BOSCH
Invented for life

Bosch IoT Suite

Bosch IoT Edge

Service Name

Bosch IoT Edge

Service Description

Bosch IoT Edge is an integrated set of tools and services that work together to connect diverse IoT devices locally and to the cloud, set communication between devices, and develop scalable IoT applications that bring together IoT device data processing and services where they can best optimize outcomes.

Essential IoT enablement at the edge

- **Cloud connectivity via MQTT:** Automatically connect devices to the cloud; send telemetry data and receive operations from the cloud; command and control devices; buffer messages during connection loss.
- **Local messaging over MQTT:** Develop loosely coupled event-driven applications that exchange messages over a local MQTT message broker.
- **Containers management:** Package applications into OCI containers to ensure better isolation, availability, reliability and dependency management; use most fit-for-purpose technology and frameworks for IoT applications.
- **Software updates:** Deploy and manage software components at the edge using the standard software management model; update and upgrade IoT devices and gateways; out-of-the-box updates for OCI containers and device firmware.

Extended device connectivity and advanced edge-computing capabilities

- **Device connectivity via gateways:** Connect diverse devices using different IoT protocols: Z-Wave, Zigbee, KNX, DECT ULE, IP cameras, ONVIF, Bluetooth LE, EEBus SPINE, EEBus SHIP, Home Connect, Modbus, UPnP, and BACnet.
- **Uniform resource and device representation:** Model connected devices and their functions, historical data, groups, and edge services; modeling approach at the edge compatible with the cloud using the Eclipse Vorto generator and importer.
- **Local rules engine:** Automatically trigger the execution of instruction flows (conditions and actions) to monitor and control various aspects of the edge.
- **Local data storage and history:** Configure your devices and automatically collect, store, manage, and transform device data.
- **Analytics and AI enablement:** Deploy and run analytical algorithms and machine learning models over IoT device data locally using standard containers and messaging.
- **APIs on edge coherent with cloud:** Manage connected IoT devices, IoT device data, and edge services using the Things MQTT API or Things HTTP API – locally or from the cloud.

Supported Platforms

Bosch IoT Edge uses lightweight native components that can run on a choice of platforms from small microcontrollers to powerful edge computing nodes (*ECNs*). The smallest deployment would be in the small microcontrollers segment, using the Bosch IoT Edge Agent for *Zephyr*. The Bosch IoT Edge Agent for more powerful *Linux ARM* or *Linux x86_64* platforms allows access to more advanced features such as containerization or edge services that can be deployed using optimal system resources. For more information visit Edge platforms.

Resilience

- Due to the nature of distributed systems and network-based communication, your devices and applications need to be able to bridge small interruptions or latencies.
- All usage of our service by APIs should apply a systematic approach for managing re-tries incl. an exponential back-off, as well as re-connects.
- For more information visit the General retry and reconnect guidelines for applications and devices, part of our user documentation.

Privacy Leaflet

Find information about data protection and privacy topics of the Bosch IoT Suite – privacy leaflet.

Bosch IoT Suite

https://bosch-iot-suite.com/
https://www.bosch-digital.com/

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