Ruckus Wireless™ ZoneDirector™ Version 9.12.1 Refresh

Release Notes

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About This Release

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Introduction

This document provides release information on ZoneDirector release 9.12.1, including new features, enhancements, known issues, caveats, workarounds, upgrade details and interoperability information for version 9.12.1.

NOTE: By downloading this software and subsequently upgrading the ZoneDirector and/or the AP to version 9.12.1, 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.

What's New in This Release

For a additional information on the new features that have been added in this release, see the *What's New in ZoneFlex 9.12.1* document, available from the Ruckus Wireless support website. Please refer to Release Notes for prior releases for information on previously documented caveats, limitations, enhancements and resolved issues. These documents can be found at: https://support.ruckuswireless.com/.

Supported Platforms and Upgrade Information

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Supported Platforms

ZoneDirector version **9.12.1.0.148** supports the following ZoneDirector models:

- ZoneDirector 1200
- ZoneDirector 3000
- ZoneDirector 5000

Access Points

ZoneDirector version **9.12.1.0.148** supports the following Access Point models:

- H500
- R300
- R500
- R600
- R700
- R710
- SC8800-S
- SC8800-S-AC
- T300
- T300e
- T301n
- T301s
- ZF7055
- ZF7321
- ZF7231-u
- 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

Upgrading to This Version

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

Officially Supported 9.12.1 (Refresh) Upgrade Paths

The following ZoneDirector builds can be directly upgraded to ZoneDirector build 9.12.1.0.148:

- 9.9.0.0.205 (9.9 GA release)
- 9.9.0.0.216 (9.9 GA refresh)
- 9.9.1.0.31 (9.9 MR 1 release)
- 9.10.0.0.214 (9.10 GA release)
- 9.10.0.0.218 (9.10 GA refresh)
- 9.12.0.0.336 (9.12 GA)
- 9.12.1.0.140 (9.12 MR 1 release)

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

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

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.

Enhancements

Social Media WLANs

This release adds support for a new WLAN type: Social Media WLANs. This type of WLAN is designed to allow users to authenticate to the WiFi network using their social media account.

After deploying a Social Media WLAN, visitors to your organization can quickly and easily connect to your WiFi network without the need to provide a Guest Pass or other login credentials to the visitor. The visitor simply enters their existing social media account information to access the guest WiFi network.

The following social media types are included in this release:

- Facebook
- Google/Google+
- LinkedIn
- Microsoft Windows Live

Ethernet Port Redundancy

This release adds support for Ethernet port redundancy on ZoneDirector's Ethernet ports for increased resiliency to meet high availability requirements.

Using Ethernet Port Redundancy, if one upstream switch fails, the ZoneDirector will still be able to communicate with the local network using the backup Ethernet port connected to another switch.

This feature can be enabled from the *Configure* > *Services* page. With Ethernet port redundancy enabled, one of the two network interfaces will be in active state while the other is in backup state. When the active port's physical link is down and the

backup port's physical link is up, the two interfaces will fail over within 3 seconds, the original active interface becomes the backup, while the original backup port becomes the active port.

NOTE: This feature is currently only available on ZoneDirector 3000 and 5000. ZoneDirector 1200 does not support Ethernet port redundancy. Additionally, the feature is only supported when the ports are connected to separate switches (connecting both ports to the same switch is not fully supported/tested).

Self-Service Guest Pass Enhancements

- Improved the display of the Self-Service Guest Pass to display the correct delivery method (SMS, email, or both). [ZF-13533]
- Removed the default "access duration" from Self-Service Guest Pass screen when the access duration is configured by the Sponsor.
- Added a note to the Notification Method section on the Guest Access Service configuration page to notify the admin when there are no SMS or email delivery settings configured (therefore Guest Passes can't be delivered using those methods). Also added a link to the screen where those settings can be configured. [ZF-13534]

Resolved Issues

- Resolved an issue with Ascom/ALU 8118 IP Phones dropping connections during roaming. [ER-2488]
- Resolved an issue where Dynamic VLAN clients could not receive ARP broadcast messages when VLAN override is configured in the WLAN Group settings and the Dynamic VLAN ID assigned is the same as the WLAN VLAN ID. [ER-2669]
- Resolved an issue on R500 APs where data traffic stalled after 5 Spectralink Pivot 8700 VoIP phone clients associate. [ER-2549]
- Resolved an AP kernel panic issue that could occur while accessing DNS cache info. [ER-2285, ER-2657, ZF-13147]
- Resolved a Dynamic VLAN issue that could cause 802.11ac clients to lose broadcast packets for 10-30 seconds when more than 5 clients were connected to a WLAN with DVLAN enabled. This applies to all 802.11ac Wave 1 APs (R500, R600, R700, H500, T300/301 family). [ER-2331]

- Resolved an issue that could result in an HTTP process restart when deleting guest passes. [ER-2745]
- Resolved an issue where clients would fail to reach the captive portal page if the HTTP request was larger than 1600 bytes. [ER-2659]
- Resolved an issue where ZD Access Points would fail to generate alarms when the alarm was enabled. [ER-2384]
- Resolved an issue where ZD would fail to restore WLAN group VLAN settings when rebooting, resulting in lost tunnel traffic. [ER-2557]
- Resolved an issue with slow loading of Captive Portal. [ER-2604]
- Resolved an issue with ZoneDirector reporting uptime incorrectly to FlexMaster. [ER-2519]
- Resolved an issue with high CPU utilization after upgrading from 9.8 to 9.10. [ER-2618]
- Resolved a ZoneDirector 5000 issue that could cause the web UI to become unstable in high density environments. [ER-2037]
- Resolved an issue that could cause ZoneDirector web UI to become unresponsive when saving debug logs or changing debug log settings. [ER-2498]
- Resolved an issue where the AP would broadcast only one SSID after its 5GHz channel width was changed. [ER-2162]
- Resolved an issue where when a WLAN on the R700 AP was deleted, other WLANs started experiencing connectivity issues and were losing IP data traffic. [ER-1982]
- 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 Guest Passes generated using some versions of Internet Explorer that would prevent the Guest Pass from properly displaying the “Print” option and the user’s info. [ER-2477]
- 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]
- 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]

- 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 WiFi interface. This feature avoids or reduces transmission aggregation errors under certain conditions and maybe helpful finding errors. By default the A-MPDU is enabled on the AP. [ER-1943]
- Resolved an issue with incorrect IP addresses being displayed for connected clients on the Monitor page. [ER-1596]
- Passwords displayed on the printed instructions from the Configure > Users page are now properly displayed as a series of asterisks (*). [ER-1905]
- Reduced the timer for guest pass self-service to five minutes, to allow users to use the same info to register a new guest pass using the same info more quickly. [ER-2740]
- 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 where ZoneDirector's SNMP contact information could fail to synchronize with APs. [ER-2644]
- Guest Pass email messages now properly include the Guest Pass validity period. [ER-2590]
- Resolved a typo in the "client disconnected" SNMP trap. [ER-2170]
- Resolved an issue with Daylight Savings Time rules being incorrectly applied to other time zones. [ER-2305]
- Resolved an issue with Japanese translation of client details page information. [ER-2309]
- SNMP no longer returns incorrect WLAN Rate Limiting Downlink values. [ER-2428]
- Resolved an issue with Guest Portal text in Traditional Chinese. [ER-2704]
- 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 ZoneDirector 5000's system clock to drift from NTP time by about 5 seconds a day. [ER-2190]
- Resolved an issue for the Brazil time zone where Daylight Savings Time would not get properly adjusted after NTP sync. [ER-2233]

- 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]
- 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]
- 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 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 where the Guest Pass email message would display the time in GMT instead of the proper time zone. [ER-2516]
- 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 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 that could cause R700 APs to stop broadcasting SSIDs on the 5GHz radio. [ER-2181]
- Resolved an issue where, when using 802.1x with VLAN Pooling and moving between APs, the device loses its dynamically assigned VLAN and defaults to the WLAN's Access VLAN. [ER-2784]
- Resolved an issue that could cause ZoneDirector to reboot after changing Guest Access configuration. [ER-2579]
- Resolved an issue with the display of ZF 7055 AP Ethernet ports on the ZoneDirector Monitoring page. [ER-2576]
- Resolved an issue where some APs could fail to display properly in Map View. [ER-2122]
- Resolved an issue where clients associated with the 5GHz band on the R700 AP could not obtain an IP address from the DHCP server. Clients associated with the 2.4GHz band did not experience this issue. [ER-1855]
- Resolved a DNS issue with R500 APs that could cause the AP to fail to discover a controller using the DNS discovery method. [ER-2464]
- Resolved an issue where some 7781-CM and 7782 APs were not reporting GPS locations and were displaying "Acquiring satellite signal" instead. [ER-1622]

- Resolved an R500 kernel panic issue that could occur under certain rare conditions. [ER-2390]
- Resolved a scan issue that could cause APs to be unable to service clients on the 5 GHz radio. [ER-2543]
- Resolved an issue that could cause the ZF 7025 LAN port speed to fall to 10Mbps when connecting to an STB. [ER-1895]
- Resolved an issue where Aeroscout RFID tags were not being detected as client devices, and were therefore not being passed to the SPoT location server. [ER-2868]
- Resolved an issue that could cause ZoneDirector to hang and require a reboot when the max clients limit was reached in extremely high density environments. [ER-2847]
- Resolved an issue that could result in R710 heartbeat loss and client deauth when Ekahau tags were sent continuously. [ZF-13632]
- Resolved an issue where APs with LACP enabled would send out LLDP PDUs with the source MAC address set incorrectly. [ZF-13603]
- The Spectrum Analysis option is now properly disabled in the R710 GUI. [ZF-13398]
- Resolved an issue with Windows 10 clients being incorrectly categorized as Windows 8 in client monitoring charts. Additionally, Windows 10 is now supported in Zero-IT provisioning. [ZF-14403]
- Resolved an issue with H500 APs that would prevent the AP from using DFS channels with US country code. With this release H500 now supports all DFS channels in the 5 GHz band. [ER-2839]
- Resolved a memory leak problem which could result in increased CPU utilization and reboots on R700 APs. [ER-2252]

Resolved Issues in Build 148 (MR Refresh)

- Resolved an issue in AP proxy ARP feature where IPv6 Neighbor Advertisement was sent from the AP incorrectly formatted. [ER-3113]
- Resolved an issue that would affect unicast traffic in the presence of heavy multicast/broadcast traffic on R710 APs. [ER-3040]
- Resolved an SNMP issue where the SNMP service was unable to receive the correct value of '"ruckusZDSystemStatsWLANTotalRxErrFrm". [ER-2649]

- Resolved an issue where wireless printers would be unable to connect to a standalone AP if WPA2 was enabled. [ER-3009]
- Resolved an issue that could cause R500, R600 or T300 AP Ethernet ports to get stuck thus causing the APs to remain disconnected from the network and recover only after reboot. [ER-2983]
- Resolved an issue that could cause the radio's Tx power to be incorrectly set to 0 dBm resulting in client connectivity issues on R710 APs. [ER-3088]
- Resolved an issue with R710 Status LEDs. [ER-3030]
- Resolved an issue where when the country code was set to Hong Kong, channels 36 to 64 were blocked/unavailable. [ER-2738]
- Resolved an issue where APs could become unreachable due to an IP address conflict when a 192.168.50.0 subnet was used. [ER-2338]
- Resolved a MIB query failure issue for network statistics counters on ZF7372 Ethernet ports. [ER-2818]

Caveats, Limitations, and Known Issues

4

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

Ethernet Port Settings

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:

- APs: ZoneFlex 7341, 7343, 7363, 7761, and 7762

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

General

- HTTPS requests may fail to redirect to the web authentication page using IE browser on Windows Mobile devices, because Windows Mobile does not recognize ZoneDirector's self-signed certificate. [ZF-10826]

Social Media WLANs

- Some images may fail to display properly on the login page when a user attempts to log in to a Social Media WLAN. [ZF-14046]

R710 Known Issues

- No Syslog message is sent for 802.3af PoE mode change. [ZF-13160]
- R710 AP continues to request 25W power from the PoE switch even when the AP is configured to 802.3af mode. [ZF-14489]

Workaround: Disable LLDP Power-Via-MDI TLV on the PoE switch (this is only necessary if you wish to force the AP into 802.3af PoE mode on an 802.3at PoE+ switch for power budgeting reasons). On some switches, you may need to reset the AP connected Ethernet port/s to force the switch to renegotiate the new power level.

- Clients may fail to join an intended Dynamic VLAN on R710 APs. This issue does not occur for clients which initiate ARP requests, or if the access point is configured to enable proxy ARP. [ER-2331]

  Workaround: Enable proxy ARP for R710 APs when DVLAN is enabled.

R710 Features Not Supported in This Release

Support for these features is planned for a future release.

- AirTime Fairness
- Smart Mesh
- Spectrum Analysis
- WLAN Prioritization
- Dynamic VLAN

H500, R500, R600, R700 and T300 Series APs

The following features are not included in this release:

- Airtime Fairness on 5 GHz radio
- Spectrum Analysis on 5 GHz radio
- WLAN Prioritization on 5 GHz radio

Ethernet Port Redundancy

- If both ZoneDirector ports are connected to the same switch, clients connected to a tunneled WLAN may become unable to access the Internet after eth0 goes down when the VLAN is not 1. This issue does not occur when the two ports are connected to separate switches. [ZF-13793]

SPoT Location Services

- When Location Services is enabled in an AP group, and the SPoT server configured in venue configuration is not reachable, other AP Groups may be unable to communicate with the SPoT server.

  Workaround: Disable SPoT location service on any AP groups that are configured with unreachable venues. [ZF-9747, ZF-9750]

Interoperability Information 5

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 coexist 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, SmartZone 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 FlexMaster 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
- Windows 10
- Mac OS 10.8.5
- Mac OS 10.9.3
- Mac OS 10.9.4
- Mac OS 10.10

Smart Phone/Tablet OS:

- iOS (6.x, 7.x, 8.0, 8.0.2, 8.1)
- Android (4.0.4, 4.1.2, 4.4.2, 4.4.4, 5.0.1)
- Windows Phone (8, 8.1)
- BlackBerry OS (10.1.0.4633, 10.3.0.1172)
- Kindle (7.4.9)
- Chrome OS

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

	WPA2 WLAN			802.1x EAP (external Radius Server)		
OS	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)
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)
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	N (ZF-13263, ER-2825)	N (ZF-13263, ER-2825)	Y	N (ZF-13263, ER-2825)	N (ZF-13263, ER-2825)

Table 1. Zero-IT Compatibility

	WPA2 WLAN			802.1x EAP (external Radius Server)		
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 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]
- Zero-IT is not supported on Android 5.0. [ZF-13263, ER-2825]

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