



Reliable Connectivity

Gateway can deliver reliable connectivity and seamless failover across all available wired and wireless network resources using fog computing technology

Boosted Bandwidth

By leveraging multiple available network resources simultaneously, the Gateway can offer an enhanced experience through adequate capacity

Embedded AI

Enable edge services on the Gateway, such as video analytics and data thinning to reduce cloud dependency, save cost, and improve operational efficiency

Security

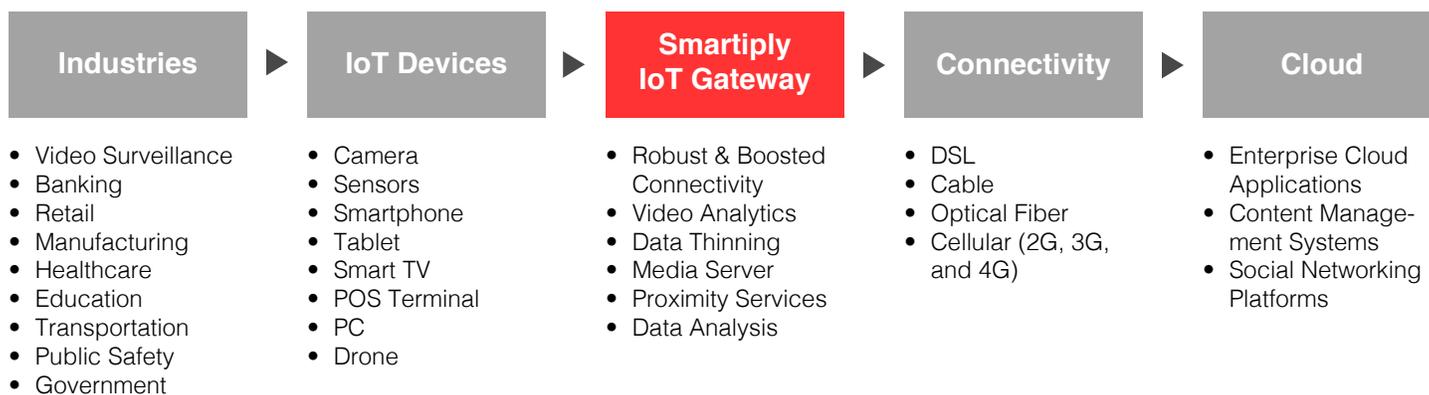
IPSec, VPN, and distributed computing across multiple network resources ensure that the data is encrypted and transactions are secure

Overview

The Smartiply IoT Gateway SH-1601 is a next generation device designed to deliver innovative connectivity solutions to enhance customer experience and enable edge intelligence to improve operational efficiency. The Gateway is a high-capacity hardware that enables robust and boosted connectivity, and fog computing at the network edge to solve for a variety of business needs across industries, in both fixed and mobile environments. The modular hardware architecture allows for capability enhancements making the Gateway a flexible and easy-to-manage multiservice endpoint.

IoT Value Chain

A typical IoT Value Chain comprises of the following key elements shown in the diagram below. Connectivity plays a critical role and the lack of reliable and adequate connectivity impacts businesses and consumers. The Smartiply IoT Gateway not only addresses the connectivity challenges using the fog computing paradigm but it also enables a multitude of capabilities through Embedded AI that were never possible nor imagined before.



Use Cases

Video Surveillance

Video Surveillance companies are unable to stream live video and monitor locations effectively due to inadequate connectivity and unexpected downtime, resulting in increased risk, losses, and SLA breach. Rapid growth in the industry is also prompting companies to expand their monitoring facilities, increasing cost of operations and putting pressure on profitability.

The SmartiPLY IoT Gateway enables reliable and boosted connectivity to ensure uninterrupted video streaming and seamless failover, thereby mitigating all risks. The Embedded AI capability on the device promptly detects suspicious behavior locally and makes timely decisions, without the need for the cloud. Local data analytics enables data thinning which ensures that the network resources are used optimally and the cloud is not strained unnecessarily. The intelligent workflow mechanism ensures that only the video streams that need to be monitored are sent to the cloud, optimizing the monitoring facility resources to support growth. The media server function allows the viewing of live video streams regardless of the model being used for the camera or DVR, streamlining the monitoring operations and creating an opportunity to allow end customers to access the video feeds.

Banking

Connectivity issues in rural banks lead to incomplete or incorrect transactions, long customer wait times, losses due to process delays, and customer attrition. Many rural locations do not get the minimum required throughputs to enable seamless transactions. Failover from primary to backup networks may be frequent with unacceptable downtimes of up to 30 minutes.

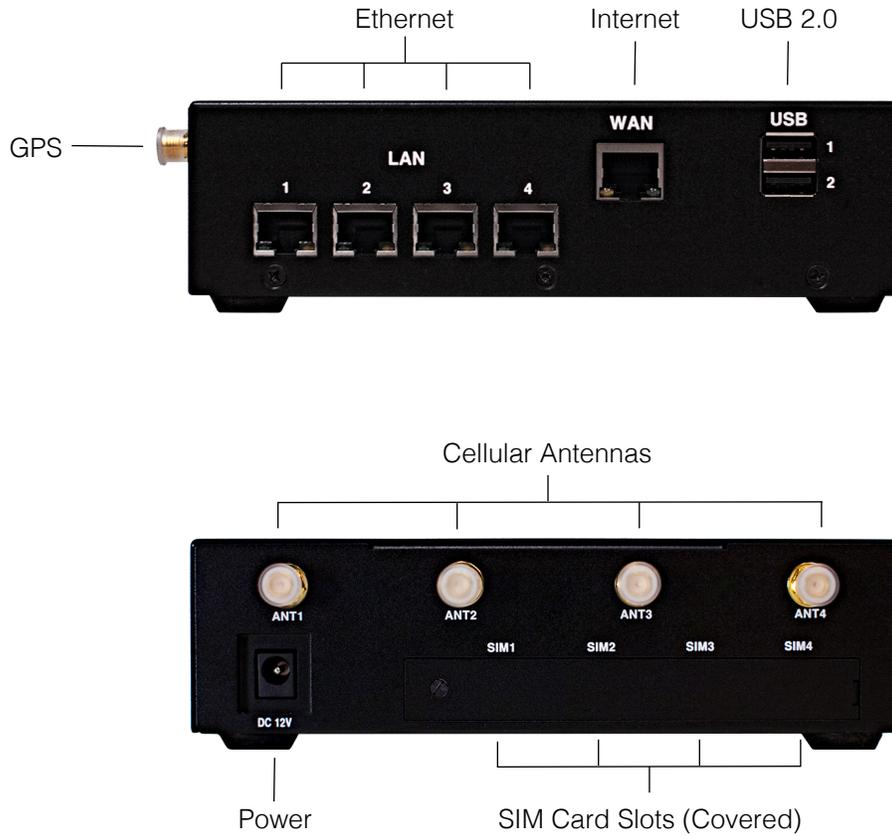
In addition to providing reliable and boosted connectivity to the banks to facilitate timely and uninterrupted transactions, the SmartiPLY IoT Gateway also provides the ability to execute certain transactions locally without the need to connect to the cloud. This reduces the unnecessary strain on the cloud applications. Delay tolerant transactions can also be partially executed locally in the event of a connectivity failure, and once the connectivity is restored the transactions can be completed processed. The information gathering and data analytics capabilities in the Gateway enables data thinning to ensure that only the relevant information is sent to the cloud during any transaction, reducing the load on the cloud, saving on connectivity cost, and improving transaction cycle time. Most importantly, the customer wait times are reduced or eliminated and the customer attrition is curbed.

Retail

Retail establishments are unable to successfully complete POS transactions or synchronize their field operations with the cloud due to unreliable and inadequate connectivity, leading to lost sales or offline transactions.

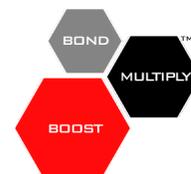
The SmartiPLY IoT Gateway fulfills the POS transactions by delivering robust and boosted connectivity and allowing certain transactions to be partially completed locally and then synchronized with the cloud as needed. The Gateway also enables multiple proximity based services such as proximity marketing to create a pull, consumer analytics, content sharing and distribution, and inventory management, all locally in the retail outlet thereby creating new revenue opportunities, improving customer experience, and improving operational efficiency.

Device Diagram



Specifications

CPU	Quad Core ARM Cortex-A53 1.2 GHz
SoC	Broadcom BCM2837
Memory	1GB LPDDR2 (900 MHz)
Network	1 RJ-45 autosensing 10/100 WAN port 4 RJ-45 autosensing 10/100 LAN ports
Wireless	4 Mini Pci Express Slots for Cellular Modules
SIM Slots	4 Mini SIM (25 mm x 15 mm)
USB	2 USB 2.0 Ports
Cellular Support	2G (GPRS, EDGE), 3G (WCDMA, HSPA, CDMA2000, EVDO), 4G (LTE, LTE-A)
Dimensions	175.40(w) x 171.20(d) x 49.35(h) mm
Power	12V 2.5A
Maximum Power Rating	30W
Storage	Micro SD Card (8 GB, expandable to 128 GB)
Operating Temperature	-40° C to 85° C
Antenna	SMA Female
Power Connector	Barrel Type 2.1 mm ID, 5.5 mm OD
Wireless LAN	2.4GHz 802.11 b/g/n (Optional)
Bluetooth	Bluetooth 4.1 Classic and BLE (Optional)
GPS	NMEA 0183 V3.0 (Optional)



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