats, workarounds, upgrade details and interoperability information for version 10.2.

## NOTE

By downloading this software and subsequently upgrading the ZoneDirector and/or the AP to version 10.2, 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 Platforms and Upgrade Information

## Supported Platforms

ZoneDirector version **10.2.1.0.147** supports the following ZoneDirector models:

- ZoneDirector 1200
- ZoneDirector 3000

ZoneDirector version **10.2.1.0.147** supports the following Ruckus Access Point models:

Indoor AP	Outdoor AP
C110	T300
E510	T300e
H320	T301n
H510	T301s
R310	T310c
R320	T310d
R500	T310n
R510	T310s
R600	T610
R610	T610s
R700	T710
R710	T710s
R720	

**NOTE**

The following APs have been discontinued as of this release, and cannot be upgraded to 10.2 or later. If you have any of these APs on your ZoneDirector-managed network, do *not* upgrade ZoneDirector to this release. ZoneDirector will be unable to manage them.

- 7055
- 7352
- 7372
- 7372-E
- 7982
- 7781-CM
- 7782
- 7782-E
- 7782-N
- 7782-S
- H500
- R300

## Upgrading to This Version

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

### *Officially Supported 10.2.1 Upgrade Paths*

The following ZoneDirector release builds can be directly upgraded to this release:

- 10.0.0.0.1424 (10.0 GA)
- 10.0.0.0.1449 (10.0 Patch 1)
- 10.0.1.0.17 (10.0 MR1)
- 10.0.1.0.35 (10.0 MR1 Refresh 1)
- 10.0.1.0.44 (10.0 MR1 Refresh 2)
- 10.0.1.0.61 (10.0 MR1 Refresh 3)
- 10.0.1.0.83 (10.0 MR1 Refresh 4)
- 10.0.1.0.88 (10.0 MR1 Refresh 5)
- 10.1.0.0.1515 (10.1 GA)
- 10.1.1.0.26 (10.1 MR1)
- 10.1.1.0.35 (10.1 MR1 Refresh 1)
- 10.1.1.0.42 (10.1 MR1 Refresh 2)
- 10.1.1.0.55 (10.1 MR1 Refresh 3)
- 10.1.1.0.62 (10.1 MR1 Refresh 4)
- 10.1.1.0.79 (10.1 MR1 Refresh 5)
- 10.1.2.0.120 (10.1 MR2)
- 10.1.2.0.210 (10.1 MR2 Refresh 1)

- 10.1.2.0.251 (10.1 MR2 Refresh 2)
- 10.1.2.0.270 (10.1 MR2 Refresh3)
- 10.2.0.0.189 (10.2 GA)
- 10.2.1.0.75 (10.2 MR1)
- 10.2.1.0.79 (10.2 MR1 Patch1)
- 10.2.1.0.129 (10.2 MR1 Refresh 1)
- 10.2.1.0.135 (10.2 MR1 Refresh 2)

### NOTE

R730 is not supported in this release and cannot be upgraded to 10.2.1. If you have R730 APs connected to ZoneDirector, upgrading to this release will cause these APs to stop functioning.

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

If you do not have a valid Support Entitlement contract, you will be unable to upgrade ZoneDirector to this release. See the *Administer > Support* page for information on Support Entitlement activation.

# Enhancements and Resolved Issues

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

## Enhancements

This section lists the enhancements and new features that have been added in this release.

- New AP Support: R320

The R320 is an entry-level 2x2:2 802.11ac Wave 2 indoor AP designed for medium-density enterprise deployments. It features one GbE port, dual 2.4/5 GHz radios, BeamFlex support, 802.3af/at PoE support and a small form factor for flexible installation.

- LACP Support on R720

Link Aggregation can be used to bond multiple Gigabit Ethernet links into a single, high capacity logical link. The R720 supports LACP (Link Aggregation Control Protocol) as defined in the 802.1ax (formerly 802.3ad) standard, allowing the bonding of its two Gigabit Ethernet ports to form a single 2Gbps link.

## Resolved Issues in Build 147

- Resolved an issue where ZoneDirector would not report session data by default when "management by SmartCell Insight" was enabled. [ER-7762]
- Resolved a ZoneDirector memory leak issue. [ER-7475]
- Resolved an issue that could cause failure to configure an AP via the web interface. [ER-7834]
- Resolved an issue that could cause failure to configure an NTP server when the server name contains dashes. [ER-7843]
- Resolved an issue where CLI commands would not work properly for configuring auto channel selection algorithms. [ER-7846]

## Resolved Issues in Build 135

- Resolved an issue that could cause APs to unexpectedly reboot with reason "reset button". [ER-7419]
- Added an AP CLI command to permanently save the debug level of APMGR on AP. [ZF-20919]
- Enhanced the debug log for the background scanning based auto channel selection algorithm and changed the default age-out value of Neighbor APs. [ZF-20924]
- Enhanced the debug log output for the background scanning based auto channel selection algorithm and made it configurable to save in ZoneDirector locally, remote syslog server, or both. [ZF-20925],

## Resolved Issues in Build 129

- Resolved an issue where the AP CLI command "get scanresults" did not work properly. [ER-7630]
- Enhanced the Background scanning auto channel selection algorithm. [ER-7327, ZF-20709]
- Resolved an issue related to TCP SACK Panic - Kernel Vulnerability CVE-2019-11477, CVE-2019-11478 and CVE-2019-11479. [AP-11589]  
For information on security incidents and responses, see [https:// www.ruckuswireless.com/security](https://www.ruckuswireless.com/security).
- Resolved an issue where channels 100-140 were unavailable in India country code. [ER-7515]
- Resolved an issue where UNII-3 channels were unavailable for R310/R510/R710 in UK country code. [ER-7563]
- Resolved an issue where guest pass generation did not work properly for newly created WLANs. [ER-7487]
- Resolved an issue where UNII-3 channels were unavailable for outdoor APs in Russia country code. [ER-7223]
- Resolved an issue where the start/end time of DST Daylight Saving Time was incorrect for GMT0 time zone. [ER-7446]
- Resolved an issue where the authentication portal page would continue to be displayed for MacOS clients even after guest authentication was complete. [ER-7392]
- Resolved an issue where BSS minrate and management rate settings would not be applied when the UI language was set to Dutch. [ER-7411]
- Resolved an issue where APs might fail to receive WLAN settings from ZoneDirector after failover in high density environments. [ER-7307]
- Removed unnecessary space character in the wireless client roam out event messages. [ER-7332]
- Resolved an issue where the "Remarks" column did not display correctly in the "Generated Guest Pass" web page. [ER-7257]
- Resolved an AP issue with Singapore country code where DFS channels were not listed in the supported channel list for certain AP models. [ER-7247]
- Resolved a kernel panic issue on APs located in high density environments when associated wireless clients were frequently roaming in and out of range. [ER-6689]
- Resolved an issue where rogue device reporting would not work properly when the SSID name was configured as a non-English name. [ER-6248]
- Resolved an issue on 11ac Wave 1 APs where unsupported data rates were used to send the first data packet to a wireless client over the 5 GHz radio. [ER-7018]
- Resolved an issue where the incorrect redirection URL was sent for guest authentication by ZoneDirector if the "domain" field was not set in the uploaded certificate. [ER-7156]
- Resolved an issue where the R700 APs rebooted on detection of target failure. [ER-7073]
- Resolved an issue where stations could not reach the redirect portal page for guest WLANs with tunnel mode enabled. [ER-7093]

- Resolved an issue on R310 APs where the 5G radio would not function properly in 20 MHz channelization mode. [ER-6969]
- Resolved an issue where Force DHCP feature did not work properly after client roaming or reconnect. [ER-7579]
- Resolved an issue where multicast traffic unexpectedly dropped for wireless clients associated with Open/None WLANs with tunnel mode enabled. [ER-7291]
- Resolved an issue on R720 APs where wireless clients could experience low uplink throughput if they had previously associated to a WLAN with rate limiting enabled on the same R720 AP. [ER-6567, ER-6576, ER-6830]
- Unified the CLI/web UI configuration settings for directed threshold. [ER-7600]

## Resolved Issues in Build 75

- Resolved an issue with incorrect IP addresses being displayed on the "Wireless Client" page for connected clients. [ER-6968]
- Resolved an issue where customizing the "Terms of Use" field with non-ASCII characters would fail for Guest Access. [ER-7006]
- Resolved an issue where SNMP walk results on node "ruckusZDWLANStaSignalStrength" were inaccurate and renamed the node name from the previous name "ruckusZDWLANStaAvgRSSI" to "ruckusZDWLANStaAvgSNR". [ER-6943]
- Resolved an issue where users attempting to authenticate to a Hotspot WLAN 10 times within 5 minutes would be unexpectedly blocked by ZoneDirector. [ER-6978]
- Resolved an issue on R720 APs where wireless clients could experience low uplink throughput if they had previously associated to a WLAN with rate limiting enabled on the same R720 AP. [ER-6567, ER-6576, ER-6830]
- Added an AP CLI command to allow configurable Multicast Airtime in percentage where the default value is 25%. [ER-6606]
- Resolved an issue where the following special characters would be disallowed when used in WPA2-PSK passphrases: "`", ";", "%", "\$", "&", " | "). [ER-6875]
- Added an AP CLI command to allow configurable mcast-q-limit where the default value is 4. [ER-6517]

## Caveats, Limitations and Known Issues

- When creating a new AP group, model-specific settings are inherited from the system default group, but they are not shown properly on the web interface. [ZF-20775]

## Client Interoperability

ZoneDirector and Ruckus APs use standard protocols to interoperate with third-party Wi-Fi devices. Ruckus 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
- Windows 10
- Mac OS 10.9.5
- Mac OS 10.10
- Mac OS 10.11
- Mac OS 10.12
- Mac OS 10.13

## Smartphone/Tablet OS

- iOS (6.1, 7.0, 7.1, 8.1, 8.4, 9.2, 9.3,10.0,10.2,10.3,11.1/2/3/4,12.0 )
- Android (4.1.2, 4.2.2, 4.3, 4.4.2, 4.4.4, 5.0.1, 5.0.2, 5.1, 6.0, 7.0, 7.1.1, 8.0)
- Windows Phone (7, 8, 8.1, 10)
- BlackBerry OS (10, 10.3.2) not supported with Zero-IT
- Chrome OS (47.0, 49.0) not Supported with Zero-IT

## Officially Supported Browsers

- Internet Explorer 10, 11
- Firefox 34 and later
- Chrome 39 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

OS	WPA2 WLAN			802.1x EAP (external Radius Server)		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
iOS 6.x	Y	Y	N (ZF-2888)	Y	Y	N (ZF-2888)
iOS 7.x	Y	Y	N (ZF-2888)	Y	Y	N (ZF-2888)
iOS 8.0	Y	Y	N (ZF-2888)	Y	Y	N (ZF-2888)
iOS 8.0.2	Y	Y	N (ZF-2888)	Y	Y	N (ZF-2888)
iOS 8.1	Y	Y	N (ZF-2888)	Y	Y	N (ZF-2888)
iOS 9.0	Y	Y	N (ZF-2888)	Y	Y	N (ZF-2888)
iOS 10 .0	Y	Y	N (ZF-2888)	Y	Y	N (ZF-2888)
iOS 10 .2	Y	Y	N (ZF-2888)	Y	Y	N (ZF-2888)
iOS 10 .3	Y	Y	N (ZF-2888)	Y	Y	N (ZF-2888)
iOS 11.x	Y (ZF-19663)	Y (ZF-19663)	N (ZF-2888)	Y (ZF-19663)	Y (ZF-19663)	N (ZF-2888)
iOS 12.0	Y	Y	N (ZF-2888)	Y	Y	N (ZF-2888)

**TABLE 1 Zero-IT Compatibility (continued)**

MAC OS 10.8.5	Y	Y	Y	Y	Y	N (ZF-4699)
Mac OS 10.9.3	Y	Y	Y	Y	Y	N (ZF-4699)
MAC OS 10.9.4	Y	Y	Y	Y	Y	N (ZF-4699)
Mac OS 10.9.5	Y	Y	Y	Y	Y	N (ZF-4699)
Mac OS 10.10	Y	Y	Y	Y	Y	N (ZF-4699)
Mac OS 10.11	Y	Y	Y	Y	Y	N (ZF-4699)
Mac OS 10.12	Y	Y	Y	Y	Y	N (ZF-4699)
Mac OS 10.13	Y	Y	Y	Y	Y	N (ZF-4699)
Windows 7	Y	Y	Y	Y	Y	Y
Windows 8	Y	Y	Y	Y	Y	Y
Windows 8.1	Y	Y	Y	Y	Y	Y
Windows 10	Y	Y	Y	Y	Y	Y
Windows Phone 8	N (ZF-3478)	N (ZF-3478)	N (ZF-3478)	N (ZF-3478)	N (ZF-3478)	N (ZF-3478)
Windows Phone 8.1	N (ZF-3478)	N (ZF-3478)	N (ZF-3478)	N (ZF-3478)	N (ZF-3478)	N (ZF-3478)
BlackBerry OS 10.1	N (ZF-6402)	N (ZF-6402)	N (ZF-6402)	N (ZF-6402)	N (ZF-6402)	N (ZF-6402)
BlackBerry OS 10.3	N (ZF-6402)	N (ZF-6402)	N (ZF-6402)	N (ZF-6402)	N (ZF-6402)	N (ZF-6402)
Kindle 7.4.9	Y	Y	Y	Y	Y	Y
Android 4.0.4	Y	Y	Y	Y	Y	Y
Android 4.1.2	Y	Y	Y	Y	Y	Y
Android 4.4.4	Y	Y	Y	Y	Y	Y
Android 5.0	Y	Y	Y	Y	Y	Y
Android 6.0	Y (ZF-19664)	Y	Y	Y (ZF-19664)	Y	Y
Android 7.0	Y (ZF-19664)	Y	Y	Y (ZF-19664)	Y	Y
Android 7.1.1	Y (ZF-19664)	Y	Y	Y (ZF-19664)	Y	Y
Android 8.0	Y (ZF-19664)	Y	Y	Y (ZF-19664)	Y	Y
Chrome OS	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 Known Issues

- Zero-IT is not supported on Windows Phone 7/8/8.1 devices. [ZF-3478]
- Zero-IT is not supported on Blackberry OS devices. [ZF-6402]
- Zero-IT is not supported on Chrome OS devices. [ZF-8076]
- iOS clients cannot connect to the Zero-IT WLAN automatically. Users must reconnect to the target WLAN after installing the Zero-IT configuration file. [ZF-2888]
- Mac OS 10.7 and 10.8 cannot automatically connect to an 802.1x EAP WLAN after installing Zero-IT script. [ZF-4699]

- In some situations, Chromebook clients can take up to 10-50 seconds to resume sending traffic after a channel change.  
[ZF-14883]