

A BUILDING BLOCK FOR IOT PLATFORMS



As a building block for robust Internet of Things (IoT) platforms, HARMAN IoT Gateway a complete end-to-end solution with modular software architecture and hardware flexibility. With the development of the IoT Gateway, HARMAN is delivering a key component for a managed services solution which improves asset utilization, reduces operational expenses, enables just-in-time inventory management, elevates customer experience for a variety of industries and verticals, including manufacturing, building management, healthcare, retail, automotive and smart city settings

Key Features

HARMAN's secure, standards-based, cross-platform solution supports third-party sensors and cloud platforms, giving customers a flexible, modular, future-proof foundation for their IoT strategy. Some of the key features enabling these capabilities include:

1. Interoperability

The device enables faster deployment by making interoperability with an array of 400 sensor varieties. Besides Wifi, the solution supports radio frequency (RF) over a wide variety of specifications. As a result, all of the protocol for sensor connectivity such as Wi-Fi, Bluetooth (Low Energy), Zigbee (home automation, Light link, Smart Energy), LoRA (Outdoor Variant – 868 MHz band), Cellular (LTE and 3G) are supported. The gateway automatically discovers the sensors and, with the help of a companion mobile app, starts gathering the data from those sensors in a matter of minutes. Such plug-and-play interoperability saves hours of programming and configuring time for the deployment team.

2. Enhanced Security

With incessant news in the press about attacks such as Mirai delivered using IoT sensors and devices, the issue of authentication remains front and center for many organizations looking to adopt IoT. With HARMAN's partnership with Entrust-Datacard, a PKI based managed security protocol is supported to ensure that the integrity and access to the sensors and devices is protected.

3. Ease of Management

Remote Management of IoT Solutions involves firmware upgrades, provisioning, diagnostics, basic troubleshooting, security patches, and configuration changes, all of which could be delivered remotely to the IoT devices. For device management, the solution supports Lightweight M2M (LWM2M) standard for device management.

For bandwidth constrained scenarios, the gateway comes built in with a HARMAN over the air (OTA) technology client to enable updates using the smallest possible cost-efficient software payloads. The HARMAN OTA updates are one-tenth the size of the normal file-image updated over LWM2M - leading to not only substantial savings in network cost and upgrade time but also enabling upgrades of devices in areas where connectivity might be sparse or weak.

Why HARMAN?

Shortening Time-to-Market

Shorten your time from concept to delivery using our best practices, turn-key delivery models and rich talent pool.

Cross-platform

Take advantage of our experience in multiple industry verticals and leading platforms to rapidly exploit new market opportunities.

Global delivery footprint

Our skilled, talented engineers deliver solutions to companies like yours from centers throughout the world.

Solution accelerators

Get access to leading edge innovation and best practice by using our solution accelerators and global pool of partnerships.

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4. Access to Analytics

By logging on to an easy web interface, users can set policies for gateway to determine how to treat the volumes of data from the sensors. An intelligent store and forward policy may be set up to facilitate analytics of relevant data streams. The gateway comes with a data manager module based on SQLite with Application program interface (API) to process the data either at the edge or at the backend.

The capability of the gateway to perform edge analytics gives it the ability to send safety or urgent alerts gleaned from sensor data directly to the users, based on certain stringent criteria, without needing to wait on results from the analytics. On the cloud analytics front, the IoT gateway solution comes ready with support for Telit ILS, Sierra Wireless Airvantage, Microsoft Azure IoT Hub, Interdigital OneM2Power, IBM – Watson . MQTT, CoAP, AMQP Protocol Adapters.

IoT Gateway Feature Summary

Feature Set	HARMAN IoT Gateway
RF Network	Wi-Fi+ BT/BTLE ZigBee – HA, LL, SE LoRA (Outdoor Variant – 868 MHz band) Cellular (LTE and 3G)
Sensor Ecosystem supported	400+ ecosystem of COTS sensors pre-integrated and support out of the box, well defined SDK API to add new sensors
Device Management	Pre- integrated HARMAN OTA solution with delta upgrade LwM2M client integrated
Security	PKI based managed security supported
Edge Analytics	Policy Engine available to develop Edge analytics
Data Management	Data manager module SQL Lite DB , APIs to consume data at the edge and backend
Cloud Connection	Out of Box Cloud Support – Telit ILS, Sierra Wireless Airvantage, MS –Azure IoT Hub, Interdigital OneM2Power, IBM – Watson . MQTT, CoAP, AMQP Protocol Adapters supported out of the box.
Commercial Deployment	Commercial Deployments in Smart Building, Smart Retail, Smart City

Partner with an industry expert

HARMAN Connected Services, a leader in software design and development, helps global brands dramatically reduce time-to-market while improving quality and productivity. Our end-to-end software engineering, IoT and data analytics services enable the world's top automotive, mobile and communications and software-enabled businesses drive innovation-led growth. Via our over-the-air (OTA) software update, virtualization and device management solutions we keep billions of mobile, automotive and IoT devices of all sizes and complexity continuously and reliably relevant and secure. The mobile devices and intelligent systems that we power are connected, integrated and protected across all platforms and reach every corner of today's digital world. HARMAN Connected Services is a division of HARMAN (NYSE:HAR), the leading global infotainment, audio and software services company.

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