EmberZNet SDK 6.3.2.0 GA

Silicon Laboratories, Inc.

June 27, 2019

1 Release Highlights

1.1 Version 6.3.2 GA:

- Added Parent keepalive configuration options
- Added option to restrict end device timeout selections
- Various bug fixes

1.2 Version 6.3.1 GA:

- Added SimEEv2 to NVM3 upgrade support for dynamic multiprotocol
- Wi-Fi + Zigbee coexistence updates
- RAIL dynamic multiprotocol timings updates
- Low power sleep modes bug fixes
- Various bug fixes

1.3 Version 6.3.0 GA:

- Zigbee Pro 2017 (R22) compliant stack w/ GPPB and SE1.4/GBCS support
- Dynamic block request delay support for OTA upgrade
- Sub-GHz only mode support for SE1.4/GBCS
- NVM3 GA integration
- Gecko Bootloader LZMA decompression support
- IAR EWARM 7.80.4 and GCC 7.2.1 support
- Various bug fixes

2 Using This Release

This release contains the following

- Zigbee stack EmberZNet Pro v6.3.2
- Zigbee Application Framework v6.3.2
- Zigbee Sample Applications

For more information about the Silicon Labs EmberZNet Pro stack see UG103.02 - Zigbee Fundamentals.
If you are a first time user, see QSG106: Getting Started with EmberZNet Pro.

2.1 Compatible Software:

The Zigbee stack should be used in conjunction with the Silicon Labs Simplicity Studio V4 development platform. Simplicity Studio ensures that most software and tool compatibilities are managed correctly. Install software and board firmware updates promptly when you are notified.

This version of the SDK is compatible with the following tool chains.

- IAR Embedded Workbench for ARM (IAR-EWARM) version 7.80.4. Follow instructions in QSG106: Getting Started with EmberZNet Pro, to download from the support portal, and obtain a 30 day trial license.

- GCC (The GNU Compiler Collection) version 7.2.1 is provided with Simplicity Studio.

2.2 Support

Development Kit customers are eligible for training and technical support. You can use the Silicon Laboratories web site http://www.silabs.com to obtain information about all Silicon Labs Zigbee products and services, and to sign up for product support.

You can contact Silicon Laboratories support at http://www.silabs.com/support

3 Added Items

3.1 Version 6.3.2 GA:

3.1.1 New Stack APIs:

- **emberSetChildTimeoutOptionMask** Set the bit mask that decides which timeout values are acceptable for a child. This option mask defaults to 0xFF which covers all the possible options, between 10 seconds to 11 days.

3.1.2 New Plugin Options:

- Zigbee Pro Stack Library

  - **endDeviceKeepAliveSupportMode** Set which keepalive modes the device will provide to its end device children

3.2 Version 6.3.1 GA:

3.2.1 New Application Plugins:

- **Simulated EEPROM version 2 to NVM3 Upgrade Library and Stub** Allows a device to upgrade from SIMEEv2 to NVM3. This plugin cannot be used on its own without the NVM3 Library. Either the stub or the library must be enabled when using NVM3. See AN1135 for more detail: https://www.silabs.com/documents/public/application-notes/an1135-using-third-generation-nonvolatile-memory.pdf

3.2.2 New Stack APIs:

- **emberSetHubConnectivity, emberIsHubConnected** Set or get trust center(hub) connectivity which will be included in beacons if parent classification is enabled.

- **emberSetLongUpTime, emberIsUpTimeLong** Set or get uptime state of the device which will be advertised in beacons if parent classification is enabled.

- **emberSetParentClassificationEnabled** Controls whether or not to add hub connectivity and up-time bits to beacons. Will also control whether to look at these two bits when processing beacons to join or rejoin a network.

- **emberSetPendingNetworkUpdatePanId** Sets the short PAN ID the device will accept in a NLME Network Update command. The default PAN ID set by the stack is 0xFFFF.

- **emberSetPendingNetworkUpdateChannel** Sets the channel number the device will accept in ZDO Mgmt Network Update command to change channel. The default channel set by the stack is 0xFF.

- **emberGetMaxNwkRetries** Returns the maximum number of NWK retries that will be attempted. Note the actual number of retries will likely be lower due to other constraints.

- **emberGetMaxMacRetries** Returns the maximum number of no-ack retries that will be attempted

- **emberSetZDOConfigurationMode** Disable or enable ZDO command processing. By default, all related ZDO commands may be processed on a device.

- **emberAfPluginSetDisableOtaDowngrades** Sets device behavior to accept or refuse OTA image downgrades. If during the Image Transfer process the device finds that the incoming OTA image version is older than the current firmware version, it will send an Upgrade End Request with a status of INVALID_IMAGE.

- **emberAfPluginOtaClientSetIgnoreNonTrustCenter,**
  emberAfPluginOtaClientGetIgnoreNonTrustCenter Sets or gets whether or not OTA Clients use non TC Servers. If setting to ignore, any download that is in progress will be aborted.

- **emberSetMacPollCcaWaitTime** Sets the retry interval (in milliseconds) for mac data poll. This interval is the time in milliseconds the device waits before retrying a data poll when a MAC level data poll fails for any reason. This is useful for sleepy end devices. The default interval value is zero i.e. stack does not perform these retries.

- **emberAfPluginIasZoneClusterSetEnrollmentMethod** Sets the IAS Zone enrollment method for the IAS Zone server, which now supports the three enrollment modes defined in the ZCL spec including:

  > Trip-to-Pair

  > Auto-Enroll-Response

  > Auto-Enroll-Request

  The default mode is auto-enroll-request which maintains the previous behavior of the IAS Zone server to enroll once the CIE address is received from the IAS Zone client.

- **halCommonGetInt64uMillisecondTick** Returns a 64-bit integer that contains the number of millisecond ticks since system startup.

3.2.3   New CLI commands:

- **plugin ota-client disable-downgrades** Instructs the device to refuse OTA image downgrades

- **plugin ota-client enable-downgrades** Instructs the device to accept image downgrades

- **plugin update-tc-link-key timer** Set the time between periodic TC link key update attempts

- **plugin ias-zone-server set-enrollment-mode** This command sets the IAS Zone enrollment method for the IAS Zone server.

3.2.4 New Behavior:

- **3.0 Hub Migration**

  If a device is using the well-known Trust Center(TC) link key then it will attempt to update a trust center link key once every day until it establishes a new TC link key. A device will also attempt a TC link key update after a rejoin and power cycle if it is still using the well-known key.

  The periodic attempts to update the TC link key will continue to happen until the Hub is R21+ compliant. For example, the periodic TC link key updates will keep happening if the end device is R21+ whereas the Hub is pre-R21 such as a HA Gateway. However, once the Hub is upgraded to R21+ then the TC link key update request will be processed successfully and the new TC link key will be established.

  A device will also attempt to update the TC link key after network steering if it is using the well-known link key. However, no update will be attempted if the network is down for the end device.

3.3 Version 6.3.0 GA:

3.3.1 New Stack APIs:

- **ember/ezspGetZllPrimaryChannelMask** Get the primary touchlink channel mask.

- **ember/ezspSetZllPrimaryChannelMask** Set the primary touchlink channel mask.

- **ember/ezspGetZllSecondaryChannelMask** Get the secondary touchlink channel mask.

- **ember/ezspSetZllSecondaryChannelMask** Set the secondary touchlink channel mask.

4 Changed Items

4.1 Version 6.3.2 GA:

4.2 Version 6.3.1 GA:

- Two new callbacks have been added to the Trust Center Keepalive plugin. emberAfPluginTrustCenterKeepaliveTimeoutCallback is fired when enough trust center keepalive failures are met, indicating a loss of connection. emberAfPluginTrustCenterKeepaliveConnectivityRestoredCallback is fired when connectivity is restored to the trust center.

- The Poll Control Server plugin now includes a configurable parameter used to indicate a poll control check in failure threshold. emberAfPluginPollControlServerCheckInTimeoutCallback is fired when the amount of contiguous check in failures reaches or exceeds the threshold.

- Beacon bits 16 and 17 may now be used to indicate long uptime and trust center connectivity.

- The sixth bit of the extended security bitmask has been configured to ignore leave without rejoin commands when set (NWK_LEAVE_WITHOUT_REJOIN_NOT_ALLOWED).

- A parent connectivity detection callback has been added for end device support plugin which can be used to detect if the parent and device are disconnected. This callback can be consumed to give the application a chance to perform its own network rejoin logic. The maximum number of missed MAC data polls that will trigger a move (rejoin) has been changed from 10 to 3.

- OTA Clients now automatically kick off a search for OTA Server on receipt of unexpected Image Notify command, if they are not already connected to one.

4.3 Version 6.3.0 GA:

- Improved ZDO Bind/Unbind responses
  Bind/unbind requests may now return with EMBER_ZDP_NOT_AUTHORIZED or
  EMBER_ZDP_NOT_PERMITTED (in addition to EMBER_ZDP_SUCCESS,
  EMBER_ZDP_TABLE_FULL, and EMBER_ZDP_NO_ENTRY).

- emberRemoteSetBindingHandler and emberRemoteDeleteBindingHandler now return
  EmberZdoStatus not EmberStatus.

- The OTA server plugin now has an optional feature to dynamically treat the Minimum Block Period
  field in the Image Block Response. A client that sends an Image Block Request to an OTA server
  with the feature enabled will be probed for its cluster revision in determining whether to treat the
  field as seconds or milliseconds. The value discovered will be used for the rest of the OTA download
  process for that particular client.

- Options to configure the BLE stack and link layer call stack size have been added to the BLE plugin

- The EZSP_BDB_JOIN_USES_INSTALL_CODE_KEY enumeration has been added to the
  EZSP_TRUST_CENTER_POLICY policy. This enumeration causes the trust center to deny joins
  unless the joining device has a matching transient key entry.

- SysTick_Handler has been changed to WEAK in hal-library to allow customer-supplied code (or the
  RTOS code) to supply their own SysTick ISR routine. While we have previously recommended that
  customer-supplied code should hook the SysTick interrupt by defining a "halSysTickIsr" function,
  after this change, we now recommend that customer-supplied code should hook the SysTick interrupt
  by defining a "void SysTick_Handler(void)" ISR function.

- EFR32 IAR, EFR32 GCC, and EM3xx IAR applications now use the C startup routines found in
  platform/Device rather than those found in platform/base.

- Added priority escalation and the ability to use a PWM signal for request to the coexistence plugin.

5 Deprecated Items

5.1 Version 6.3.2 GA:

5.2 Version 6.3.1 GA:

5.3 Version 6.3.0 GA:

6 Removed Items

6.1 Version 6.3.2 GA:

6.2 Version 6.3.1 GA:

6.3 Version 6.3.0 GA:

7 Fixed Issues

7.1 Version 6.3.2 GA:

- 405682 Fixed an issue where Dual Band Coordinators could cause the network retry queue to overflow
  when forwarding a broadcast to a sleepy end device on the Sub-GHz interface.

- 405713 The end-device initiator bit is now correctly set for all the messages that initiate from an end-device, if that device is in the network.

- 405709 Properly trigger a secure rejoin if 1. Parent only uses timeout request/response as the keep alive mode And 2. parent does not send back a timeout response or a leave command in response to a timeout request sent by the end-device.

- 403006 An issue where End Devices joined via a parent that uses end device timeout request keepalive would only send keepalives once per timeout period rather than the recommended three has been corrected.

7.2 Version 6.3.1 GA:

- 271896 On previous releases, certain malformed MAC command packets could trigger a packet buffer assert. This problem has been corrected.

- 274207 Restructured aps-retry cleanup to prevent old messages from remaining on the queue after they have processed and released

- 303246 Fixed an energy scan problem where energy seen at the end of scanning one channel was incorrectly being attributed to the next channel scanned.

- 313160 Changes to UART behavior caused there to be a delay in receiving CLI commands in applications which include the idle-sleep plugin. An option has been added to the serial module in halconfig called "Enable wake from idle", which is set to True by default. As long as this option is True this should restore responsiveness.

- 317251 A missing ezspUnusedPanIdFoundHandler stub has been added to the UART tests.

- 318352 On previous releases, certain malformed MAC command packets could trigger a packet buffer assert. This problem has been corrected.

- 318619 This fixes a problem where a touchlink target which is 'stolen' from its old network sends out its leave announcement using the wrong network key, namely the new network key it received in the Network Start Request, rather than the old key from the network it has just left.

- 318784 This fixes a problem where a ZLL router target was not scanning for an unused pan id on receipt of a network start request with a full set of valid parameters - channel, pan id, and extended pan id.

- 320589 This fixes a problem where a factory new touchlink initiator tries to rejoin if a touchlink attempt fails. Since we are now using the strict Zigbee 3.0 definition of 'factory new', i.e. the node is not on a network, then the rejoin will fail, but the initiator will be left in the wrong state for a subsequent touchlink operation.

- 329690 An end-device initiator should set the channel number to zero in a Network Start request, to allow the target to chose the channel as a result of its channel scan. This fixes a problem where it would default to the initiator's channel.

- 332328 Fix issue preventing radio coexistence transmit abort counter from incrementing.

- 332329 Fix radio coexistence HAL_CONFIG support for shared priority and shared request.

- 331581 Fixed a GB868 ZNet issue introduced in RAIL 2.4.0 where roughly every other 71 minute period, symbol timing delays were being extended by 71 minutes.

7.3 Version 6.3.0 GA:

- 108582 A unit mismatch issue in the ZigBee Over-the-air Cluster has been resolved through the addition of a dynamic treatment of the Minimum Block Period in the OTA server plugin

- 135010 ZCL tunnel client Implementation modified to return proper status to pass SE1.2 test case 16.3.7.

- 177619 Linker error for image block request callback when including OTA Server and OTA Common Plugins but not using OTA Server Policy Plugin has been resolved. Callback is now emberAfOtaServer-ImageBlockRequestCallback.

- 277029 Green Power Security security level default bit mask has changed from 0x10 to 0x01

- 281835 Green Power Channel Request messages now contain the GPD LQI.

- 285563 platform/base/phy/phy.h is no longer included in the stack install

- 289624 Add call to reset the flag that indicates a low-high transition on the nWake pin prior to processing the next EZSP command. This resolves the problem of a transition on nWake while the NCP was already awake placing the NCP into a state where it would never enter sleep again.

  This could still result in slightly elevated current (because the code is prevented from entering the IDLE state) between the low-high transition on the nWake line and the next EZSP command. If the SPI interface is idle, this elevated current could continue indefinitely.

- 290265 Sleepy end device doesn't go to sleep when sending APS-retried unicast to unreachable parent. Added minor changes which may improve sleep performance. Workaround: Disable EMBER_APS_OPTION_RETRY for current message or poll during delivery process to detect and repair the broken parent link.

- 293725 ZCL Color Control cluster's ColorTemperatureMireds attribute is now included in the configuration maintained for Scenes cluster.

- 296468 Battery Monitor plugin is now working in EFR32MG14 parts.

- 300091 Our EM4 support is currently limited. The stack code only checks for the stack events to decide if it can go to EM4 mode (causing software reset after X ms). More sophisticated behavior, such as preventing the EM4 reset in case of a specific application level event, may be added with emberAfOkToGoToEM4Callback().

- 300264 ZCL Report generation: A change in value of a ZCL attribute of type Character String or Octet String is now detected and, if reporting configuration dictates, will cause a report to be generated.

- 300885 ZCL Basic cluster ZCLVersion attribute now defaults to value 0x03 per Zigbee Cluster Library Revision 7.0 specification.

- 301101 Fixed bug that caused compilation error when IAS Zone Server plugin's "Queue Failed Transactions" option is enabled.

- 302001 This fixes a problem where an orphaned non-factory-new end device touchlink initiator was not able to touch link with a target (whether FN or NFN).

- 303266 This fixes a problem where a non-factory-new touchlink initiator's neighbor table was incorrectly cleared after a successful touch link. It will also stop the outgoing NWK and APS frame-counters jumping to the next multiple of 0x1000.

- 303267 Fixed a problem where a touchlink device was not using the correct channel mask (i.e. the primary touchlink channel mask) when forming a new network. The problem affected both router targets (unless the initiator specifies a channel) and router initiators. Because the current channel masks now need to be accessed from stack code, the variables holding the masks have been migrated to internal stack variables, and public API's have been provided to set or get the masks.

- 303268 Fixes a problem where the Zigbee 3.0/Interop bit is not always correctly set in the ZLL state (and hence in a touchlink scan response), for a touchlink target, if it is non-factory-new, or if it is processing a network join request, unless it has previously been on a non-ZLL network. Both Interop and Address Assignment Capable bits are now correctly set in these two cases, and the two bits are preserved over a network leave, and set in the Zll Commissioning plugin initialization code if appropriate.

- 303281 Fixes a problem where a channel change request was disallowed for a device on a non-touchlinked distributed network.

- 303286 Removes some checks in the groups and scenes server plugins for a touchlink-commissioned network for certain group commands, and for scene extensions for the Color Control cluster. For Zigbee 3.0, all Zll-specific attributes and commands have now been merged into the general cluster library, and apply equally to centralized and distributed (touchlinked and classically commissioned) networks.

- 304169 A issue has been fixed regarding stack overflows when using NVM3 on a DMP app by increasing the system start task stack size by 400 bytes.

- 305621 Removed behavior occuring during APS_RETRY attempts where a sleepy end device attempts to check the status of aps retries every 4 milliseconds. This behavior contributed to sleepy end devices staying awake for extended periods of time. After a failed APS_RETRY procedure, an application should attempt to repair the broken link or freeze outgoing aps-retried unicasts until the link is fixed in order to preserve battery life.

- 311217 An issue where requesting an energy scan for all 27 channels (including sub-GHz) would cause a buffer overflow has been fixed.

- 313457 This addresses certain incompatibility issues with ZLL 1.0 initiators, by adding an option to the ZLL library to allow a factory new target to include its default radio channel in the scan response. To do this an remain compliant, it will also include an extended PAN id and short PAN id (strictly speaking, it need only include the former for compliance). All three parameters are only proposals from the target, and not binding on the initiator.

- 314410 A bug in the Z3 Switch with Micrium app which caused an application task to hog the CPU has been fixed.

- 315616 Fixed a problem where the Zigbee stack's energy scans on the Si4468 radio's Sub-GHz channels were measuring energy on a single, usually wrong, channel.

8 Open Issues

8.1 EmberZNet Open Issues:

- 60757 Indirect Transaction Expiry route error not being sent when TX failure count is reached on parent router.

- 60774 MTORR reception by concentrator neighbor sometimes causes assert in route-discovery.c (emHandleRouteCommand).

- 60858 Sleepy broadcast payload is sometimes corrupted when relaying to child

- 60868 Extra retries seen on ZDO requests; ZDO response going out before APS ACK.

- 60944 EZSP-SPI NCP may become unresponsive if callbacks are received during ECC operations.

- 60970 TC link key should be used for Transport Key to rejoining devices even if decision is Send Key In Clear

- 60975 EZSP_VALUE_TOKEN_STACK_NODE_DATA, EZSP_VALUE_UART_SYNCH_CALLBACKS, EZSP_VALUE_MAXIMUM_INCOMING_TRANSFER_SIZE, and EZSP_VALUE_MAXIMUM_OUTGOING_TRANSFER_SIZE ValueIDs are writable but not readable.

- 61008 Scanning state machine (stack level or form-and-join util) can get stuck in "scanning" state indefinitely

- 66508 Framework should avoid sending unicast loopback messages with APS security since stack doesn't support this

- 66785 Messaging Client plugin should differentiate between Cancel Msg command and timed out / replaced message

- 66786 "zcl ota server reload" doesn't properly reload image info when using OTA Simple Storage plugin

- 66944 Duplicate Key Confirm Response message can lock up KE plugin state machine

- 70799 Overlay of RESETINFO on CSTACK causes IAR stack overflow warning

- 82600 Setting a non-zero MAC Filter Table Size but no MAC Filter Table Entries causes NCP resets when joining a network

- 86948 Fragmented messages can be passed to the application with old data from the rxFragmentedPacket buffer

- 92147 ZLL Scan Response Should Be Sent at Power 0 rather than last-used power level

- 103833 Second energy scan request caught in first energy scan request knocks node out of network.

- 106307 Nodetest calChannel command does not wake the radio to work properly.

- 119037 Packet-buffer.c Assert at line 352 occurs during rapid packet transmission and Partner-link-key-exchange.

- 119828 ota-client.c does not use the server EUI64 in Partner Link Key Exchange.

- 119939 ZDO IEEE Request's APS ACK proxied by parent incorrectly includes long source address.

- 121984 Turning off NCP concentrator support does not disable all stack concentrator logic.

- 123399 Non-sleepy endpoint does not always keep correct network parameters on reset in multi-networking.

- 126087 Sleepy end device would return NO_LOCAL_RESOURCES when a coordinator initiates key establishment with it in Multi-networking.

- 135649 Multi-networking can cause APS frame counter confusion between networks. Workaround: Use emberAfSecurityInitCallback to add EMBER_NO_FRAME_COUNTER_RESET to EmberInitialSecurityBitmask.

- 158598 OTA Client plugin's Bootloading Message Timeout doesn't account for Short Poll Interval being longer than the default and may spuriously time out messages before the sleepy client has had a chance to poll for the response.

- 162190 Fixed issue in packet reception that could cause misprocessing of non-ACK-requesting packets after an ACK with frame-pending bit set was sent.

- 180028 OTA Client Plugin should send ZCL Default Response to messages with wrong Mfg Code

- 185603 ezspSendBootloadMessage will cause a crash when called on newer NCPs that are supposed to include bootloadmessage functionality

- 192041 End devices may initiate route discoveries unexpectedly

- 201417 Adding GPIO Sensor Interface plugin to an EM358x project results in error: "identifier "GPIO_SENSOR_IRQ" is undefined".

- 213424 Problem with ZLL Devices responding to a multicast addScene when they should not.

- 229938 ZLL devices are sending ZLL device information frames with the 0x0104 HA/Z3 common profile ID instead of 0xC05E ZLL profile ID.

- 235222 Virtual UART (VUART) works on Ethernet but does not work over USB on WSTK.

- 251287 To achieve the lowest current during sleep on EFR32xG12, EFR32xG13, and EFR32xG14 parts, you must turn on voltage scaling. However, the radio will not operate with voltage scaling turned on, so to turn it on you must also make sure to disable it after each wake-up. Furthermore, some resets will not turn off voltage scaling, so please ensure that it is disabled before attempting to turn on the radio. Note that there is a ramp when turning voltage scaling on or off, so enabling this feature may increase the time it takes to go to sleep or wake up.

- 261670 Harden the ZLL touchlink process to mitigate malicious attacks

- 266341 Z3 Light sample app has two endpoints that support similar cluster commands, so duplicate responses may be generated for certain commands.

- 267722 Centralized Trust Center in Zigbee 3.0 security mode doesn't allow more than 10 devices to join during the Network Creator Open Network period

- 271644 A device that performs a classic join to a legacy ZLL gateway may eventually leave the network on its own initiative.

- 274414 AFv2 blank app project template for SOC and Host should use Z3 defaults, not ZHA defaults

- 278063 Smart Energy Tunneling plugins have conflicting treatment/usage of address table index

- 281231 Enabling Serial 3 or USB functionality on EM358x and EM359x may cause memory management faults and other errors. As EM358x and EM359x USB support has been deprecated, please ensure that Serial 3 and USB functionality are disabled.

- 281832 Green Power Common plugin incorrectly formats groupList and groupListCount parameters of GP Pairing Configuration frame.

- 281833 Green Power Pairing Response frame is malformed by Green Power Common plugin.

- 289569 network-creator plugin power level picklist doesn't offer full range of supported values for EFR32

- 295498 UART reception sometimes drops bytes under heavy load in Zigbee+BLE DMP use case

- 303943 ezspGetStandaloneBootloaderVersionPlatMicroPhy only reports the major and minor version, excluding the build number, when used with the Gecko Bootloader

- 305621 Sleepy end devices staying awake for extended periods of time. After a failed APS_RETRY procedure, an application should attempt to repair the broken link or freeze outgoing aps-retried unicasts until the link is fixed in order to preserve battery life.

- 307886 When a Z3Gateway host application is launched using the -v flag to direct application output to a port, and a telnet connection is established on port 4901, disconnecting the telnet connection can cause CPU utilization to climb to 100%. The problem was reported for the host application running on Linux platforms, first observed on an Ubuntu 16.04 VM and subsequently replicated on a RaspberryPi.

- 312291 The halCommonGetIntxxMillisecondTick functions on linux hosts currently use the gettimeofday function, which is not guaranteed to be monotonic. If the system time changes, it can cause issues with stack timing. The workaround is to modify these functions to use clock_gettime with the CLOCK_MONOTONIC source instead.

- 313989 This issue occurs when nodes are in the network and perform mfglib operations on different channel than formed/joined network channel. The stack changes mfglib channel to network channel on the receiving node though node is in mfglib mode and that causes to perform mfglib operations on different channels (between tx/rx nodes) than what it set from mfglib commands.

- 316212 The UART XMODEM standalone gecko bootloader with the legacy ebl parser can fail to return to the bootloader menu if the XMODEM transfer is interrupted unexpectedly (such as due to a power cycle). If the ebl file format is a requirement, then a recovery pin must be implemented to mitigate the risk.

- 331438 Service discovery may time out too quickly in busy networks. Define EMBER_AF_DISCOVERY_TIMEOUT_QS to customize the timeout period.

- 331581 GB868 devices sometimes stop sending APS ACKs on Sub-GHz band when expected to do so.

- 331951 The door lock server plugin is no longer compatible with the legacy CLI

- 333146 The coexistence plugin behavior has changed to be required for all applications. By default coexistence functionality should be stubbed out when not configured via board header (EM35x) or not enabled via HWCONF (EFR32). Appbuilder may automatically enable the HWCONF coexistence module without warning which can trigger an error for dynamic multiprotocol applications, which do not yet support coexistence.

- 343998 Network Key Update fails in Unicast mode on the 6.3.2 stack. This issue can be resolved by using the trust-center-nwk-key-update-unicast plugin from the 6.5.0 stack or a later stack.

9 Intended Behavior

10 Documentation Changes

11 History