



Bluetooth[®] Mesh ADK 2.3.5.0

August 25, 2021

Bluetooth mesh is a new topology available for Bluetooth Low Energy (LE) devices that enables many-to-many (m:m) communication. It's optimized for creating large-scale device networks, and is ideally suited for building automation, sensor networks, and asset tracking. Our software and SDK for Bluetooth development supports Bluetooth Mesh and Bluetooth 5 functionality. Developers can add mesh networking communication to LE devices such as connected lights, home automation, and asset tracking systems. The software also supports Bluetooth beaconing, beacon scanning, and GATT connections so Bluetooth mesh can connect to smart phones, tablets, and other Bluetooth LE devices.

These release notes cover SDK version(s):

- 2.3.5.0 released on August 25, 2021
- 2.3.4.0 released on March 17, 2021
- 2.3.3.0 released on December 21, 2020
- 2.3.2.0 released on November 4, 2020
- 2.3.1.0 released on September 2, 2020
- 2.3.0.0 released on June 17, 2020



KEY FEATURES

- API for Time model support (iOS and Android)
- API for Scheduler support (iOS and Android)
- API for getting and setting Light LC model (iOS and Android)
- API for import and export mesh structure (iOS and Android)
- Increase size of maximum mesh network

Compatibility and Use Notices

It is recommended to use the ADK version with the corresponding version of the Bluetooth Mesh SDK, for example use ADK version 2.3.5.0 with SDK version 1.7.5.0.

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1 Android

1.1 New Items

Added in release 2.3.4.0

ID #	Description
4451	API: Added API for allowing or denying packets using Proxy Server Filter List
4317	API: Added API to get and change node's default TTL value
1142	API: Added ProvisionerConfiguration.connectionRetryCount
4751	API: Added saving current values of replay protection list after each message received by provisioner

Added in release 2.3.3.0

ID #	Description
4220	API: Added PublishPeriod object to decode components of publications period

Added in release 2.3.2.0

ID #	Description
3765	API: Added getter of ProxyConnection in ProvisionerConnection Added Javadoc describing configuration process after provisioning
3931	API: Added a method in ProxyConnection class replacing error callback in the active proxy connection
3740	APP: Added View for exporting log files
3911	API: Added IV Index methods (IvIndexControl class) Added BluetoothMesh.getSequenceNumberWrapCount()
3893	API: Enabled using the same gatt connection for the provisioning and configuration processes

Added in release 2.3.1.0

ID #	Description
3247	APP: Show step number for node configuration
3108	APP: Added ProxyConnection.connectToProxy(boolean, ConnectionCallback) and ConnectableDevice.refreshBluetoothDevice(RefreshBluetoothDeviceCallback)
3210	APP: Application can load LPN poll timeout
3212	APP: Application shows default timeout for LPNs
3214	APP: Application allows setting the default timeout for LPNs

Added in release 2.3.0.0

API: Support for Time model:

- JNI for Time Model
- Time get request
- Time set request
- Time zone get request
- Time zone set request

- TAI-UTC Delta get request
- TAI-UTC Delta set request
- Time role get request
- Time role set request
- Handle Time Notifications

API: Support for Scheduler Model:

- JNI for Scheduler Model
- Scheduler Get request
- Scheduler Action Get request
- Scheduler Action Set request
- Handle Scheduler Notifications

API: Support for LPN:

- Get LPN's poll timeout
- Get default timeout for LPN configuration requests
- Set default timeout for LPN configuration requests

APP: Support for Time model:

- Time get request
- Time set request
- Time role get request
- Time role set request
- Handle Time Notifications

APP: Support for Scheduler Model:

- Scheduler Get request
- Scheduler Action Get request
- Scheduler Action Set request
- Handle Scheduler Notifications

1.2 Improvements

Changed in release 2.3.5.0

ID #	Description
4073	API: Added more convenient public API for using OOB authentication data.
4892	API: Make ProxyConnection more user-friendly, return success callback on: <ul style="list-style-type: none"> - connectToProxy() when connection is already established - disconnect() when connection is already disconnected

Changed in release 2.3.4.0

ID #	Description
4066	APP: Replaced hard-coded ControlElement with retrieving the correct one based on the required model

Changed in release 2.3.3.0

ID #	Description
4066	APP: Replaced hard-coded ControlElement with retrieving the correct one based on the required model

Changed in release 2.3.2.0

ID #	Description
3306	API: Changed provisioning process after successful provisioning and error on a following task
3731	API: Improved provisioning process flow
3160	APP: Reduced number of operations during changing node's group
3870	APP: Improved behavior of the Poll Timeout section in a node configuration
3073	API: Unbinding a group from a node removes only appropriate models

Documentation:

ID #	Description
3710	Described vulnerabilities and guidelines of removing a subnet

Changed in release 2.3.1.0

ID #	Description
3741	Project migrated to AndroidX
3106	APP: Export keys to local storage. Export keys for all subnets at once
3627	APP: Change UI of toasts
3629	APP: Unify app buttons
3680	APP: Clarified text in some toasts
3712	APP: FactoryResetCallback with a proxy node returns the actual result

Documentation:

ID #	Description
3797	Update Low Power Node documentation (common for Android and iOS)
2218	Fixed source code snippet in AN1200, section 4.2
2348	Added paragraph about removing a node
2518	Added documentation to ProvisionerAttentionTimerParameters and changed its status to deprecated Improved documentation of NodeProperties.
3138	Removed deprecated API usages in AN1200

Changed in release 2.3.0.0:

AN1200: Bluetooth® Mesh for iOS and Android ADK:

- Add a section to AN1200 document with known Bluetooth troubleshoots
- Add Error codes used in ADK to QSG
- Create simple how-to for sending and receiving request
- Update Time sections in QSG
- Update Scheduler sections in QSG

1.3 Fixed Issues

Fixed in release 2.3.5.0

ID #	Description
5081	API: Fixed a small memory leak when sending gatt data.
4865	API: Fixed crash when ProxyControl.allow called without any active Proxy Connection.
4845	APP: Fixed collecting logs in the release version.

Fixed in release 2.3.4.0

ID #	Description
4230	API: Fixed problem with setTTL not working.
4262	API: Fixed no timeout immediately when there is no active connection.
4289	API: Fixed using time and scheduler models publication after clearing database and still using app. Fixed using group publication with the one gatt connection feature during the same connection.
4329	API: Fixed error handling in some cases during provisioning.
4173	API: Fixed crash when sending dot to LC Property State.

Fixed in release 2.3.3.0

ID #	Description
4230	API: Fixed conversion of Publish Retransmit values
4228	APP: Fixed nodes validation during import
3928	APP: Fixed decoding packets with IV different than 0
4057	APP: Fixed incorrectly disconnecting from GATT device

Fixed in release 2.3.2.0

ID #	Description
3643	API: Fixed a crash during IV update/recovery
3828	APP: Fixed crash when user adds node to empty network
3165	APP: Improved export JSON compatibility with the schema
3410	APP: Fixed crashes in LPN configuration view
3849	APP: Fixed crash when user sends empty LC Property States
3867	API: Fixed error 3073, when an already bound appKey was binding again to local model
3515	APP: Fixed setting time in scheduler server
3245	API: Fixed not removing stack keys in some cases
3694	API: Fixed timeout error when performing a factory reset on a proxy node

Fixed in release 2.3.1.0

ID #	Description
3477	API: Fixed crash when MTU has been changed twice during connection attempt

ID #	Description
3393	API: Removed COULD_NOT_WRITE_TO_CHARACTERISTIC error from the library, improved handling writing to characteristic errors, improved provisioning process success ratio
3274	API: Fixed values of TAI-UTC delta and Time Zone Offset in Time Status
3293	API: Fixed value of month and day of week in scheduler
3382	API: Fixed returning unknown error for unacknowledged scheduler action set for groups
3111	APP: Removed deprecated method calls
3299	APP: When getting DCD fails user can retry the operation in node configuration view
3522	APP: Fixed 37 second delay in scheduler actions due to unaccounted TAI - UTC delta
3774	APP: The correct LPN poll timeout value is displayed

Fixed in release 2.3.0.0

ID #	Description
3229	API: Remove proxy connection from provision (as node) session
3273	API: Correct mesh_memory_config_t values
3031	API: Remove group messages for Time Setup Server

1.4 Known Issues in the Current Release

Issues in bold were added since the previous release.

ID #	Description	Workaround
2573	API: Missing mesh proxy service	
2592	APP: Cannot select group and functionality	
3034	APP: Android App keeps the network key after force-removing	

1.5 Deprecated Items

Notified in release 2.3.5.0

ProvisionerOOB

- `public void inputOobDisplay(byte[] uuid, INPUT_ACTIONS inputAction, int inputSize, byte[] authData);`

ProvisionerOOBControl

- `public void providePublicKey(final byte[] uuid, final @Nullable byte[] publicKey)`

Notified in release 2.3.2.0

Network

- `public void requestIvIndexUpdate(IvIndexUpdateEventHandler)`

Notified in release 2.3.0.0

ProvisionerConnection

- `public void provisionAsNode(ProvisioningCallback)`
- `public void provisionAsNode(ProvisionerAttentionTimerParameters, ProvisioningCallback)`
- `public void provisionAsProxy(ProvisioningCallback)`

- `public void provisionAsProxy(ProvisionerAttentionTimerParameters, ProvisioningCallback)`
- `public void provisionAsProxyWithoutNodeIdentity(ProvisioningCallback)`
- `public void provisionAsProxyWithoutNodeIdentity(ProvisionerAttentionTimerParameters, ProvisioningCallback)`

1.6 Removed Items

None

2 iOS

2.1 New Items

Added in release 2.3.4.0

ID #	Description
4504	API: Added API for allowing or denying packets using Proxy Server Filter List
4316	API: Added API to get and change node's default TTL value
4765	API: Added saving current values of replay protection list after each message received by provisioner

Added in release 2.3.3.0

ID #	Description
4219	API: Added SBMPublishPeriod object to decode components of publications period

Added in release 2.3.2.0

ID #	Description
2237	API: Added methods for removing the key in ApplicationKey and NetworkKey classes
3786	API: Added a method in ProxyConnection class for replacing error callback in the active proxy connection
3874	API: Enabled using the same gatt connection for provisioning and configuration processes

Added in release 2.3.1.0

ID #	Description
3190	APP: Get LPN's poll timeout
3194	APP: Set default timeout for all LPN configuration requests
3190	APP: Get LPN's poll timeout
3346	APP: Allow manual retrieval of Device Composition Data if it was not retrieved automatically
3121	API: Provisioner can subscribe to heartbeat
3163	API: Proxy Connection used in configuration process in Provisioning process can now be accessed using `SBMProvisioningConnection` class

Added in release 2.3.0.0

API: Support for Time model:

- Time get request
- Time set request
- Time zone get request
- Time zone set request
- TAI-UTC Delta get request
- TAI-UTC Delta set request
- Time role get request
- Time role set request
- Handle Time Notifications

API: Support for Scheduler Model:

- Scheduler Get request
- Scheduler Action Get request
- Scheduler Action Set request
- Handle Scheduler Notifications

API: Support for LPN:

- Get LPN's poll timeout
- Get default timeout for LPN configuration requests
- Set default timeout for LPN configuration requests

APP: Support for Time model:

- Time get request
- Time set request
- Time role get request
- Time role set request
- Handle Time Notifications

APP: Support for Scheduler Model:

- Scheduler Get request
- Scheduler Action Get request
- Scheduler Action Set request
- Handle Scheduler Notifications

2.2 Improvements

Changed in release 2.3.4.0

Documentation:

ID #	Description
4435	Added documentation for provisioning already connected device

Changed in release 2.3.2.0

ID #	Description
3695	API: Improved speed of database clearing
3621 3623	APP: Improvements in view for controlling time model
3869	APP: LPN view improvements

Documentation:

ID #	Description
3983	Added note about Encryption Export Regulations

Changed in release 2.3.1.0

ID #	Description
1455	APP: Buttons on provisioning screen became more clear
1173	APP: Device configuration view improvements
3637 3639	APP: Improvements in the Scheduler view
3479	APP: UI improvement for license view
3773	APP: LPN view improvement
3047	API: [Import/Export Example] Changed formatting for properties: unicast address, identifier, modelId. [Import/Export Example] Added properties: name in AppKey, parentAddress in Group, \$schema, id.
3711	API: Changed factoryReset method in SBMConfigurationControl to return a correct error code.d

Documentation:

ID #	Description
2348	Added paragraph about removing a node
3139	Add notes about deprecated methods and point to new ones
3315	Update Low Power Node documentation
3791	Update SBMProvisionerParameters documentation
3761	Add information to AN1200 about changes in database structure in Export section

Changed in release 2.3.0.0:

API: Add missing Time subscription operations

API: Deprecate method setHeartbeatSubscription and create a new one setHeartbeatSubscriptionLog

AN1200: Bluetooth® Mesh for iOS and Android ADK:

- Add a section to AN1200 document with known Bluetooth troubleshoots
- Add Error codes used in ADK to QSG
- Create simple how-to for sending and receiving request
- Update Time sections in QSG
- Update Scheduler sections in QSG

2.3 Fixed Issues**Fixed in release 2.3.5.0**

ID #	Description
5695	API: Fixed memory leak on import/export.
4805	API: Fixed issue with handling of vendor model messages passed via group address.

Fixed in release 2.3.4.0

ID #	Description
3300	API: Framework is now distributed as XCFramework instead of fat framework.
4260	API: Fixed issue with big timeouts after broken connection with queued configuration messages.

ID #	Description
4172	APP: Node configuration Proxy/Relay/Retransmission/Friend switches can be switched only after refreshing their status.
4271	API: Fixed problem with setTTL not working.
4178	APP: Clear adapters during mesh stack initialization.
4047	APP: Added cancelling group control task when all nodes confirm, after 5 seconds, or if an error occurred.

Fixed in release 2.3.3.0

ID #	Description
4111	API: Fixed the framework crash caused by not clearing an adapter after the import of the database
3975	APP: Added IV Index field to the Exported Security Keys
4065	APP: Fixed interactions with LC server if it's not in second element of node
4205	API: Fixed conversion of Publish Retransmit values

Fixed in release 2.3.2.0

ID #	Description
2691	APP: Improved stability of the app.
3860	APP: Allow inserting negative values in fields TAI-UTC and Time Zone Offset
3898	APP: Fix for crash while resetting local database
3897	APP: Fix for problem with a proxy connection not closing
3890	API: Added a more convenient public API for using OOB authentication data
3694	API: Fixed timeout error when performing a factory reset on a proxy node
3955	API: Added missing methods to fully support the IV index update

Fixed in release 2.3.1.0

ID #	Description
3738	API: Application crash when trying to assign name to AppKey
3709	API: Generic subscriptions: after unsubscribing, subscription is no longer processed internally
3277	APP: Fixed sending invalid value for Time Zone Offset field

Fixed in release 2.3.0.0

ID #	Description
3052	API: Removed group messages for Time Setup Server
2778	API: Scene and LC unit tests fixed

2.4 Known Issues in the Current Release

Issues in bold were added since the previous release.

ID #	Description	Workaround
1792	API: Handle notifications sent by sensor model	
2469	API: isSecuredNetworkBeacon in SBMNodeSecurity is not updated	
2357	APP: Can't delete the node after factory reset	
2635	API: Provisioning fails and affects next attempts	

2.5 Deprecated Items

Notified in release 2.3.2.0

SBMProvisionerOOB

- func inputDisplay(_ uuid: UUID, inputAction: SBMProvisionerOOBInputAction, authData: Data) -> SBMProvisionerOOBResult
- func requestIvIndexUpdate(handler: IvIndexUpdateEvent? = nil) -> Error

Deprecated in SBMNetwork:

- func currentIvIndex() -> UInt32
- func requestIvIndexUpdate(handler: IvIndexUpdateEvent? = nil) -> Error

2.6 Removed Items

None

3 Using This Release

3.1 Installation and Use

See *AN1200: Bluetooth® Mesh for iOS and Android ADK* for information about required tools and compatible platforms.

3.2 Support

Development Kit customers are eligible for training and technical support. You can use the [Silicon Labs Bluetooth LE web page](#) to obtain information about all Silicon Labs Bluetooth products and services, and to sign up for product support.

Contact Silicon Laboratories support at <http://www.silabs.com/support>.

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