IoT as a Service: How CSPs Can Move Up the Value Chain with SMB Asset Management Services

Executive Summary

Communication Service Providers (CSPs) face a new challenge: Differentiating themselves in the IoT and in the business services space. Instead of offering basic connectivity solutions, RAD's innovative IoT as a Service solution empowers CSPs to generate more revenues in serving their Small and Medium Business (SMB) customers, delivering a **complete, out-of-the-box asset management service**. This helps SMBs in their digital transformation, allowing them to remotely monitor all in-building assets, and unlocking valuable business insights for improved operational efficiency.
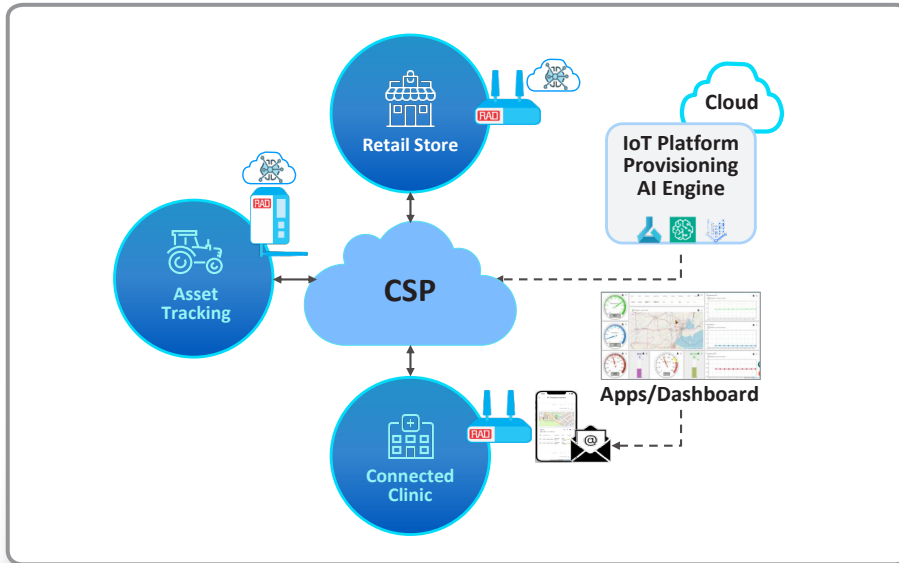
The Evolving CSP Landscape

Telcos' offering has traditionally focused on enabling connectivity of IoT devices: providing SIM cards with targeted data plans to IoT devices. Now, CSPs seek to move up the IoT value chain. They can do that by shifting the focus to **unlocking the value of data** collected by connected devices and sensors. By offering self-installed asset monitoring and management services specifically tailored to SMB needs, they can eliminate the technical burden on their customers, who otherwise would need to design and deploy complex solutions.

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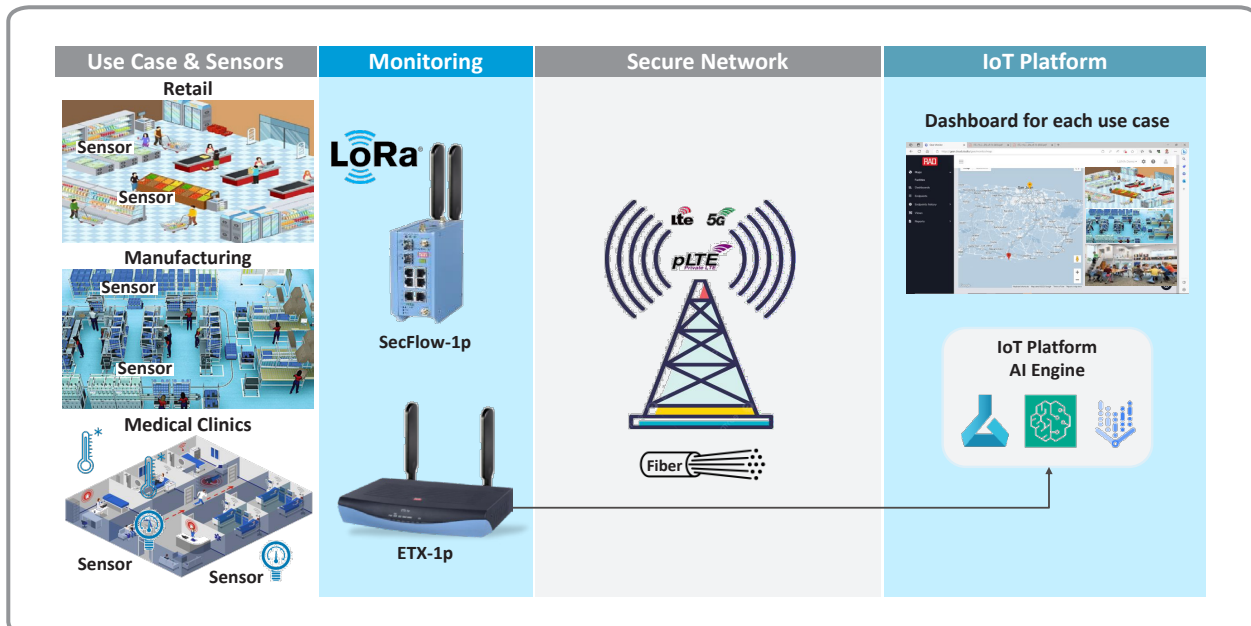
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IoT As-a-Service for SMBs

RAD's Out of the Box IoT as a Service Solution

RAD's solution includes smart sensors to monitor temperature, humidity, movement and other conditions, as well as IoT gateways for connectivity and data transmission, and an IoT platform for data collection, analysis, and display. The solution can also incorporate an e-commerce marketplace, which enables CSP SMB customers to select and purchase the service package and elements they need. It includes billing APIs to simplify the billing process for both CSPs and customers.

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Customers can monitor their assets from anywhere and receive periodic reports from collected data points to keep tabs on their business. They receive alerts when operations are disturbed so that they can act. They can reduce their costs, increase their own customers' experience, comply with regulations, and meet their ESG (environmental, social, and governance) goals.

Use Case Example: Cold Storage Monitoring

RAD's IoT as a Service solution allows users to remotely monitor and record status in refrigerators, coolers and freezers. They receive alerts when temperature, door open status, or leaks require their attention.

This solution allows users to easily monitor and manage:

Food Safety Compliance: Track and record refrigeration temperatures and humidity. Alert staff if conditions deviate from safe levels.

Door Status: Alert on open fridge/freezer doors to correct before temperature impact and food/energy waste.

Condensation: Monitor humidity, doors, leaks to detect condensation that causes ice buildup, increased temperature, unpleasant odors and spoiled food.
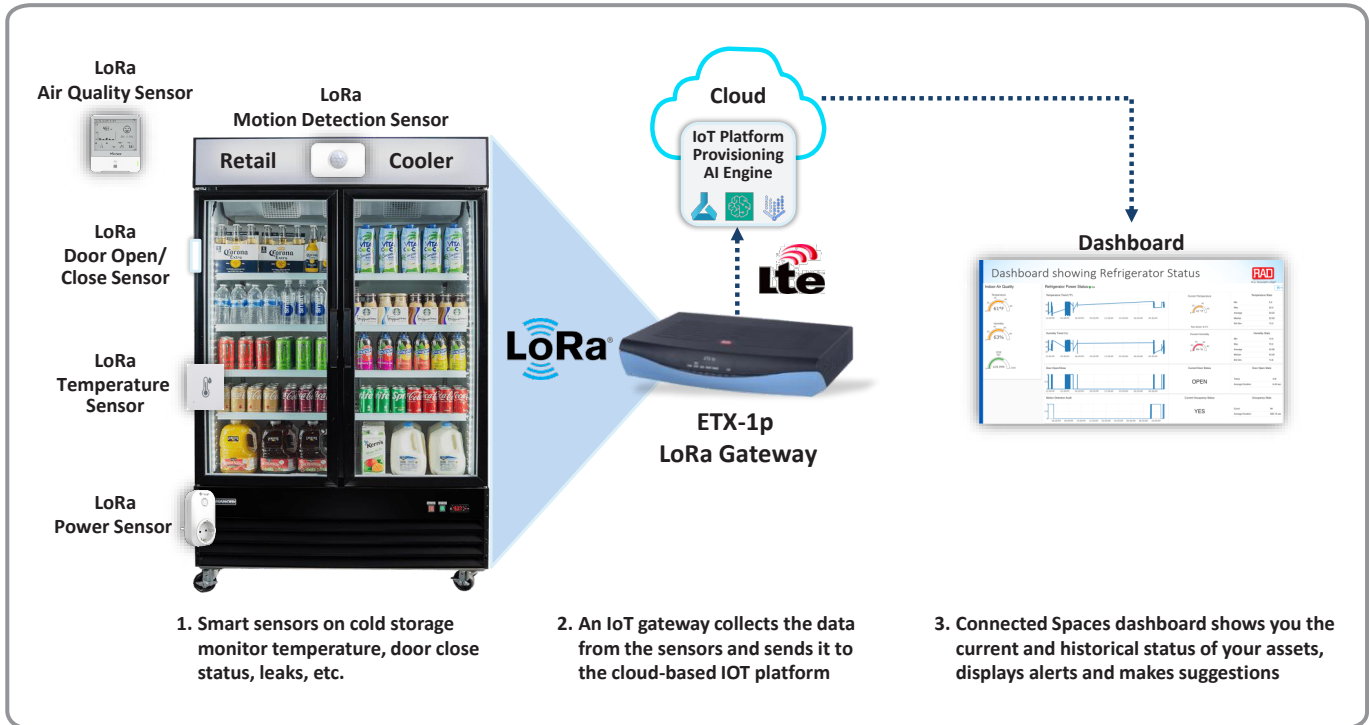
Interior Fridge Leaks: Identify clogged drain, damaged system seals or damaged food packaging.

Exterior Fridge Leaks: Quickly identify a clogged defrost drain that could prevent the fridge from freezing

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Here's a description of how the solution works:

LoRa Air Quality Sensor

LoRa Motion Detection Sensor

Retail | **Cooler**

LoRa Door Open/ Close Sensor

LoRa Temperature Sensor

LoRa Power Sensor

LoRa

Cloud

IoT Platform Provisioning AI Engine

Lte

ETX-1p LoRa Gateway

Dashboard

Dashboard showing Refrigerator Status

1. Smart sensors on cold storage monitor temperature, door close status, leaks, etc.

2. An IoT gateway collects the data from the sensors and sends it to the cloud-based IOT platform

3. Connected Spaces dashboard shows you the current and historical status of your assets, displays alerts and makes suggestions

The dashboard shows the cooler status with real-time temperature and history, indoor air quality, power status, door status, and motion detection. AI-based insights can provide preventive maintenance alerts for potential issues with compressors based on interval changes in temperature fluctuations and identify issues with door operation, such as potential obstructions or maintenance needs. Motion detection data combined with door opening data can also suggest changes to the product mix for better customer experience and inventory management, forecast restocking anomalies, and more.

The solution is ideal for various industries and use cases, including:

- **Restaurants and Food Services:** Monitor temperature and humidity in refrigerators, preventing food spoilage and ensuring optimal food safety.
- **Retail:** Optimize energy consumption by monitoring HVAC systems and lighting usage.
- **Medical Clinics:** Gain real-time insights into environmental conditions like temperature and humidity, ensuring patient comfort and medical equipment performance.
- **Property Management:** Detect water leaks and manage building occupancy for efficient resource allocation.

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Competitive Advantage for CSPs:

- **Differentiate your offering:** Stand out from the competition with a comprehensive IoT service that sets you apart.

- **Unlock new revenue streams:** Attract and retain SMB customers with a valuable service.

- **Strengthen customer relationships:** Become a trusted advisor to SMBs and build lasting partnerships by empowering their succes.

Helping SMBs with Their Digital Transformation:

- **Improve operational efficiency and reduce costs:** automate tasks, reduce utility and insurance costs, reduce downtime and maximize labor efficiency.

- **Enhance customer experience:** Optimize store layouts based on customer behavior data.

- **Meet sustainability goals and comply with regulation:** Reduce energy consumption through data-driven insights, ensure safety and other standards are met.

- **Simplify day-to-day operations:** Gain remote access to asset data for informed decision making.

RAD's IoT as a Service Solution Highlights:

- **Effortless Onboarding:** Pre-configured sensors, gateways, and an intuitive platform allow low investment and easy deployment with minimal technical expertise required.

- **Seamless Integration:** An e-commerce marketplace simplifies sensor selection and purchasing. Sensors, gateways, and an IoT platform work seamlessly together.

- **Pre-Configured Dashboards & Alerts:** Gain immediate insights into asset health with user-friendly dashboards and automated alerts for critical events.

- **AI-Powered Optimization:** AI-powered analytics translate data into actionable insights for predictive maintenance, optimized energy usage, and customer behavior analysis.

- **Scalability and Customization:** Adapt the solution to new use cases and business needs.

- **Security First:** Data security is paramount. RAD's solution ensures secure data transmission and storage.

To learn more about RAD's IoT as a Service, contact us at, contact us at: market@rad.com.

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