

SMARTIPLY IOT GATEWAY

Several mission impacting problems plague IoT deployments globally. These issues are intensified by exponential growth in connected devices, video consumption, and reliance on the cloud, creating a barrier to IoT adoption:

- Network availability deficiencies due to insufficient bandwidth and periodic outages.
- Impaired performance due to cloud latency and resulting delayed action.
- Security risks during data transit, as well as data loss.
- Affordability issues due to high TCO and stranded investment in legacy sensor infrastructure.

KEY HIGHLIGHTS

Smartiply has created an innovative Fog Computing platform that leverages network, computing and storage resources at the Edge to invigorate Cloud-based IoT.

BOOSTED, RELIABLE CONNECTIVITY

By combining multiple wireline and cellular network resources simultaneously through channel bonding, the Smartiply IoT Gateway provides broadband capability where and when it's needed, using carrier diversity and seamless failover to enhance uptime.



EDGE INTELLIGENCE & COMPREHENSIVE “THING” SUPPORT

Smartiply IoT Gateway delivers new edge services, such as video analytics and data thinning to reduce cloud dependency, save cost, and improve operational efficiency. It also supports legacy analog and digital sensors / actuators, as well as wireless IoT protocols.

COMMUNICATION SECURITY

The Smartiply IoT Gateway ensures that the data is encrypted and transactions are secured using IPSec, VPN, and distributed computing across multiple path, carrier and route diversified network resources.

TARGET MARKET

PUBLIC SAFTY & SECURITY

Financial Services
Warehousing
Retail
School
Law Enforcement

GOV & ENTERPRISE IOT

Smart Cities & Villages
Transportation
Education
Healthcare
Broadcast TV

INDUSTRIAL MONITORING

Energy
Manufacturing
Oil & Gas
Mining
Agriculture



CORE FEATURES



SECURE, RELIABLE & BOOSTED CONNECTIVITY

Uninterrupted bonded VPN communication is enabled by defining and combining multiple wired and wireless channels, ideal for constrained networks, mobile and transportable implementations, and bandwidth hungry mission critical applications.



DATA OPTIMIZATION / THINNING

By making decisions locally and organizing data streams to reduce traffic to the cloud, multiple sensor feeds, including audio and video, are consolidated into a single stream before transmitting to the ops center.



TWO WAY COMMUNICATION AND CONTROL OF DEVICES

Integrated two-way communication is enabled between the ops center and Gateway / sensor arrays, such as PTZ cameras as well as pre-recorded audio artifacts, which are stored locally and triggered in response to events in the field.



LOCAL SENSOR / VIDEO ANALYTICS

The device offers core analytics capabilities locally, without the need to go to the cloud or rely on human intervention, such as crowd counts, zone monitoring, restricted area sensing, and cleanliness monitoring. The GPS Watchdog feature provides immediate notice of tampering and current location.



LOCAL STORAGE & NVR

The device is equipped with expandable storage capacity and network video recording, indexing, tagging, and retrieval functionality, offering comprehensive content management via the web portal.



COMPREHENSIVE DEVICE & NETWORK MANAGEMENT

The web portal enables configuration, diagnostic system status / health checks / alarming, firmware upgrades, tenant isolation and user permissions on single or multiple devices remotely.



REMOTE AND ONSITE CUSTOMER ACCESS

End users can also be authorized to view location video, live or prerecorded, either through the web or portal or the Smartply mobile app from anywhere, including on site via WiFi AP.



THIRD-PARTY HARDWARE / SOFTWARE INTEGRATION

The Gateway provides for integration with a variety of devices, such as wired or wireless sensors, speakers, and microphones to enable customized solutions. Third-party software applications can also be integrated through the Smartply SDK.

USE CASES



SMART SECURITY

The Smartiply IoT Gateway provides secure, boosted and reliable VPN connectivity, and also embeds machine learning-based functions to detect suspicious behavior, and make alarm and routing decisions locally, without the need for consultation with cloud-based logic, or for human intervention. Local data analytics enables data thinning, ensuring that network resources are used optimally, and cloud resources are not burdened unnecessarily.

SMART CITIES & VILLAGES

The IoT Gateway platform supports multiple aspects of Smart City use cases, including the management of street lighting, air quality monitoring, traffic management, smart energy, waste management, community center connectivity, etc. It not only provides connectivity to ensure reliable communication with the “brain” of Smart City, but also enables local data processing, decision making, and execution, significantly improving efficiency.



LIVE VIDEO BROADCASTING

By providing portable, secure, boosted and reliable VPN connectivity in the field, the IoT Gateway ensures seamless failover, bandwidth bonding, and uninterrupted video streaming on location. The Gateway combines available network resources, any combination of wireline and wireless, and enables media and individual broadcasters to stream full-motion video and high quality audio anytime, anywhere.

AGRICULTURE

The IoT Gateway is ideal for use in rural agricultural areas with connectivity challenges, for applications such as monitoring of soil, environment, crop or livestock conditions, and even surveillance for high value harvests. The Gateway collects and analyzes data, triggers actuators locally, for applications such as irrigation, and returns meaningful insights to the cloud for agricultural big data analysis.



HEALTHCARE

Implementation of new capabilities in telemedicine and remote clinical care has been negatively impacted by inadequate and unreliable connectivity in the field, especially in developing countries. The Gateway directly addresses those problems and provides additional value to remote healthcare professionals by analyzing medical data locally and generating real-time insights for their reference and action.

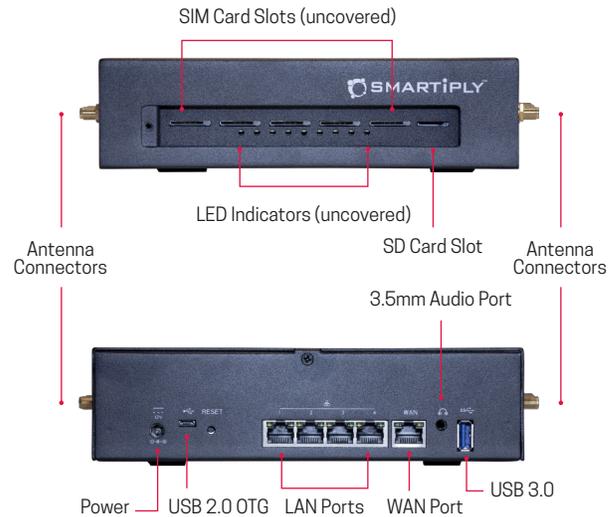
TRANSPORTATION & LOGISTICS

The Smartiply IoT Gateway is ideal for mobile and transportable applications where wireline broadband is unavailable. In addition to sensor data collection addressing vehicle health, cargo area environmentals, schedule and route compliance data via embedded GPS capability, the Gateway can also facilitate real-time audio and video monitoring of valuable or sensitive payloads.



TECHNICAL SPECIFICATIONS

IOT GATEWAY



CPU	Quad-core ARM Cortex-A7
GPU	Mali 450 MP4
RAM	2GB DDR3
Storage	8GB eMMC
Additional Storage Support	MicroSD (TF) card up to 64GB, SATA III up to 4TB HDD
Network	1 × 10/100/1000 Mbps WAN Port 4 × 10/100/1000 Mbps LAN Ports
Wireless	WiFi 802.11 a/b/g/n 2.4GHz Bluetooth 4.1 BLE
SIM Slots	4 × Mini SIM (25 mm × 15 mm)
Cellular Support	2G, 3G, 4G (LTE, LTE-A)
USB	1 × USB 3.0 Host, 1 × USB 2.0 OTG
Audio In / Out	3.5 mm CTIA Audio Port
Power	12V 3A 36W, Barrel Type 2.5 mm ID, 5.5 mm ID
Operating Temperature	-40 °C to 70 °C
Antenna	4x SMA Female
GPS	NMEA 0183 v3.0
Dimensions	200 (w) × 167.5 (d) × 54 (h) mm
Configuration Options	Digital & analog I/O boards; Wireless sensor board; Single antenna

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