RELEASE NOTES

RUCKUS IoT 2.0.0.0 GA Release Notes

Supporting IoT Controller Release 2.0.0.0

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Document History

Revision Number	Summary of changes	Publication date
A	This is the GA release.	March, 2022

Overview

This document provides release information about RUCKUS IoT Suite 2.0.0.0 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)— As of this release the following AP models are now IoT ready: wall-mount H510, ceiling-mount R510, R610, R710, R720, outdoor models T310, E510, T610, 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, High Performance Wi-Fi 6 2x2:2 Indoor Access Point R550, Wall-Mounted Wi-Fi 62x2:2 Indoor Access Point H550, Outdoor 2x2:2 2.4/5GHz Wi-Fi 6 access points T350D, Indoor 802.11ax Wi-Fi 6 Access Point R350 and Ultra High Performance Wi-Fi 6 8x8:8 with 5.9 Gbps HE80/40 Speeds and Embedded IoT Indoor Access Point R850.
- RUCKUS IoT Modules—A 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 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-2.0.0.0 GA Suite provides the following update:

- Support for 5.2.2.0, and 6.1.0.0 SZ versions
- Dual PAN support for all AP models
- Smart Things support for all AP models running 6.1.0.0 SZ version
- Device Licensing
- Security Vulnerability Fixes
- Bulk operation for Setting Zigbee Channel
- Counters and Stats
- Revamped Events Collection
- Ubuntu update from 16.04 to 20.04 and package updates

Not Supported in This Release

RUCKUS IoT Suite 2.0.0.0 does not provide support for the following features.

- Support for LoRaWAN
- AP Licensing

Changed Behavior

1. The RUCKUS IoT Controller 2.0.0.0 release is a fresh deploy release and cannot be upgraded from the prior versions.
   - IoT controller running version 1.8.2.0 – To upgrade, refer to *2.0 Migration guide*.
   - For the IoT controller running version prior to 1.8.2 - Follow the upgrade path and procedure to get to 1.8.2.0 and then refer to *2.0 Migration Guide*.
2. With the RUCKUS IoT Controller 2.0.0.0 release the licensing scheme is changed to a **Subscription Model** based on number of IoT devices. Previous AP licenses cannot be applied to this version of the RUCKUS IoT Controller. You must have the new subscription license(s) ready before proceeding with the deployment of the RUCKUS IoT Controller, and migration from older release. There is a 90-day trial period (no purchase required for trial) which has no restrictions on features or device count. The devices will go into a decommissioned state at the end of the 90-day trial period if valid subscriptions are not applied by then. The license will be checked out whenever a device is onboarded and will remain checked out till the time the device is decommissioned or deleted from the controller. The license will continue to be consumed even if the device goes offline. Ensure there are sufficient licenses in the controller before moving to 2.0.0.0 else due to change in the license logic as mentioned the controller will move in the sequence of order of offline devices first, then based on devices last seen, and then online devices to decommissioned state above. On license expiry the page redirects to the licensing page to input a new license. For more details, refer *RUCKUS IoT Controller Software Licensing Guide, 2.0.0.0* .

Firmware compatibility Matrix of Ruckus IOT controller and v/SZ

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

Recommended Practices and Settings

1.8.2 to 2.0.0.0 Migration

The following is the recommended way for Migration

> **NOTE**
> AP based license scheme is not supported from 2.0 onwards.

Pre-requisites

1. Take a DB Backup from 1.8.2 controller
2. After deploying 2.0.0.0 controller get the controller Serial Number and Contact Customer Support to get the new Device license.

Steps to Migration

1. Deploy the 2.0.0.0 Controller
2. Pre-Start the 2.0.0.0 Controller
3. Login to the 2.0.0.0 controller and go to Admin -> DB Backup
4. Click on the Upload Backup button -> Confirm -> Select NO to keep the current Network configuration
5. After Restore controller reboots. Confirm DB is restored properly
6. Bring down 1.8.2 controller

7. Set the 1.8.2 controller network configration in 2.0.0.0 controller to the same as that was configured in 1.8.2 controller

Connecting a 6.1 AP to 1.8.2 controller

As 1.8.2 release does not support 6.1 SZ version the following steps have to be followed to get the AP downgraded properly to 5.2.2 or 6.0 before connecting to 1.8.2 controller

- **AP's in 6.1 (2.0.0.0 controller)**
  - Downgrade the AP from 6.1 to 5.2.2 or 6.0.
  - Have the AP connect back to the 2.0.0.0 controller
  - Wait till the AP has upgraded to 5.2.2 or 6.0 hpkg version and is UP in the IoT AP page without the Yellow Exclamation symbol
  - Now switch the Broker IP of the AP to point to 1.8.2 controller
  - AP's in 5.2.2 or 6.0 (2.0.0.0 controller)
  - Switch the Broker IP of the AP to point to 1.8.2 controller

Dashboard and CDS intervals -

In 2.0 having the default intervals for Dashboard Refresh and Controller data stream periodic update interval can cause system to overwhelm resources. Recommended setting for both is 120 seconds.

> **NOTE**
> Having Controller data stream periodic update interval at 120 seconds will cause a delay of the same period in a new device added in the controller from showing up on IoT Insights.

Hardware and Software Support

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

Compatible Hardware:

- H510/R510/T310D and i100 IoT Module
- R610/R710 and i100 IoT Module
- R720 and i100 IoT Module
- R730 Access Point
- R650 Access Point
- R750/T750/T750SE Access Point
- R850 Access Point
- R550/H550 Access Point
- R350/H350/T350D Access Point
- R550 and i100 IoT Module

Compatible Software:

- Virtual SmartZone – High Scale (vSZ-H)
- Virtual SmartZone – Essentials (vSZ-E)
- SmartZone 100 (SZ100)
- RUCKUS IoT Controller (RIoT)

Hardware Requirement

Customers must obtain robust and reliable server hardware that will support a virtualized environment for IoT applications with enough headroom to expand in the future. Each deployment is unique and hardware specifications will need to be adapted to specific needs. For a typical deployment

(e.g. RUCKUS IoT controller, VMware ESXi, Ubuntu Linux server, IP camera VMS, additional IoT VMs or applications), we recommend server hardware that meets the below specifications.

- **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: 5.2.2.0.317
- Control plane software version in the WLAN Controller: 5.2.2.0.126
- AP firmware version in the WLAN Controller: 5.2.2.0.2016, 6.1.0.0.1595
- IoT Gateway Version

  5.2.2.0 – 1.9.2.0.10001

  6.1.0.0 – 2.0.0.0.20037
- SmartThings Version.

  5.2.2.0 – 1.8.1.34.12

  6.1.0.0 – 2.0.0.34.12

RIoT

- RUCKUS IoT Controller version: 2.0.0.0.82
- VMWare ESXi version: 6.0and later
- KVM Linux virtualizer version: 1:2.5+dfsg-5ubuntu10.42 and later
- Hyper-V version - 6.2 and later
- Google Chrome version: 78 and later
- Mozilla Firefox version: 71 and later

3rd Party Integrations

- Assa Abloy
  - Visionline Version: 1.26.0.13
  - Lock Zigbee Version: 3.1.62.1
  - Lock Version: 3.17.37.5
- Smart Things
  - Hub Software Version: 3.14.1
  - SmartThings Hardware Version: 1.01
- DormaKaba
  - Ambiance Version: 2.7.2.25
  - Lock RT+ version FW version: 11-27-20.4
  - Ember Rev: 5.6 build E7

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
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	1.7.0.0.22	5.2.1.0.515	5.2.1.0.698 + 5.2.1.0.2011 patch IoT Version : 1.7.0.1.17004 ST Version : 1.7.0.32.12	H510, R510, T310d,E510, R610, R650, R710, R720, T610, R730, R750, T750, C110, M510, R550
IoT 1.7.1.0	1.7.1.0.16	5.2.2.0.317	5.2.2.0.301 IoT Version : 1.7.1.0.17001 ST Version : 1.7.1.34.12	H510, R510, T310d,E510,R610, R650, R710, R720, T610,R730, R750, T750, C110,M510, R550
IoT 1.8.0.0	1.8.0.0.27	6.0.0.0.1331	6.0.0.0.1594 T350D - 6.0.0.0.1610 IoT Version : 1.8.0.1.18009 ST Version : 1.8.0.34.12	H510,R510,T310d,E510,R610, R650,R710,R720, T610,R730, R750,T750,C110,M510, R550, H550,T350D
IoT 1.8.1.0 [MR]	1.8.1.0.16	5.2.2.0.317 6.0.0.0.1331	5.2.2.0.301 IoT Version : 1.8.1.0.18007 6.0.0.0.1594 6.0.0.0.1610 (T350D) IoT Version : 1.8.1.0.18008 ST Version : 1.8.0.34.12	H510,R510,T310d,E510,R610, R650,R710,R720, T610,R730,R750,R850,T750,C110,M510, R550,H550,T350D
IoT 1.8.1.1 [SR]	1.8.1.1.17	5.2.2.0.317	5.2.2.0.301 IoT Version : 1.7.2.0.17009	H510, R510, R550

TABLE 1 Release Build Compatibility Matrix (continued)

Release	IoT Controller	SZ	AP	Supported AP Models
IoT 1.8.2.0 [MR]	1.8.2.0.44	• 5.2.2.0.317 • 6.0.0.0.1331	5.2.2.0.2016 IoT Version : 1.8.2.0.18013 6.0.0.0.1594 6.0.0.0.1610 (T350D) 6.0.0.0.3073 (R350) IoT Version : 1.8.2.0.18010 ST Version : 1.8.1.34.12	H510,R510,T310d,E510,R610, R650,R710,R720,T610,R730, R750,T750,C110,M510,R550, H550,T350D, R350, R850.
IoT 2.0.0.0	2.0.0.0.82	• 5.2.2.0.317 • 6.1.0.0.935	5.2.2.0.2016 IoT Version : 1.9.2.0.10001 ST Version: 1.8.1.34.12 6.1.0.0.1595 IoT Version : 2.0.0.0.20037 ST Version: 2.0.0.34.12	H510, R510, T310d, E510, R610, R650 , R710, R720, T610, R730, R750, T750, C110, M510, R550, H550, T350D, R350, R850, T750SE, H350.

Supported Upgrade Path

The release 2.0.0.0 is a fresh installation.

For customers migrating from IoT 1.8.2, refer the*2.0 Migration Guide*.

Known Issues

The following are the caveats, limitations and known issues.

Component: IoT Feature in Access Point with IoT Module I100

- IOTC-5296 - Tx-power value of 10 cannot be set for T350D AP in BLE mode for country codes IR and MC.

  Workaround - Set to Tx-Power value of 8.
- IOTC-5155 - IOT process keeps restarting every time when DHCP option 43 for VLAN settings without any changes.

  Workaround - Use option 43 to set VLAN and then remove the VLAN sub option from option 43 in DHCP Server.
- IOTC-4249 - BLE stack didn't come up on R510 AP if the MQTT connection lost for an interval and connects back.

  Workaround - Restart the IoT service from the UI.
- IOTC-3809 - Enabling channelfly co-ex fails to change channels.

  Workaround - After enabling channelfly disable and enable co-ex on the radio.
- IOTC-3807 - Wlan channel conflict is not detected and channel does not change when co-ex is enabled in both radios

  Workaround - None.
- IOTC-3557 - Zigbee_DK mode allows generic zigbee devices to connect by no attributes or commands are listed

  Workaround - None.
- IOTC-3159 - Factory resetting the T750 AP disables the IOT

Workaround - Setting correct power level automatically enables the IoT process.

- IOTC-1832 - In Dense BLE beacon deployments (more than 800 beacons seen by single AP) the beacon packets are dropped and would experience longer latency to reach the endpoint.

  Workaround - None

Component: RUCKUS IoT Controller

- IOTC-5480 - Factory reset is removing the license collection from DB leading to license counts going to zero even if licenses are present.

  Workaround - Do not Factory Reset the controller. In case RESET is warranted recommendation is to deploy a new instance and restore db backup.
- IOTC-5478 - Error is thrown in UI while trying to set channel for Multi-radio AP in Multi-pan(radio1) using batch action.

  Workaround - Bulk action cannot be used in a multi-radio/dual-pan Gateway.
- IOTC-5472 - Deleting 50+ devices in Bulk leads to gateway time-out error.

  Workaround - Delete devices in batches of 20.
- IOTC-5469 - Restoring 1.8.2 db-backup lists controller-gateway in the IoT-AP table on clicking refresh multiple times.

  Workaround - None.
- IOTC-5468 - Restoring 1.8.2 db backup dashboard shows IoT AP by Protocol widget as blank.

  Workaround - Click on Settings and click on Reset Widgets and then add the required widgets.
- IOTC-5461 - There is not alert message displayed when there are only ten or less than 10 days are let for license expire.

  Workaround - None
- IOTC-5460 - N+1 CLI takes almost 25 secs to complete.

  Workaround - None
- IOTC-5455 - Trying to blacklist a decommissioned device throws an error in UI but blacklists the device.

  Workaround - None
- IOTC-5453 - On Feature/capacity license expiry alert display RTU license is expired even if RTU license is Perma.

  Workaround - None
- IOTC-5451 - Status of loglevel and transfer logfile is not changing when set to Debug and Enabled.

  Workaround - None.
- IOTC-5448– Success message is not shown while restoring DB Backup from standalone controller to another N+1 enabled controller with network configuration as 'no'.

  Workaround - None.
- IOTC- 5434- DB restore failed after N+1 failover if password contains '$" symbol.

  Workaround - Avoid ‘$’ symbol in password.
- IOTC-5428 - Device name with more than 24 characters is shown with MAC address appended to the name in IOT APs page.

  Workaround - None.
- IOTC-5408 - Restoring 1.8.2 db backup TOTAL LNS Widget is not removed from dashboard.

  Workaround - Click on Settings and click on Reset Widgets and then add the required widgets.
- IOTC-5399- Decommissioned device doesn't come online after adding Premium license on top of BASE+CAPACITY licenses.

  Workaround - Commission the device manually from IoT Device page.

- IOTC-5386 - Failed to view services logs on clicking view logs button.

  Workaround - None
- IOTC-5371 - Online devices are shown only on the last page when there are more devices in the IOT controller.

  Workaround - None
- IOTC-5366 - Sudden Power outage could cause controller to become inaccessible since service keeps continuously restarting.

  Workaround - None (Redeploy controller)
- IOTC-5364/IOTC-5361 - Dormakaba Gateway and lock goes offline in Ambiance Server within 6 minutes after initial onboarding

  Workaround - Gateway and Lock comes online upon receiving the next heartbeat message from the IoT Controller.
- IOTC-5309 - Zigbee device is joining to AP with wrong install code

  Workaround - None
- IOTC-5274 - Couldn't able to set PAN0 to Zigbee_AA when PAN1 is already in Zigbee_AA

  Workaround - Deactivate PAN1 and then set PAN0 to Zigbee_AA
- IOTC-5270 - In IoT Controller dashboard ST dongle protocol is not getting reflect in IOT AP by Protocol column

  Workaround - None
- IOTC-5224 - Dormakaba: With incorrect Client ID and Client Key plugin result in reachable.

  Workaround - None
- IOTC-4861 - UEI: Changing the cooling setpoint value cause the Heat setpoint value to change.

  Workaround - None (Vendor Implementation Design)
- IOTC-4856 - UEI: IoT contoller does not retain set values upon the AP reboot.

  Workaround - None (Vendor Implementation Design)
- IOTC-4678 - IoT Radio widget will not update unless AP is reboot or factory set

  Workaround - None
- IOTC-4464 - If the AA lock is turn off (remove one battery) for few minutes, lock goes offline observed with internal radio AP’s

  Workaround - Need to reonboard the AA lock using the initial AA lock onboarding process
- IOTC-4275 - From IoT controller UI, cannot disable IoT management VLAN in Samsung Smartthings dongle connected AP.

  Workaround - Login to AP and set the IoT VLAN to disaable from RKSCLI.
- IOTC-4232 - Starting of pairing ON from Ambiance if left open, within 10-15 minutes the status change to pairing OFF even if pairing is still ON.

  Workaround - None
- IOTC-3871 - Device Attribute fails to show in IoT controller.

  Workaround - Query the specific cluster/attribute using API call.
- IOTC-3804 - Activating Dormakaba plugin with wrong/not reachable IP address throws Operation failed error

  Workaround - None.
- IOTC-3765 -When Ambiance Server is set to European date format, date shows up nana/nana/.

  Workaround - Set the date in US format in the Ambiance Server.
- IOTC-3760 - Ambiance UI shows Door is Unlatch under Metric though Door is latched

  Workaround - None. Contact Dormakaba.

- IOTC-3731 - Node-Red Deploy Icons are not correctly displayed when node-red config screen is opened in a new window.

  Workaround - None
- IOTC-3719 - MQTT Push events sent even with no state/device change/Action

  Workaround - None
- IOTC-3705 - No logs shown in UI for BLE scan on clicking on View Logs.

  Workaround- None.
- IOTC-3674 - Zone_ID of IAS devices may be displayed as 255 for some devices

  Workaround - Triggering an event from the device sometimes sets the correct Zone_ID.
- IOTC-3650 -Restoring a db backup from a N+1 controller on a standalone controller enables N+1.

  Workaround - None.
- IOTC-3080- Blacklisted devices are part of total device count in the dashboard.

  Workaround - None.
- IOTC-3069 - In a N+1 setup traffic going from controller to cloud will not use Virtual IP in the packet.

  Workaround - Configure firewall to allow traffic to pass from primary IP and secondary IP .
- ER-11156 - Some Devices may show Min Measured Value as 645.36 degree celsius when the refresh button is clicked.

  Workaround - None (once device sends value it sets it properly and upon refresh goes back to 645.36).
- ER-11067 - Changing the IOT mode takes 15-30 seconds to take effect in the UI.

  Workaround - Switch the dongle mode between Zigbee and Zigbee-AA for it to reflect in the UI.
- ER-11066 - APs in unapproved state will cause queues to fill up. Approving the APs as and when they come online on the controller mitigated this issue with the vRIOT hangs.

  Workaround - Reboot the instance and removed all AP's from the IOT Controller to regain the access.
- ER-10978 - Resolved an issue where CPU Cores will be stuck at 100% wait state and only way to recover will be to reboot the instance. The problem was isolated to VM Host and its resource shares. In such cases, deploy an IOT controller instance with Thick Provisioning.

  Workaround - Tried rebooting IOT controllerTried restarting service.Disabled enabled IOT service on one of the AP's.

Resolved Issues

The following issues are resolved for this release

TABLE 2 Resolved Issues

Key	Summary
IOTC-4238	nRF connect APP does not show the beacon from AP if append MAC is checked
IOTC-4857	Hovering over the more icon in AP scan window shows the APs details extending beyond the window limit.
IOTC-4839	Need to enter login credentials twice for first time after upgrade from 1.8.1.0 to 1.8.2.0
IOTC-4300	Dormakaba: GW and lock connection are not persistent when IoT controller is rebooted
IOTC-4290	After AP factory reset, plugin external dongle (zigbee mode) AP comes up with Zigbee/Zigbee mode.
IOTC-4039	Not able to set Tx power as 8 for the internal radio of R650/T350D AP in BLE mode
ER-11155	During network outage the AP could go into a condition where the AP incorrectly assumes that the connection with controller has been lost for 24Hrs and as such sets the broker IP to unconfigured.
ER-10780	AA Door locks are showing 0 RSSI/LQI after onboarding using manual scan.

TABLE 2 Resolved Issues (continued)

Key	Summary
ER-10983	RPM key for PAN id gets reset to factory default value 0x1234 due to the presence of an older rpm key migration script. This script is not needed in iot 1.8 release and hence removed. Refer to the KBA https://support.ruckuswireless.com/articles/000012147 for details
ER-10966	Unable to upgrade vRIOT because of insufficient space caused by the old logs in the DB. New log rotation improvement is added to the 2.0 Release to avoid such issues.

Best Practices

Following are the best practices that mus tbe considered.

- 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
- 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 (hypervisior/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.
- Dashboard and controller data stream default intervals must be changed to the following for smooth running of the RUCKUS IoT Controller.
  - Dashboard -> Settings -> refresh interval - change this from default 30 to 120 seconds.
  - Admin -> Plugins -> Controller Data Stream - change the Periodic Update interval from 10 to 120 seconds.

Caveats and Limitations

Caveats

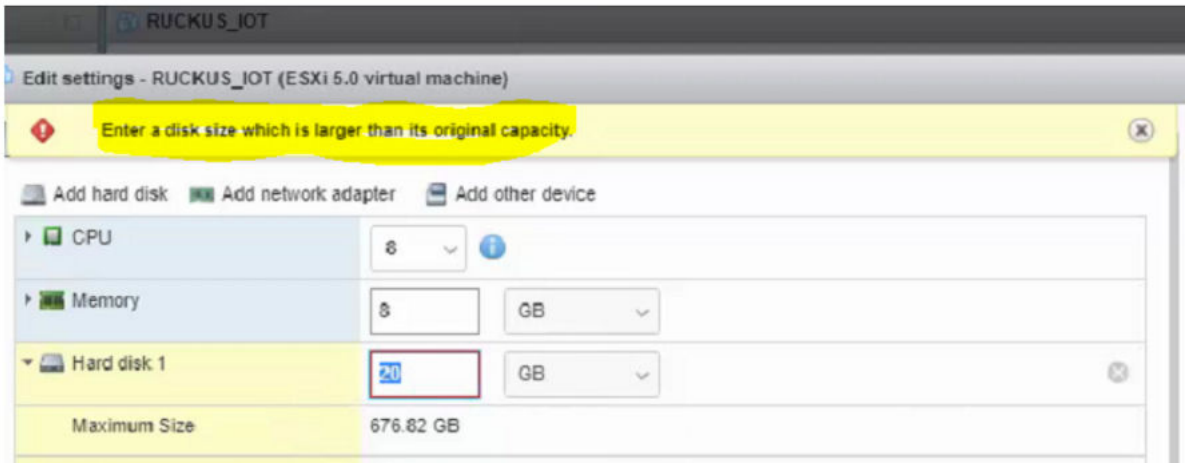
- The admin password cannot be retrieved once lost.
- RUCKUS recommends to back up the database at regular intervals.

- 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.

  NOTE
  However, reducing the HDD size is more complicated than increasing it.

  You receive the following error while decreasing the HDD size on the VMware.

  FIGURE 1 Error Message when HDD size is Reduced



  The HDD shrinking for a VM requires expertise an editing *.vmdk. To shrink the disk size, you can refer to https://www.vmware.com/support/ws5/doc/ws_disk_shrink.html or https://kb.vmware.com/s/article/1002019. An alternative mechanism is to take config backup of existing vRIOT instance, install a fresh instance of vRIOT of the same version as the config backup, and allocate the recommended HDD/CPU/memory resources. After the new instance is up, you can shutdown the existing instance to avoid any conflicts. You can then upload the configuration backup to it and upgrade the vRIOT to the desired version firmware.
- RUCKUS IOT platform is not FIPS compliance and if the AP's have FIPS certificate, it would not join the IOT controller. MQTT logs will throw an OpenSSL Error: error:14089086:SSL routines:ssl3_get_client_certificate:certificate verify failed.
- IoT APs will randomly go offline if we override the MQTT IP using AP CLI script from the vSZ.

  Workaround - Do not push MQTT Broker IP to the AP's which already have established MQTT session with the IP controller
- AP Search filter does not work with the AP IP address.
- **ER-9842**- IOT 1.7.1.0.16- IOT devices would disconnect from the IOT controller if their RSSI/LQI is low.

  Workaround - It is NOT recommended bulk scan to onboard IoT devices.

Limitations

- MQTT connection will not be established when the vlan mode is offlink but the controller is in same subnet
- AP and Phone having the ST APP should be in the same subnet to detect and add the dongle.
- Pushing VLAN from option43 or RKSCLI 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 RKSCLI 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 seperate AP.
- IoT co-ex feature is not supported on multi-mode Gateway.
- Uploading a new temporary license after the previous temporary license has expired is not supported.

Supported Devices

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

TABLE 3 Bulbs

Device	Type	Mode	Manufacturer	Basic Name	Basic Model
Lightify (RGB) Model 73674	Bulb	Zigbee	Osram	OSRAM	LIGHTFY 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 Valeto (Zigbee 3.0)	Bulb	Zigbee 3.0	SLV		
Bulb	Bulb	Zigbee	Aduro SMART ERIA		
Bulb	Bulb	Zigbee	Cree		BA19-08027OMF-12CE26-1C100
Hue	Bulb	Zigbee	Philips	Hue White	840 Lumens

TABLE 4 Locks

Device	Type	Model	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	Zigbee	Assa-Abloy	Yale	Yale YRD220/240 TSDB
Yale YRD210 Push Button	Lock	Zigbee	Assa-Abloy	Yale	YRD210 Push
Smartcode 916	Lock	Zigbee	Kwikset	Kwikset	SMARTCODE_DEADBOLT_10T
Smartcode 910 (450201)	Lock	Zigbee	Kwikset	Kwikset	

TABLE 5 SWITCHES/PLUGS/THERMOSTAT/ALARM/BLINDS

Device	Type	Mode	Manufacturer	Basic Name	Basic Model
GE Smart Dimmer	Switch	Zigbee	GE	Jasco Products	45857
GE Smart Dimmer	Switch	Zigbee	GE	Jasco Products	45856

TABLE 5 SWITCHES/PLUGS/THERMOSTAT/ALARM/BLINDS (continued)

Device	Type	Mode	Manufacturer	Basic Name	Basic Model
Smart Plug	Plug	Zigbee	CentraLite	CentraLite	
Smart Plug	Plug	Zigbee	Smart things	Samjin	
Smart Plug	Plug	Zigbee	INNR		
Zen Thermostat	Thermostat	Zigbee	Zen Within	Zen Within	Zen-01
EcoInsight Plus	Thermostat	Zigbee	Telkonet	Telkonet	
ZBALRM	Alarm	Zigbee	Smartenit		Model #1021 A
Smart Blinds	Blinds	Zigbee	Axis Gear		
UEI Thermostat	Thermostat	Zigbee	UEI		TBH300ZBSN

TABLE 6 Sensors

Device	Type	Mode	Manufacturer	Basic Name	Basic Model
Garage Door Tilt Sensor	Sensor	Zigbee	NYCE	NYCE	NCZ-3014-HA
Curtain Motion Sensor	Sensor	Zigbee	NYCE	NYCE	NCZ-3045-HA
Door / Window Sensor	Sensor	Zigbee	NYCE	NYCE	NCZ-3011-HA
Temperature and Humidity Sensor	Sensor	Zigbee	Aqara	LUMI	WSDCGQ11LM
Motion Sensor	Sensor	Zigbee	Aqara	LUMI	RTCGQ11LM
ERIA Smart Door/ Window Sensor	Sensor	Zigbee	AduroSMART ERIA	ADUROLIGHT	81822
ERIA Smart Motion Sensor	Sensor	Zigbee	AduroSMART ERIA	ADUROLIGHT	81823
Multipurpose Sensor	Sensor	Zigbee	Smart things	Samjin	IM6001-MPP01
Button	Sensor	Zigbee	Smart things	Samjin	IM6001-WLP01
Motion Sensor	Sensor	Zigbee	Smart things	Samjin	IM6001-MTP01
Water Leak Sensor	Sensor	Zigbee	Smart things	Samjin	IM6001-BTP01
EcoSense Plus	Sensor	Zigbee	Telkonet	Telkonet	SS6205-W
EcoContact Plus	Sensor	Zigbee	Telkonet		SS6255-W
Temp, Humidity Sensor	Sensor	Zigbee	Heiman	HEIMAN	HS1HT-N
Gas detector	Sensor	Zigbee	Heiman	HEIMAN	HS3CG
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
3-Series Micro Door Sensor	Sensor	Zigbee	CentraLite	CentraLite	3323-G
Door Sensor	Sensor	Zigbee	Ecolink	Ecolink	4655BC0-R
Temp & Humidity Sensor	Sensor	Zigbee	Sonoff	Sonoff	SNZB-02
Celling Motion Sensor	Sensor	Zigbee	NYCE	NYCE	NCZ-3043-HA
Ecolink Flood Detection Sensor	Sensor	Zigbee	Ecolink	Ecolink	FLZB1-ECO

TABLE 7 BLE

Device	Type	Mode	Manufacturer	Basic Name	Basic Model
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

TABLE 8 Wired

Device	Type	Mode	Manufacturer	Basic Name	Basic Model
Vape/Sound Sensor	Sensor	Wired	Soter	-	FlySense

TABLE 9 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	LIGHTFY A19 RGBW
Multipurpose Sensor	Sensor	Zigbee	SmarThings	Samjin	
Button	Sensor	Zigbee	SmartThings	Samjin	
Motion Sensor	Sensor	Zigbee	SmartThings	Samjin	
Water Leak Sensor	Sensor	Zigbee	SmartThings	Samjin	
Smart Plug	Sensor	Zigbee	SmartThings	Samjin	
Bulb	Bulb	Zigbee	Aduro SMART ERIA		
AEOTEC Multi Sensor	Sensor	Zwave	AEOTEC	AEOTEC	ZW 100-A
Hue Hub	Hub	Wired	Philips	Philips	3241312018A

TABLE 10 Device not QA tested but supported

Device	Type	Mode	Manufacturer	Basic Name	Basic Model
Vingcard	Sigma	Lock	Zigbee	Assa-Abloy	AA_LOCK
Vingcard	Alpha	Lock	Zigbee	Assa-Abloy	AA_LOCK
Vingcard	Classic		Zigbee	Assa-Abloy	AA_LOCK
Vingcard	Allure		Zigbee	Assa-Abloy	AA_LOCK

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