

Blue SDK Mesh

Description

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Bluetooth Mesh is an entirely new Bluetooth technology that enables secure, reliable systems of tens to thousands of connected devices. Mesh is a new topology for Bluetooth, which allows for many-to-many communications. This provides the possibility for extending the range of the network by repeatedly relaying data to nearby devices. Furthermore, Bluetooth Mesh is highly scalable, allowing for up to 32,767 devices in a single network. Advanced security is provided at both the network and application layers, offering AES-CCM 128-bit encryption, authentication, and packet obfuscation. In addition to these security features, mesh is highly reliable, self-organized, and self-healing, which means it is able to dynamically distribute workloads and eliminate the possibility for a single point of failure if a node breaks. Bluetooth Mesh also offers the responsiveness needed to control hundreds of devices simultaneously, which can enable new IoT applications. Bluetooth Mesh leverages the ubiquity of smartphones, tablets, PCs, and other smart devices by offering compatibility with the large, installed base of Bluetooth Low Energy devices, allowing them to participate in the mesh network. These key factors offer clear advantages for Bluetooth Mesh over other mesh protocols as the leading solution for enabling the next-generation of innovative IoT device networks and automation systems.

A Robust Bluetooth Mesh Solution from the Industry Leader in Bluetooth Interoperability

While Bluetooth Mesh enables many, nearby smart devices to talk to each other, a key challenge remains interoperability. Though Bluetooth mesh is widely regarded as an interoperable protocol, interoperability is highly complex, incurring extensive, costly, ongoing support and maintenance due to a vast market of devices and brands that continually need to maintain a controlled user experience with one another. This market fragmentation creates the need for a solution offering flexibility and control to ensure reliable communication across many platforms. Blue SDK Mesh is a complete Bluetooth mesh protocol stack that was built by world-leading experts in interoperable Bluetooth stack design specifically to address this problem. Based on Blue SDK, the leading Automotive Bluetooth solution for over 20 years, Blue SDK Mesh provides the same flexibility, functionality, and robustness needed to meet even the most complex interoperability requirements. Other Bluetooth stacks do not offer the same level of flexibility or control, causing wasted time and compromised quality. Blue SDK Mesh is a powerful, easy solution for even the most complex Bluetooth Mesh device networks.

Easily Handles Complex, Industrial IoT Use Cases

Blue SDK Mesh is a highly robust and flexible Bluetooth mesh implementation, enabling advanced control, monitoring, and automation solutions to be developed without the typical troubles that come with open-source Bluetooth software. Blue SDK mesh offers a highly flexible API, developed by highly experienced Bluetooth engineers, to avoid interoperability problems and provide mechanisms for addressing issues caused by poorly behaving devices. Blue SDK Mesh offers the control to maintain a high level of stability with the precision to prevent crashes while maximizing hardware capabilities. Blue SDK mesh gives engineering teams full confidence to easily achieve the highest level of quality, especially for critical devices and systems where failure would be catastrophic. This flexibility, robustness, and added functionality make it simple to build Industrial-grade Bluetooth Mesh device networks and systems that demand exceptional functionality and longevity: Implement advanced features and functionality for Lighting, Appliances, Machines, & Systems that have not been previously possible or cost-effective. Centralize the control of multiple systems for unified management and shared data. By sharing data, cross-system automation is possible allowing for self-controlled building systems. Connecting essential building systems such as lighting, HVAC, Safety, and Security, allows these systems to conserve energy, lower operating costs, and increase appliance lifespan. Implement monitoring systems such as wireless sensor networks and intelligent machines to provide real-time information, such as device status and health, measurements, system performance, manufacturing tolerances, and occupancy. Simplify device deployment and maintenance while improving system reliability with the self-organized, multi-path network infrastructure. Blue SDK Mesh provides more robust APIs than other solutions, including mechanisms for tuning and customization that make it easy to meet highly complex requirements and ensure conformance with high-quality standards.



Flexible, Robust, Secure

- Easily handles complex interoperability requirements
- Enables control, flexibility, and robustness
- Obfuscation, Authentication, and Encryption keep data secure
- Based on Blue SDK, industry leading Bluetooth solution for 20+ years

Works with any Hardware

- Abstraction-based source code for easy porting
- Get up and running with a new hardware platform within hours
- Easily bring mesh technology to existing Bluetooth LE platforms
- Easily bring other Bluetooth technologies to mesh platforms

Easy Integration & Updates

- Designed to allow for simple and easy updates
- Extendable API to add additional features and functionality

Decreases Costs & Time To Market

- Reduces dependency on chipset vendor support for Bluetooth
- Fast response and resolution for bug/issue support from team of experts
- Frees engineering resources to work on non-Bluetooth features

Industrial IoT Ready

- Proven flexibility and functionality to support complex IoT requirements
- Provides API and tools for easy mesh model creation

Bluetooth

- Mesh Profile Specification 1.0.1
- Mesh Model Specification 1.0.1

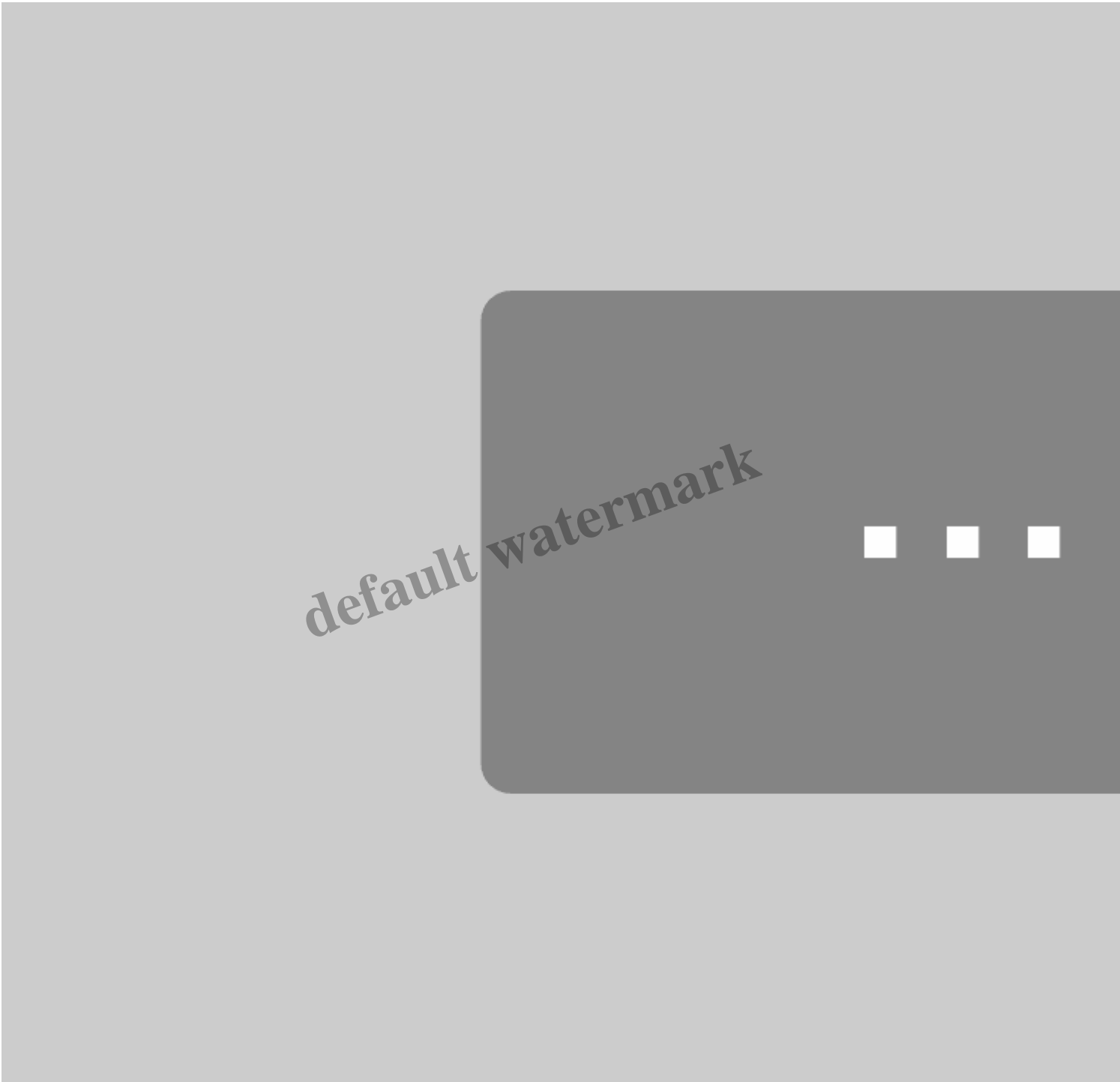
Prerequisites

- Blue SDK 6.x or newer
- LE SDK 3.x or newer

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Bluetooth LE Gateway, Mesh for IoT, Architecture and Constraints



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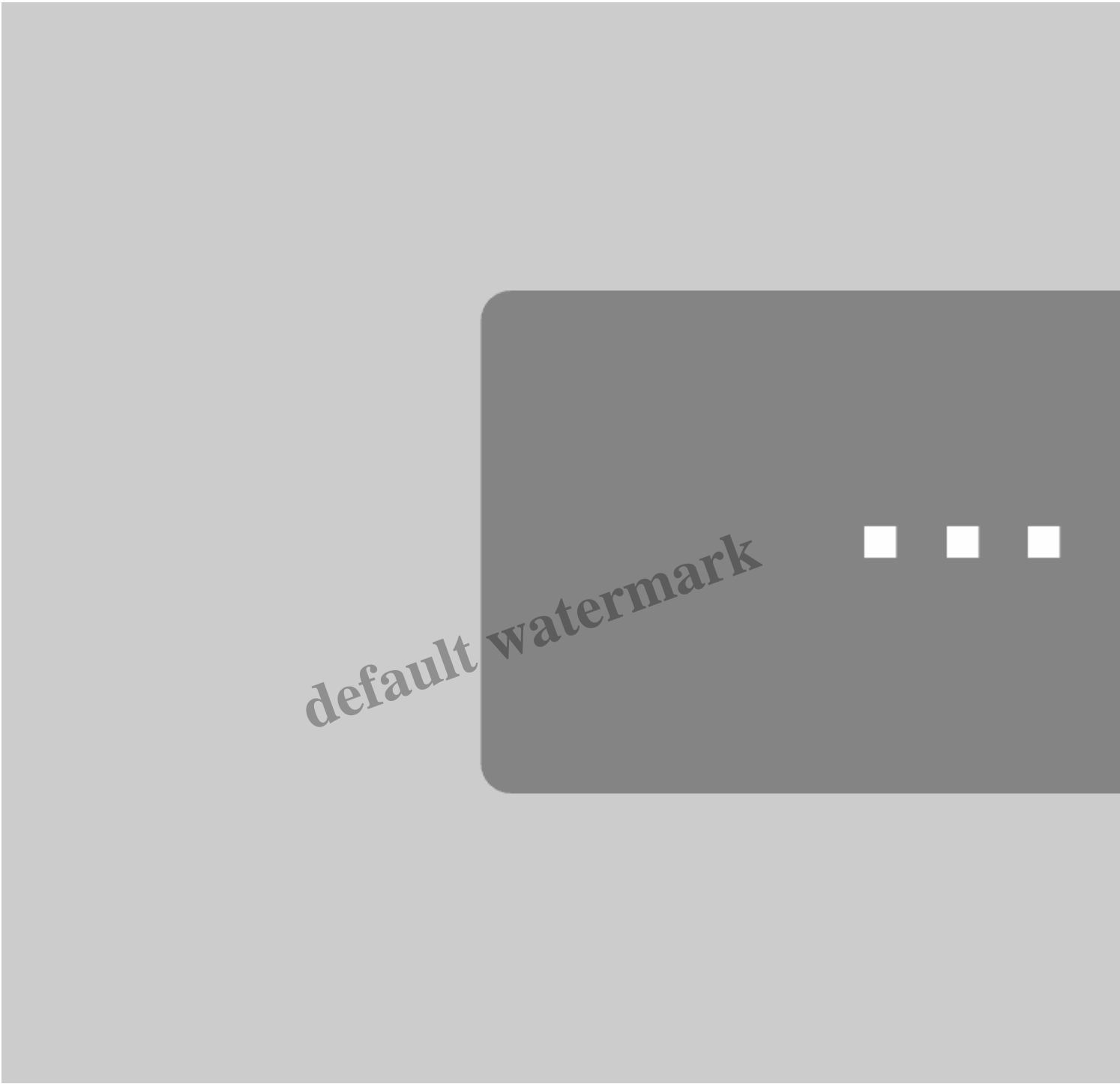
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