

RUCKUS IoT Release Notes

Supporting IoT Controller Release 1.7-5.2.1-p2

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Document History

Revision Number	Summary of changes	Publication date
A	Initial Release Notes	December, 2020
B	Adding content for Hardware Requirement in the topic Hardware and Software Support.	January, 2021

Overview

This document provides release information about RUCKUS IoT Suite 1.6 a versatile system for managing IoT devices. The RUCKUS IoT Suite is a collection of network hardware and software infrastructure components used to create an IoT access network that is comprised of four elements:

- RUCKUS IoT-ready Access Points (APs)— in addition to the wall-mount H510, the ceiling-mount R510, the outdoor model T310, the ceiling-mount R610, R710, and R720, the outdoor models E510, and T610 as of this release the following additional AP models are now IoT-ready: Indoor Access Point R730 (802.11 ax), the Indoor Access Point C110, the LTE access point M510, Indoor Wi-Fi 6 Access Point for Dense Device Environments R650, Indoor Access Point Indoor Wi-Fi 6 Access Point for Ultra-Dense Device Environments R750, Outdoor Wi-Fi 6 Access Point with 2.5Gbps Backhaul T750 and High Performance Wi-Fi 6 2x2:2 Indoor Access Point R550.
- RUCKUS IoT Modules—A NEW device that attaches to a RUCKUS IoT-ready AP and supports standards such as Bluetooth Low Energy (BLE), Zigbee, LoRa and more. Our first IoT Module, the I100, will support BLE or Zigbee within the same enclosure.
- RUCKUS SmartZone Controller—existing WLAN controller, which provides basic networking information for both the WLAN and the IoT access network.
- RUCKUS IoT Controller—A NEW virtual controller, deployed in tandem with a RUCKUS SmartZone Controller, that performs connectivity, device, and security management functions behind the scenes for non-WiFi devices. Our IoT Controller also facilitates cross-solution endpoint communication and provides APIs for northbound integration with IoT cloud services.

This document provides a list of the release components, their versions, a link to documentation, as well as caveats, limitations, and known issues in this release.

New in This Release

RUCKUS IoT-1.7-5.2.1-p2 Suite provides the following update

- SmartThings Integration

Changed Behavior

STOP and READ before upgrading to 1.7-5.2.1-p2

This Release is a Fresh Deploy only release. Upgrade/Downgrade is not supported.

IoT Controller Licensing:

Starting from Release 1.5 onwards IOT controller require following licenses to operate

- RTU
- IOT AP Capacity Licenses
- Support Licenses

KBA: Firmware Upgrade Matrix

<https://support.ruckuswireless.com/articles/000010364>

Hardware and Software Support

This release is compatible with the following controller and access point hardware and software.

Compatible Hardware:

- C110 Access Point (C110)
- H510 Access Point (H510)
- R510 Access Point (R510)
- R610 Access Point (R610)
- R710 Access Point (R710)
- R720 Access Point (R720)
- R550 Access Point (R550)
- T310 Access Point (T310)
- E510 Access Point (E510)
- T610 Access Point (T610)
- R650 Access Point (R650)
- R730 Access Point (R730)
- R750 Access Point (R750)
- T750 Access Point (T750)
- M510 Access Point (M510)
- I100 IoT Module (I100)

Compatible Software:

- Virtual SmartZone High Scale (vSZ-H)
- Virtual SmartZone Essentials (vSZ-E)
- SmartZone 100 (SZ-100)
- RUCKUS IoT Controller (RIoT)

Hardware Requirement

RUCKUS recommends the following minimum requirements for IoT Server.

- **CPU:** 4 core i7 or equivalent
- **Memory:** 32 GB
- **Hard Disk:** 1 TB

Release Information

This section lists the version of each component in this release.

vSCG (vSZ-H and vSZ-E), and SZ-100

- WLAN Controller version: 5.2.1.0.515
- Control plane software version in the WLAN Controller: 5.2.1.0.383
- AP firmware version in the WLAN Controller: 5.2.1.0.698
- AP Patch – 5.2.1.0.2010
- IoT Gateway Version: 1.7.0.1.17004
- SmartThings Version: 1.7.0.32.12

RIoT

- Ruckus IoT Controller version: 1.7.0.0.20
- VMWare ESXi version: 6.0 and later
- VMWare VM Player version: 12 and later
- KVM Linux virtualizer version: 1:2.5+dfsg-5ubuntu10.42 and later
- Oracle VirtualBox version: 5.1.20 and later
- Google Chrome version: 61 and later
- Mozilla Firefox version: 56 and later

TABLE 1 Release Build Compatibility Matrix

Release	IoT Controller	SZ	AP	Supported AP Models
SZ 5.1.1.2	1.3.1.0.1	5.1.1.2.14019	5.1.1.2.14019	H510, R510, T310d, R610, R710, R720, T610, R730
SZ 5.1.2	1.3.1.0.1	5.1.2.0.302	5.1.2.0.373	H510, R510, T310d, R610, R710, R720, T610, R730, R750
IoT GA 1.4	1.4.0.0.17	5.1.1.2.15014	5.1.1.2.15014	H510, R510, T310d, R610, R710, R720, T610, R730, C110
IoT 1.5	1.5.0.0.34	5.1.1.2.15524	5.1.1.2.15524	H510, R510, T310d, E510, R610, R710, R720, T610, R730, C110, M510
IoT 1.5MR1	1.5.0.0.38	5.1.1.2.15524	5.1.1.2.15524	H510, R510, T310d, E510, R610, R710, R720, T610, R730, C110, M510
IoT 1.5.0.1	1.5.0.1.21	5.2.0.0.699	5.2.0.0.1412 IoT Version : 1.5.0.1.15027	H510, R510, T310d, E510, R610, R650, R710, R720, T610, R730, R750, T750, C110, M510
IoT 1.5.1.0	1.5.1.0.21	5.2.0.0.699	5.2.0.0.1412 IoT Version : 1.5.1.0.15030	H510, R510, T310d, E510, R610, R650, R710, R720, T610, R730, R750, T750, C110, M510
IoT 1.5.1.1	1.5.1.1.22	5.2.0.0.699	5.2.0.0.1412 IoT Version : 1.5.1.0.15030	H510, R510, T310d, E510, R610, R650, R710, R720, T610, R730, R750, T750, C110, M510

Release Information

TABLE 1 Release Build Compatibility Matrix (continued)

Release	IoT Controller	SZ	AP	Supported AP Models
IoT 1.6.0.0	1.6.0.0.42	5.2.1.0.515	5.2.1.0.698 IoT Version : 1.6.0.0.16003	H510, R510, T310d,E510, R610, R650, R710, R720, T610, R730, R750, T750, C110, M510
IoT 1.7.0.0	1.7.0.0.20	5.2.1.0.515	5.2.1.0.698 + 5.2.1.0.2010 patch IoT Version : 1.7.0.1.17004	H510, R510, T310d,E510, R610, R650, R710, R720, T610, R730, R750, T750, C110, M510, R550

Known Issues

The following are the caveats, limitations and known issues.

Component: IoT feature in Access Point with IoT Module I100

- IOTC-3551-Ruckus IOT Controller: Configuring the MQTT brokerip with more than 40 characters crashes the rkscli.

Workaround - None

Component: RUCKUS IoT Controller

- IOTC-3878 - 5.2.1-p2- After dongle unplug AP is still showing dongle status as detected and running.

Workaround - None

- IOTC-3880 - ST's AP goes into FW mismatch when ST's service is stopped.

Workaround - None

- IOTC-3877 - Uploading an incompatible tar.gz for N+1 upgrade shows the DB Backup file in the version and patches page after failure and couldn't delete it.

Workaround - None

- IOTC-3867 - Dormakaba: Remote audit access point (lock) feature is not working.

Workaround - None

- IOTC-3866 - The SmartThings hub-service status reports as service "running" despite of stopping the service from "Admin" page.

Workaround - None

- IOTC-3849 - Ruckus IOT Controller: Incorrect license count is displayed in the License page.

Workaround - None

- IOTC-3846 - Dormakaba: vRIoT should not respond to query generate for GW from Ambiance Server.

Workaround - None

- IOTC-3524 - Dormakaba: After battery field replacement, lock's clock does not sync up.

Workaround- Use the lock encoder to set the proper time in the lock.

Resolved Issues

NOTE

A number of additional issues have been resolved internal to the product.

- IOTC-3833 - ST connected AP: When user execute "reboot" AP always say "is waiting for firmware update to finish...."
- IOTC-3832 - Reboot of an AP causes user to do a reset and re-onboard of ST dongle.
- IOTE-3823 - Clicking on View logs for ST service throws a "No File Found" error.
- IOTC-3822 - Smart things service status is not maintained on reboot of controller
- IOTC-3819 - ST dongle shows offline in the APP and hub service not running in the AP.
- IOTC-3818 - Plugging in a ST dongle in R730 causes the rksiot process not to start.
- IOTC-3811 - Fallback happened from secondary to Primary controller due to N+1 service restart.
- IOTC-3782 - not able to enable any BLE Plugins. Gives a failed to add in API response
- IOTC-3779 - Couldn't connect an AP to primary controller in a N+1 setup.

Best Practices

Following is the list of best practices

- Time and Timezone should be properly set in RUCKUS IoT Controller.
- N+1 works on Virtual IP mode. For successful failover AP MQTT Broker should be configured for Virtual IP Part Number: 800-72721-001 Rev A 9
- N+1 Configuration Sync happens every 5 minutes. If a configuration change and failover happened within the 5 minutes window, new configuration will be lost.
- N+1 works on Virtual IP mode. For successful failover AP MQTT Broker should be configured for Virtual IP
- N+1 Configuration Sync happens every 5 minutes. If a configuration change and failover happened within the 5 minutes window, new configuration will be lost
- In N+1 mode, make sure primary and secondary have the same admin credentials (password).
- It is recommended to install IoT controller in a host (hypervisor/KVM/virtualbox/VMplayer) which has 60% CPU and 60% MEM free.
- The IoT Controller (4vCPU) at max supports upto 400 BLE beacon packets/second and any load above this could lead to controller instability. Capacity planning needs to be taken care of during deployment so as not to exceed the limit.
- Use the Replace primary option in N+1 only after making sure primary is not reachable from secondary.
- For information on clusters, refer to this externally available Zigbee Alliance Zigbee Cluster Library 6 document at <http://www.zigbee.org/~zigbeeor/wp-content/uploads/2014/10/07-5123-06-zigbee-cluster-library-specification.pdf>.
- Onboarding of Telkonet devices and device report propagation to the Telkonet cloud takes a long time as the Telkonet system update periods can typically be 10-30 minutes.
- When setting up offlink VLAN, routing must be correct, otherwise access points may stay over reboot in unreachable state and require reset of the VLAN state via CLI access over ssh.
- When maintaining logged in REST API session state in Rules Engine flows, refresh period should be the same as with UI, 8 hours.
- After deleting a device from the controller wait for 20 seconds before trying to onboard the deleted device again.
- For IAS Zone devices to remove the device from the controller and re-onboard, delete the device from the controller before doing a factory reset of the end device. If it's a new device remove the battery and then put the battery and onboard.

Caveats and Limitations

Caveats

- Dormakaba support relies on Dormakaba's Ambiance server version 2.5 that is not officially released at the time of writing this release note. We have verified and tested basic connectivity and functional aspects, however a limited number of test cases are dependent on Ambiance server version 2.5 and will need to be verified with the official release by Dormakaba
- Disk Space must re-size from 8GB to exactly 20GB (less than or greater than 20GB will cause failure) starting from 1.5 Release onwards and exactly 20GB should be allocated during deployment in cloud.

Limitations

- This Release is a Fresh Deploy only release. Upgrade/Downgrade is not supported.
- VLAN not supported in SmartThings AP.
- AP and Phone having the SmartThings APP should be in the same subnet to detect and add the dongle.
- Pushing VLAN from option43 or RKSLCI will cause the AP to keep disconnecting from MQTT.
- Hot plugging of dongle is not supported. Reboot of AP is required in case dongle is plugged out and plugged in.
- HTTPS Communication is not supported between Ambiance (DormaKaba) and IoT Controller.
- Concurrent ZigBee-ZigBee, ZigbeeAA-ZigbeeAA, ZigbeeDK-Zigbee-DK on dual-radio platform is not supported.
- Broker IP is set to Unconfigured if controller is not reachable for 24Hrs. Broker IP has to reconfigured either manually through RKSLCI or DHCP Option-43.
- N+1 Auto Fallback is not supported (If primary is back online, secondary will run as active secondary).
- Database backup and restore is not supported across major releases.
- Gateway supporting multi-mode causes IoT by AP protocol count to go wrong as each mode is considered as a separate AP.
- IoT co-ex feature is not supported on multi-mode Gateway

Supported Devices

This section documents the supported IoT end devices. Multiple other devices may work with this release but they have not been validated.

Device	Type	Mode	Manufacturer	Basic Name	Basic Model
Vingcard Signature	Lock	Zigbee	Assa-Abloy	AA_LOCK	
Vingcard Essence	Lock	Zigbee	Assa-Abloy	AA_LOCK	
RT+	Lock	Zigbee	Dormakaba	Dormakaba	79PS01011ER-626
Yale YRD220/240 TSDB Display Lock	Lock	Zigbee	Assa-Abloy	Yale	YRD220/240 TSDB
Yale YRD210 Push Button Lock	Lock	Zigbee	Assa-Abloy	Yale	YRD210 Push
Smartcode 916	Lock	Zigbee	Kwikset	Kwikset	SMARTCODE_DEADBOLT_10T
Smartcode 910 (450201)	Lock	Zigbee	Kwikset	Kwikset	
Lightify (RGB) Model 73674	Bulb	Zigbee	Osram	OSRAM	LIGHTIFY A19 RGBW
Lightify Model 73693	Bulb	Zigbee	Osram	OSRAM	LIGHTIFY A19 Tunable White45856
Lightify Model 73824	Bulb	Zigbee	Osram	OSRAM	
Element Color Plus	Bulb	Zigbee	Sengled	sengled	E11-N1EA
Bulb - LED	Bulb	Zigbee	Sengled	sengled	Z01-A19NAE26
E11-G13	Bulb	Zigbee	Sengled	sengled	E11-G13
Lux	Bulb	Zigbee	Philips	Philips	LWB004
SLV E27 Lamp Valetto (Zigbee 3.0)	Bulb	Zigbee 3.0	SLV		
GE Smart Dimmer	Switch	Zigbee	GE	Jasco Products	45857
GE Smart Switch	Switch	Zigbee	GE	Jasco Products	45856
Smart Plug	Plug	Zigbee	Centralite	Centralite	4257050-ZHAC
Zen Thermostat	Thermostat	Zigbee	Zen Within	Zen Within	Zen-01
ZBALRM	Alarm	Zigbee	Smartenit		Model #1021 A
Temp, Humidity Sensor	Sensor	Zigbee	Heiman	HEIMAN	HT-N
Gas detector	Sensor	Zigbee	Heiman	HEIMAN	GASSensor-N
Contact Sensor/Door Sensor	Sensor	Zigbee	Centralite	Centralite	3300-G
3-Series Motion Sensor	Sensor	Zigbee	Centralite	Centralite	3305-G
Temperature Sensor	Sensor	Zigbee	Centralite	Centralite	3310-G
Multipurpose Sensor	Sensor	Zigbee	Smart things	Samjin	
Button	Sensor	Zigbee	Smart things	Samjin	
Motion Sensor	Sensor	Zigbee	Smart things	Samjin	
Water Leak Sensor	Sensor	Zigbee	Smart things	Samjin	
Motion Sensor	Sensor	Zigbee	Aduro SMART ERIA	ADUROLIGHT	
Smart Plug	Plug	Zigbee	Smart Things	Samjin	
Bulb	Bulb	Zigbee	Aduro SMART ERIA		
Bulb	Bulb	Zigbee	Cree		BA19-08027OMF-12CE26-1C100
Smart Plug	Plug	Zigbee	INNR		
Smart Blinds	Blinds	Zigbee	Axis Gear		

Supported Devices

Device	Type	Mode	Manufacturer	Basic Name	Basic Model
Occupancy Sensor	Sensor	Zigbee	Telkonet		
Door Sensor	Sensor	Zigbee	Telkonet		
Thermostat	Thermostat	Zigbee	Telkonet		
Picocell	Gateway	LoRa	Semtech		
Mini Hub/ Basic station	Gateway	LoRa	TABS		
Door Sensor	Sensor	LoRa	TABS		
Occupancy Sensor	Sensor	LoRa	TABS		
Panic Button	Beacon	BLE	TraknProtect		
Tray Beacon	Beacon	BLE	TraknProtect		
Asset Beacon	Beacon	BLE	TraknProtect		
Card Beacon	Beacon	BLE	TraknProtect		
Card Tag	Beacon	BLE	Kontakt.io		CT18-3
Beacon Pro	Beacon	BLE	Kontakt.io		BP16-3
Asset Tag	Beacon	BLE	Kontakt.io		S18-3
Vape/Sound Sensor	Sensor	Wired	Soter		FlySense

TABLE 2 Supported Devices tested with SmartThings

Device	Type	Mode	Manufacturer	Basic Name	Basic Model
Yale YRD220/240 TSDB Display	Lock	Zigbee	Assa-Abloy	Yale	YRD220/240 TSDB
Lightify (RGB) Model 73674	Bulb	Zigbee	Osram	OSRAM	LIGHTIFY A19 RGBW
Multipurpose Sensor	Sensor	Zigbee	SmartThings	Samjin	
Button	Sensor	Zigbee	SmartThings	Samjin	
Motion	Sensor	Zigbee	SmartThings	Samjin	
Water Leak Sensor	Sensor	Zigbee	SmartThings	Samjin	
Smart Plug	Sensor	Zigbee	SmartThings	Samjin	
Bulb	Bulb	Zigbee	Aduro SMART ERIA		

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