zigbee Direct

How To Enable Zigbee Direct for Your Products (ZVD)

A **Zigbee Virtual Device (ZVD)** enables Bluetooth® Low Energy (Bluetooth® LE) devices, such as smartphones, to interact natively with a Zigbee mesh. By implementing the Zigbee stack in software, the ZVD allows for direct commissioning and control without the need for a physical gateway.

1 Hardware Requirements

Devices with Bluetooth® LE 4.2+ support Zigbee Direct via software updates or application-level integration*.

2 Integrate Bluetooth® LE Services

Security Service: Establishes secure sessions and handles key exchanges with ZDDs.

Commissioning Service: Onboards Zigbee devices via the Bluetooth® LE link.

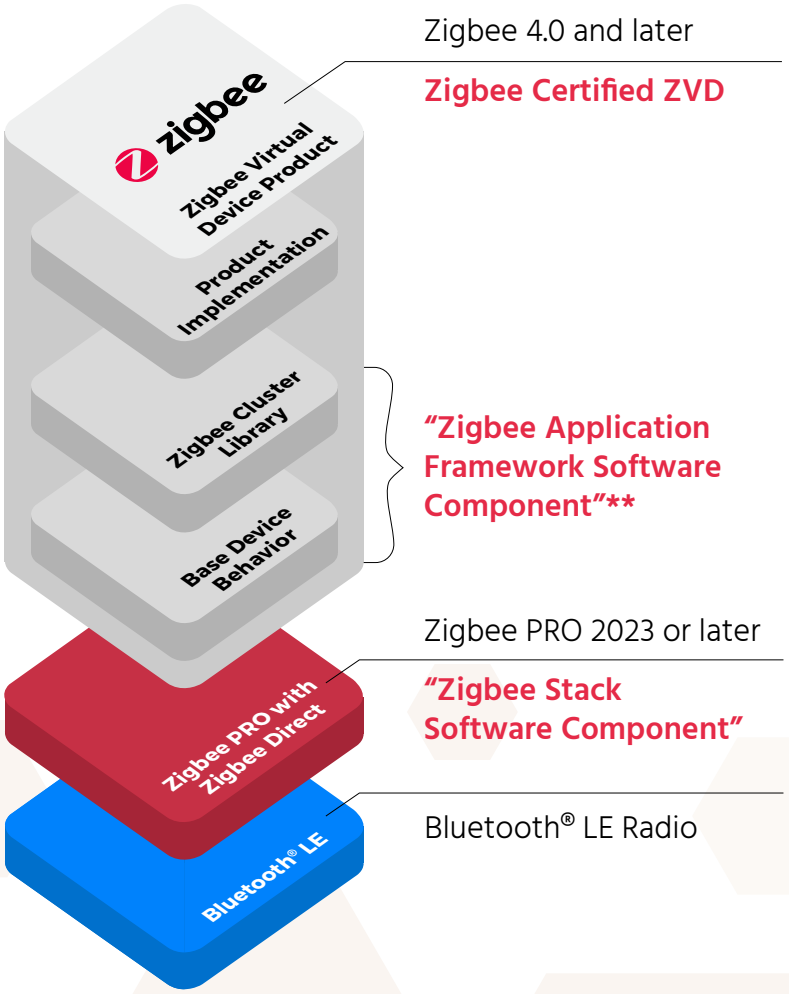
Network Tunneling Service: Encapsulates Zigbee control messages over Bluetooth® LE.

3 Develop and Test ZVD Functionality

Implement Zigbee Stack: Integrate the stack in-app or use pre-certified stack software components.

Enable Bluetooth® LE Scanning: Discover nearby Zigbee Direct Devices (ZDD).

Secure Tunneling: Establish secure session to pass Zigbee commissioning and tunneling over the Bluetooth® LE link.



4 Alliance Certification

Complete Zigbee Direct Software Components certification for the ZVD.

5 Deployment

Deploy via App Store updates, OTA upgrade, or new product launches.

* Consult your chipset/stack vendor for more information.
** Only required for control use cases.

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How To Enable Zigbee Direct for Your Products (ZDD)

A **Zigbee Direct Device (ZDD)** is a device that has both Zigbee and Bluetooth® radio onboard and is used as a proxy between a ZVD and a Zigbee network. Using a secure Bluetooth® Low Energy connection, the ZVD is able to onboard and control devices on the Zigbee network.

1 Hardware Requirements

Devices with Zigbee and Bluetooth® LE 4.2+ can be enabled for Zigbee Direct via firmware update*.

2 Integrate Bluetooth® LE Services

Security Service: Secures communication and security key exchanges.

Commissioning Service: Onboards Zigbee devices over Bluetooth® LE.

Network Tunneling Service: Enables Zigbee control messages over Bluetooth® LE.

3 Develop & Test ZDD Functionality

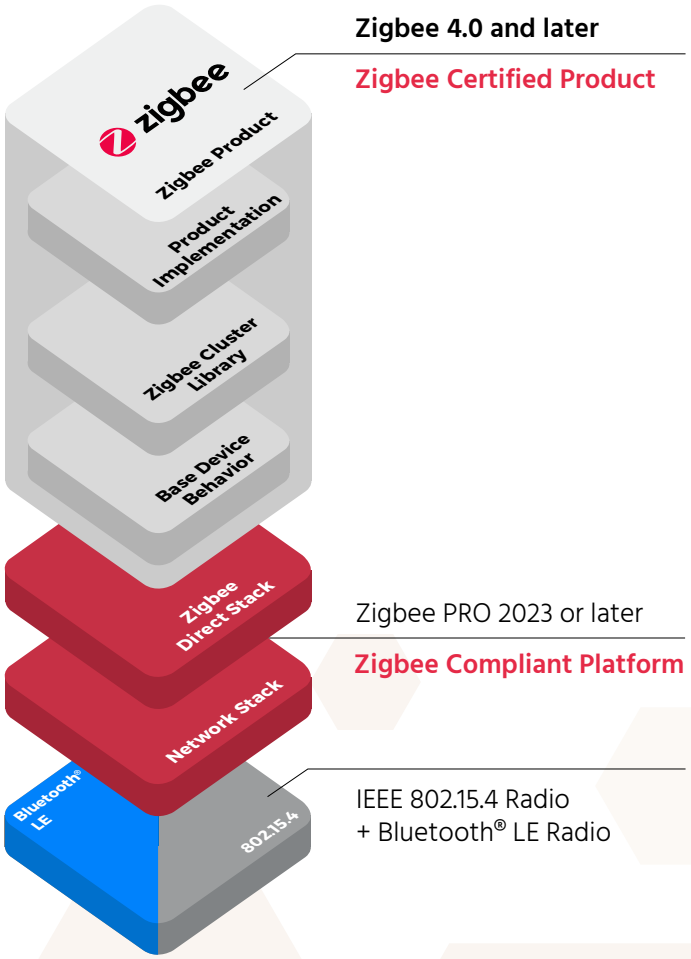
Enable Bluetooth® LE advertisement for Zigbee Direct

Implement Bluetooth® LE GATT profile for Zigbee Direct

Integrate secure key exchange mechanisms

Allow Bluetooth® LE-based commissioning and control

Ensure your device can act as an interface to Zigbee Virtual Devices



4 Alliance Certification

Complete Zigbee Direct Software Components and Zigbee Product certification.

5 Deployment

Deploy via OTA firmware updates to existing field devices or launch new products.

* Consult your chipset/stack vendor for more information.

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Learn more at https://csa-iot.org/zigbee-direct and start building with Zigbee Direct today!

Join us and help shape the future of the IoT at csa-iot.org!