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Cassia AC and Bluetooth Routers 2.0.2

Release Notes

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Contents

Release Notes

A. About this Release

This is the 2.0.2 release that applies to Cassia IoT Access Controller (AC) and Cassia Bluetooth routers. This document will detail upgrades, notes, fixed bugs and known issues associated with this release.

Below is the list of firmware and software versions for this release:

- AC Server software: Cassia-AC-2.0.2.2004021422
- X1000 firmware: XC1000_2.0.2.2004151554
- E1000 firmware: E1000_2.0.2.2004151554
- S2000 firmware: S2000_2.0.2.2004151554

B. Upgrade Notice **(Please read this section carefully before upgrading your AC server & router firmware)**

- In order to upgrade the Cassia Bluetooth router to 2.0.2 firmware, the user must use a 2.0.2 version of the AC server software.
- The 2.0.2 version of the AC server software is backward compatible with the 1.4.x router

firmware.

- When upgrading the router firmware in the router's local console, please use the local install file *.gz and turn off the "Verify File Encryption" option.
- When upgrading AC software from version v1.4.x to v2.0.2, please make sure the host server has **at least 2GB free storage available**.
- For container user, if the app uses BlueZ with Gatttool and Bluetoothd (e.g. noble or python Bluetooth lib) instead of Cassia Bluetooth stack and Cassia restful API, please **change 'Cassia Bluetooth Stack' to close** (default is open) in Bluetooth Setting section of router webpage Config Tab after upgrade router to 2.0.2. Otherwise Bluetooth operations in the app may return failure.
- For container user, an option to enable and disable container local ssh login is added in Container Tab from 2.0.2. **Container local ssh login was disabled by default** for security reasons. Reset router will change this option into default value.
- For container user, the restful API to obtain router configuration from AC (GET http://{your AC domain}/api/cassia/info?mac=<hubmac>) is changed in 2.0.2, **container status will be removed from default API output**, in order to avoid the oversized UDP packets problem. Container status can be gotten separately by the same API with additional parameter 'fields=container'. Please refer to SDK document for details.
- For container user, from 2.0.2, **DNS name server in router will be propagated into container /etc/resolv.conf**. Beside two default DNS name server 8.8.8.8 and 114.114.114, Container will use DNS setting in Network section of router webpage Config Tab as additional DNS name server. This is to resolve the issue which two default DNS servers are blocked by firewall.

C. New Features and Enhancements

- Open source compliance [AC and Router]
- MQTT protocol support between AC and Router [AC and Router]
- Deployment survey (Beta) [AC]
- Backup and restore AC configuration from AC console [AC]
- Email Alert for license expiration, router offline and AC system resource shortage [AC]
- Configurable MQTT TLS certificate for router and AC communication [AC and Router]
- Cassia RESTful API enhancement – Name, MAC ID, and value scan filtering [AC and Router]
- Cassia RESTful API enhancement - Batch connection [AC and Router]
- Cassia RESTful API enhancement – Locationing (Beta) [AC and Router]
- Security enhancement - Hide router's WIFI password and certification from AC console [AC]
- Security enhancement – Router login password security enhancement [Router]
- Security enhancement – Record failed user login attempts in Event log [AC and Router]
- Security enhancement – Cross-Site Scripting (XSS) protection enhancement [AC]
- Security enhancement – Updated nginx (web server) to latest stable version (1.16.1) [AC and Router]
- Security enhancement – Container local SSH login can be enabled and disabled from webpage [AC and Router]
- AC Event log enhancement – Record system operations and changes to user account [AC]

- AC Event log enhancement - Export 30 days archived event log [AC]
- Debug Log enhancement [AC and Router]
- UI enhancement - APP name & version display on AC router list, etc.
- UI enhancement - Container ssh login terminal on web browser [AC]
- UI enhancement - Display wireless backhaul (WIFI/Cellular) signal strength [AC and Router]
- UI enhancement - Display device connection history information in AC devices page [AC]
- Firmware upgrade enhancement for X1000/E1000 – Resume broken transfer from last download attempt [AC and Router]
- Software upgrade enhancement for AC – Reduce 100MB installation package size [AC and Router]
- Locationing feature enhancement – Sensor TX power tuning [AC]
- USB Cellular enhancement - Add auto recovery option in USB Cellular configuration to reset USB interface in case of failure to reconnect wireless network after 30 mins [Router]
- USB Cellular enhancement - MultiTech CAT-4 cellular modem support [Router]
- Multiple Wi-Fi profiles [Router]
- MQTT bypass filter enhancement [Router]
- Bluetooth enhancement – BLE chip supports “pure scan” mode and “high speed multiple connections” mode [E1000/S2000]
- Propagate router DNS name server to container [Router]

D. Fixed Bugs Since the Last Release

- Configuration tab on router website grays out sporadically due to oversized UDP packets being dropped by some network access points (E.g. >1.5KB).
- Stability improvements on connection between AC and router with changes to Wi-Fi link, routing table, and watchdog timer [Router]
- Fixed router offline problem after firmware upgrade failure [Router]
- CPU consumption displayed incorrectly at 100% [AC]
- UI display - Display router storage usage in Basic tab [Router]
- UI display – Renamed ‘Log’ tab of router website to ‘Events’ tab [Router]
- UI display – Renamed ‘Export Log’ in Other tab to ‘Export Debug Log’ [Router]
- UI display – Added ‘sign out’ button to “Other” tab in router console page [Router]
- UI display – Fix AC router page group display problem on macOS Catalina (10.15.3) [AC]
- Fixed scan stop issue due to invalid advertising packet [E1000/S2000]
- Fixed for restful API of write attributes sporadically return failure with reason of ‘invalid parameter’, ‘memory allocation failure’ or ‘timeout’ in 2.0 beta December version.
- Fixed issue of inaccurate network TX/RX traffic amount for container
- Fixed issue of country code batch operation failure
- Fixed issue that router status is not displayed in local webpage under AC managed mode without AC connection in router version 2.0.2.2004032148.

E. Known Issue and Restriction

- Downgrading router from 2.0.2 to previous firmware version, such as 1.4.3, will require users to reset the router website password. When upgrading back to version 2.0.2 or

above, users must login with the original 2.0.2 old password.

- The maximum number of SSE connections for one router is 32. Cassia local restful API will return '502 Bad Gateway' when it reaches the limitation. Currently there are 4 type of SSE connections, "/gap/nodes?event=1", "/gatt/nodes?event=1", "/management/nodes/connection-state" and "/gap/rssi". It is recommended to maintain only 1 SSE connection for each type and to close unused SSE by closing HTTP connection.
- Container status on AC router list webpage is updated in each 'Statistics Report Interval'. When the interval is set longer than 30 seconds, e.g. 5 mins, container status on AC router list will not be updated on timely basis. Container status on AC router webpage is status at the moment router is selected.
- For S2000, in situation that the number of received advertising packets is more than 200 per second, it is recommended to use scan filter or pure scan filter to reduce CPU load.
- For E1000, when both BLE chips needs to handle uplink throughput data rate over 10KBps simultaneously, it is recommended to contact with Cassia support team and provide BLE parameters of the device in order to fine tune performance.