




Bluetooth® Mesh ADK 4.2.4.0

July 3, 2024

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 ADK version(s):

- 4.2.4.0 released on July 3, 2024 (underlying Bluetooth changes only)
- 4.2.3.0 released on January 24, 2024 (underlying Bluetooth changes only)
- 4.2.2.0 released on August 16, 2023 (underlying Bluetooth changes only)
- 4.2.1.0 released on May 3, 2023
- 4.2.0.0 released on March 8, 2023
- 4.1.1.0 released on February 1, 2023
- 4.1.0.0 released on December 14, 2022
- 4.0.0.0 released on June 22, 2022



KEY FEATURES

- Support for mesh draft specification 1.1:
 - Mesh Protocol
 - Mesh Binary Large Object Transfer Model (MBT)
 - Mesh Device Firmware Update Model (DFU)

Compatibility and Use Notices

- This release is to be used with Bluetooth Mesh SDK 4.2.4.0.
- The iOS ADK supports the last three major releases of the iOS system (iOS 15, iOS 16 and iOS 17).
- The Android ADK supports the Android 8+ for the framework and Android 14+ for the reference application (the last three major releases of the Android system)

Contents

- 1 Android 3
 - 1.1 New Items..... 3
 - 1.2 Improvements..... 3
 - 1.3 Fixed Issues 3
 - 1.4 Known Issues in the Current Release 3
 - 1.5 Deprecated Items 4
 - 1.6 Removed Items 4
 - 1.7 API changes between 3.x and 4 4
- 2 iOS 5
 - 2.1 New Items..... 5
 - 2.2 Improvements..... 5
 - 2.3 Fixed Issues 5
 - 2.4 Known Issues in the Current Release 6
 - 2.5 Deprecated Items 6
 - 2.6 Removed Items 6
 - 2.7 API changes between 3.x and 4.x 6
- 3 Using This Release 7
 - 3.1 Installation and Use..... 7
 - 3.2 Support..... 7

1 Android

1.1 New Items

Added in release 4.1.0.0

Added Mesh Protocol 1.1: Remote Provisioning

Added Advertisement Extension feature configured via Silicon Labs Configuration vendor model.

Added in release 4.0.0.0

Added Mesh Protocol 1.1: Certificate-based Provisioning

Added Device Firmware Update (DFU) using Mesh Binary Large Object Transfer

1.2 Improvements

Changed in release 4.2.0.0

Performance and stability improvements

Changed in release 4.1.1.0

Performance and stability improvements

Changed in release 4.1.0.0

| ID # | Description |
|---------|--|
| 1074002 | Change calculation of automatic BLOB chunk size. |
| 695846 | Update Mesh Protocol 1.1 model identifiers. |

1.3 Fixed Issues

Fixed in release 4.2.0.0

| ID # | Description |
|---------|---|
| 1103503 | Fixed losing connection with nodes |
| 1081815 | Fixed node being disconnected after certificate-based provisioning when on configuration screen of the Demo Application |
| 1080430 | Fixed Demo Application crash on remote provisioning when both device and root certificates are loaded from file. |

Fixed in release 4.1.0.0

| ID # | Description |
|---------|--|
| 1036367 | Fix ProxyControl when connected to a node with a network identity. |

1.4 Known Issues in the Current Release

None

1.5 Deprecated Items

In a future release, Application Key will be separated from Group because the Bluetooth Mesh Specification does not indicate a relationship between Application Key and Group.

1.6 Removed Items

None

1.7 API changes between 3.x and 4.

- Changed `setNetworks` and `getNetworks` to `setNetKeys` and `getNetKeys` in `BluetoothMeshConfigurationLimits`.
- Removed `BluetoothMeshConfigurationLimits.rplSize`.
- Removed `Network.primarySubnet`.
- Removed `Subnet.isPrimary`.
- Changed parameter type result for `SubnetRemovalCallback.error`.
- `ProvisionerConnection` has been rewritten to Kotlin.

2 iOS

2.1 New Items

Added in release 4.1.0.0

Added Mesh Protocol 1.1: Remote Provisioning

Added Advertisement Extension feature configured via Silicon Labs Configuration vendor model.

Added in release 4.0.0.0

Added Mesh Protocol 1.1: Certificate-based Provisioning

Added Device Firmware Update (DFU) using Mesh Binary Large Object Transfer

2.2 Improvements

Changed in release 4.2.0.0

Performance and stability improvements

Changed in release 4.1.1.0

Performance and stability improvements

Changed in release 4.1.0.0

| ID # | Description |
|---------|--|
| 1077633 | Supported iOS versions are: 14, 15 and 16 |
| 1074001 | Change calculation of automatic BLOB chunk size. |
| 695846 | Update Mesh Protocol 1.1 model identifiers. |

2.3 Fixed Issues

Fixed in release 4.2.0.0

| ID # | Description |
|---------|------------------------------------|
| 1103503 | Fixed losing connection with nodes |

Fixed in release 4.1.0.0

| ID # | Description |
|--------|---|
| 856958 | Use correct version for ADK logs. |
| 711210 | Fix SBMProxyControl when connected to a node with a network identity. |

Fixed in release 4.0.0.0

| ID # | Description |
|--------|---|
| 813278 | Fix memory leaks and not working callbacks related to SBMProxyConnection. Only one connection object exists for a given device now. |
| 758254 | Fix typo in one of SBMSensorPropertiesGet properties. |
| 448775 | Fixed memory leaks causing provisioning fail. |

2.4 Known Issues in the Current Release

None

2.5 Deprecated Items

In a future release, Application Key will be separated from Group because the Bluetooth Mesh Specification does not indicate a relationship between Application Key and Group.

2.6 Removed Items

None

2.7 API changes between 3.x and 4.x

- Added the `SBMDevice` protocol with fields `uuid` and `name` extracted from the `SBMConnectableDevice`.
- Removed `getPrimarySubnet` from `SBMNetwork` (it was redundant to calling `SBMNetwork.subnets.first`).
- Removed `primary` from `SBMSubnet` – the specification defines the primary subnet as the one with with the `NetKey` at index `0x000`.
- Removed error `SBMStackErrorBtSynchronousConnectionLimitExceeded`.
- Errors renamed:
 - `SBMErrorProxyAllowPacketsFromGroupsFailure` to `SBMErrorProxyAcceptPacketsFromGroupsFailure`
 - `SBMErrorProxyDenyPacketsFromGroupsFailure` to `SBMErrorProxyRejectPacketsFromGroupsFailure`
- `SBMBluetoothMeshConfiguration.initWithLocalVendorModels:andLogger:` adds the Silabs Config Client by default now.
- Changed `setNetworks` and `getNetworks` to `setNetKeys` and `getNetKeys`.
- Added new cases in `SBMControlValueSetVendorModel.h`.

3 Using This Release

3.1 Installation and Use

See *AN1200.1: iOS and Android ADK for Bluetooth® Mesh SDK 2.x and Higher* for information about required tools and compatible platforms.

3.2 Support

Development Kit customers are eligible for training and technical support. 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>.

Simplicity Studio

One-click access to MCU and wireless tools, documentation, software, source code libraries & more. Available for Windows, Mac and Linux!



IoT Portfolio
www.silabs.com/IoT



SW/HW
www.silabs.com/simplicity



Quality
www.silabs.com/quality



Support & Community
www.silabs.com/community

Disclaimer

Silicon Labs intends to provide customers with the latest, accurate, and in-depth documentation of all peripherals and modules available for system and software implementers using or intending to use the Silicon Labs products. Characterization data, available modules and peripherals, memory sizes and memory addresses refer to each specific device, and "Typical" parameters provided can and do vary in different applications. Application examples described herein are for illustrative purposes only. Silicon Labs reserves the right to make changes without further notice to the product information, specifications, and descriptions herein, and does not give warranties as to the accuracy or completeness of the included information. Without prior notification, Silicon Labs may update product firmware during the manufacturing process for security or reliability reasons. Such changes will not alter the specifications or the performance of the product. Silicon Labs shall have no liability for the consequences of use of the information supplied in this document. This document does not imply or expressly grant any license to design or fabricate any integrated circuits. The products are not designed or authorized to be used within any FDA Class III devices, applications for which FDA premarket approval is required or Life Support Systems without the specific written consent of Silicon Labs. A "Life Support System" is any product or system intended to support or sustain life and/or health, which, if it fails, can be reasonably expected to result in significant personal injury or death. Silicon Labs products are not designed or authorized for military applications. Silicon Labs products shall under no circumstances be used in weapons of mass destruction including (but not limited to) nuclear, biological or chemical weapons, or missiles capable of delivering such weapons. Silicon Labs disclaims all express and implied warranties and shall not be responsible or liable for any injuries or damages related to use of a Silicon Labs product in such unauthorized applications.

Note: This content may contain offensive terminology that is now obsolete. Silicon Labs is replacing these terms with inclusive language wherever possible. For more information, visit www.silabs.com/about-us/inclusive-lexicon-project

Trademark Information

Silicon Laboratories Inc.[®], Silicon Laboratories[®], Silicon Labs[®], SiLabs[®] and the Silicon Labs logo[®], Bluegiga[®], Bluegiga Logo[®], EFM[®], EFM32[®], EFR, Ember[®], Energy Micro, Energy Micro logo and combinations thereof, "the world's most energy friendly microcontrollers", Redpine Signals[®], WiSeConnect, n-Link, EZLink[®], EZRadio[®], EZRadioPRO[®], Gecko[®], Gecko OS, Gecko OS Studio, Precision32[®], Simplicity Studio[®], Tegegesis, the Tegegesis Logo[®], USBXpress[®], Zentri, the Zentri logo and Zentri DMS, Z-Wave[®], and others are trademarks or registered trademarks of Silicon Labs. ARM, CORTEX, Cortex-M3 and THUMB are trademarks or registered trademarks of ARM Holdings. Keil is a registered trademark of ARM Limited. Wi-Fi is a registered trademark of the Wi-Fi Alliance. All other products or brand names mentioned herein are trademarks of their respective holders.



Silicon Laboratories Inc.
400 West Cesar Chavez
Austin, TX 78701
USA

www.silabs.com