PLUMTECH

DATASHEET

Kaa for Telecom Industry

Capabilities and Case Studies

- Flexible, hardware-agnostic Kaa IoT Platform
- Kaa Private IoT Cloud for enterprise
- Full-cycle IoT development services
- Over 100 engineers

About PlumTech

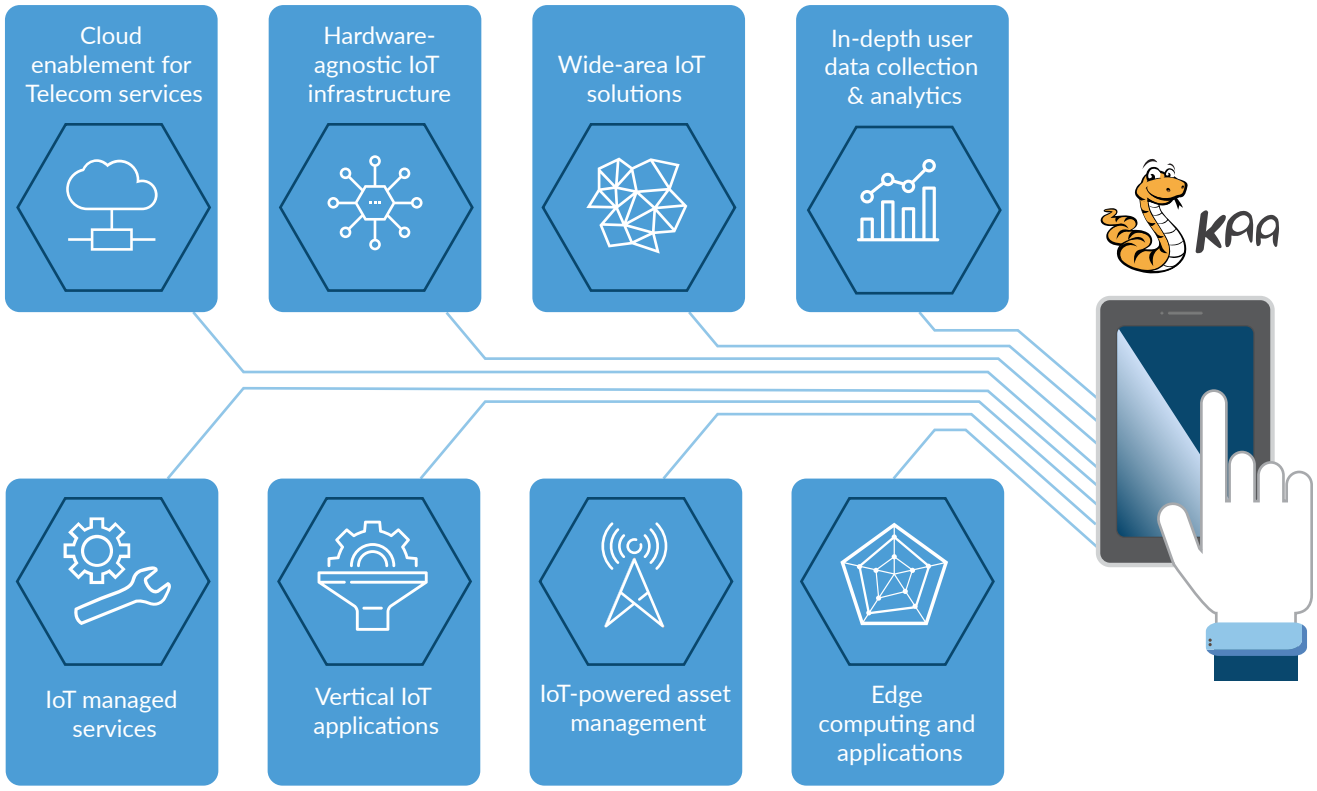
PlumTech provides software development services to create solutions for private enterprises and government agencies. PlumTech is an official system integrator of Kaa, a leading enterprise-grade IoT platform. Using Kaa's comprehensive set of IoT features and flexible cloud deployment, we implement end-to-end IoT solutions and smart products for a diverse line of industries.

Kaa for Telecom Industry

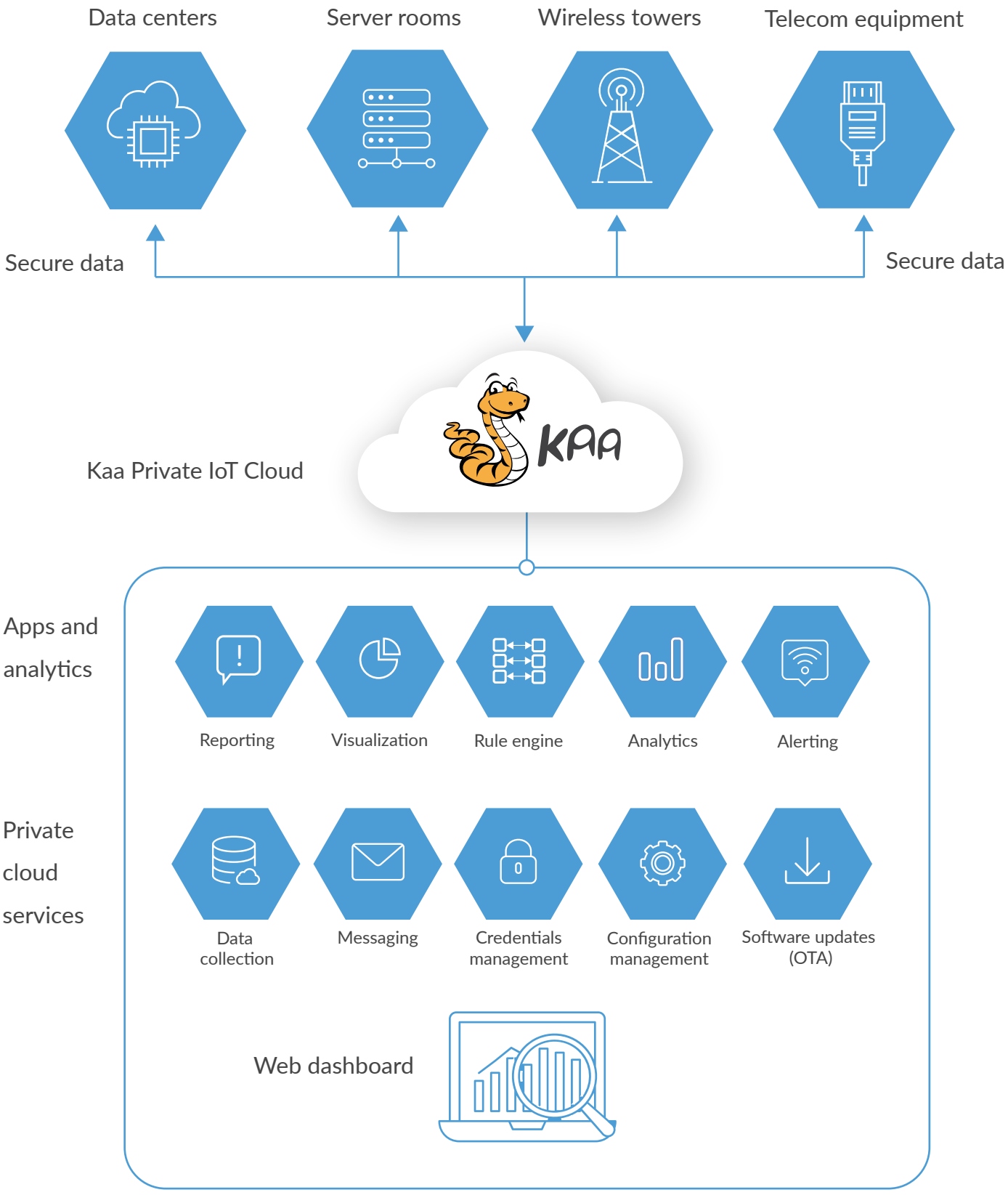
The IoT technology has markedly expanded the role of CSPs in modern day business in multiple ways. Capitalizing on their existing network infrastructures, Operators are uniquely positioned to deliver the new generation of managed IoT solutions to businesses and individual subscribers. Such services as fleet management, smart home, connected car, M2M billing are among the most growing segments on the market, but many more IoT use cases for Telcos are gaining traction.

Apart from enterprise-focused IoT solutions, Telcos can use the IoT technology to implement effective asset monitoring and predictive maintenance to minimize their infrastructure upkeep cost. This is even more crucial if they are to bid for wide-area projects in smart city and smart energy fields. By offering a full-stack of IoT infrastructure, operation, and development options, Operators may well become the helmsmen of the global IoT innovation. That's what we help them to do with Kaa.

What you can do with Kaa

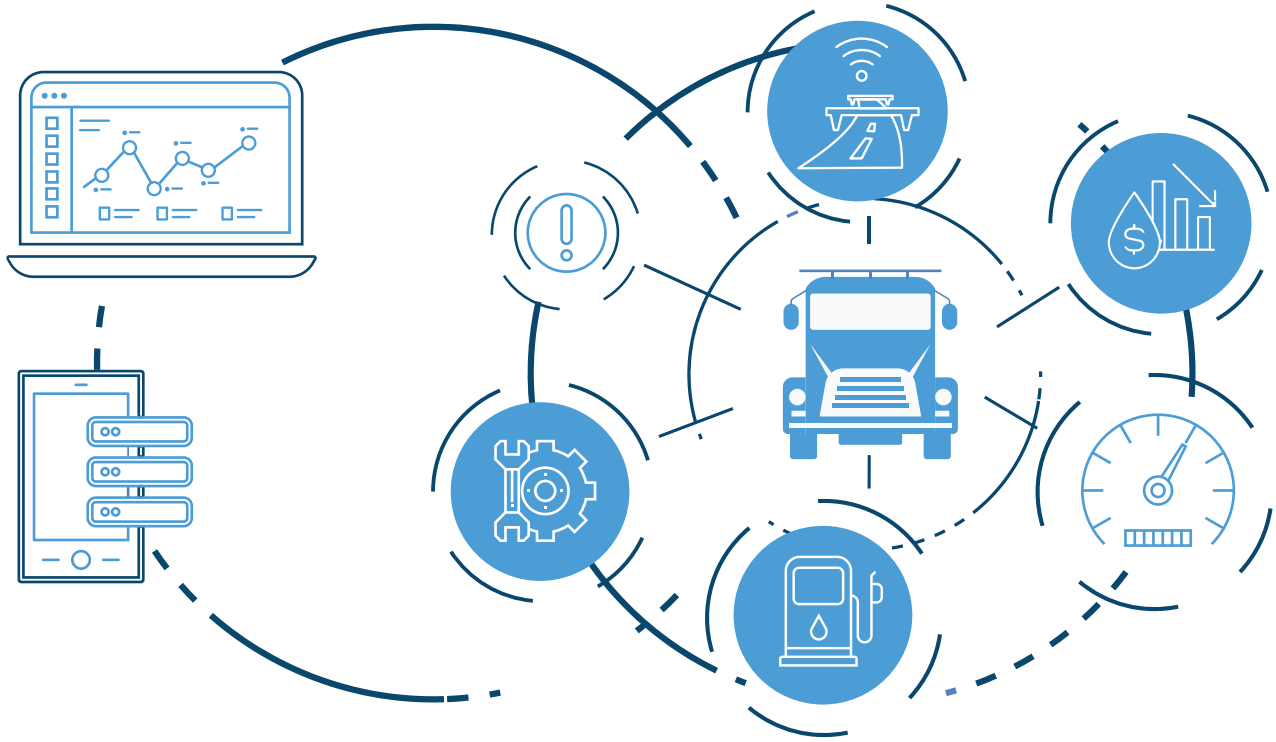


Kaa for Telecom asset management



Case study 01

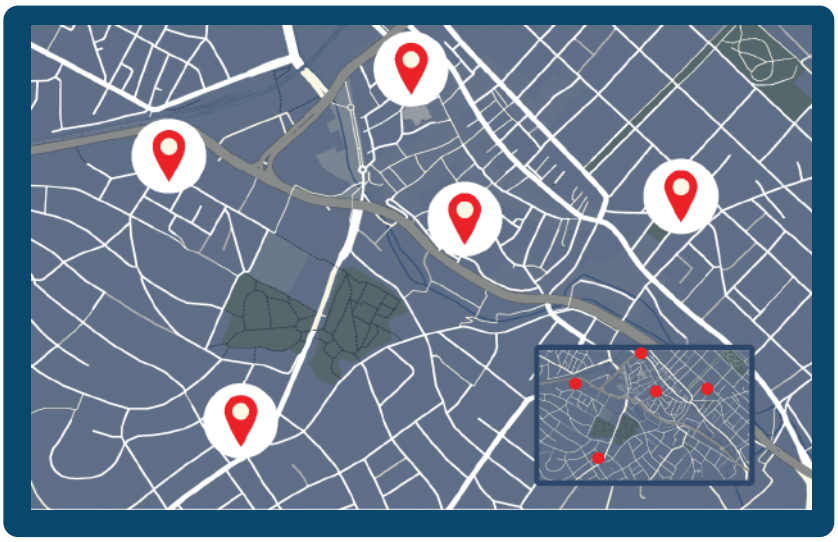
Fleet management cloud services



Customer	Middle East based Telecom operator
Problem	The company intended to expand its footprint on a highly-competitive fleet management market and provide a broad stack of custom-tailored cloud services for a variety of business verticals.
Solution	The Kaa-based private cloud environment that allows the Operator to offer reliable, secure fleet management solutions for an unlimited number of business clients. The cloud-side applications include fleet tracking, routing and fuel analytics, trip scheduling, geofencing, smart alerts and push notifications, driver and asset management. There is also a reporting and statistics module for advanced analytics and data querying. Each client can have its unique combination of applications. The in-vehicle tracking device designed by the Operator was improved to support all cloud applications, allow for remote configuration and firmware updates, and ensure strong data protection. Finally, the solution includes mobile applications for drivers, fleet operators, and managers.

Case study 02

Location-based advertising



Customer

EU based CSP

Problem

Implementation of location-based advertising (LBA) services by using SMS notifications. The technology should be used to pinpoint subscribers' location and provide location-specific advertisements on their mobile devices.

Solution

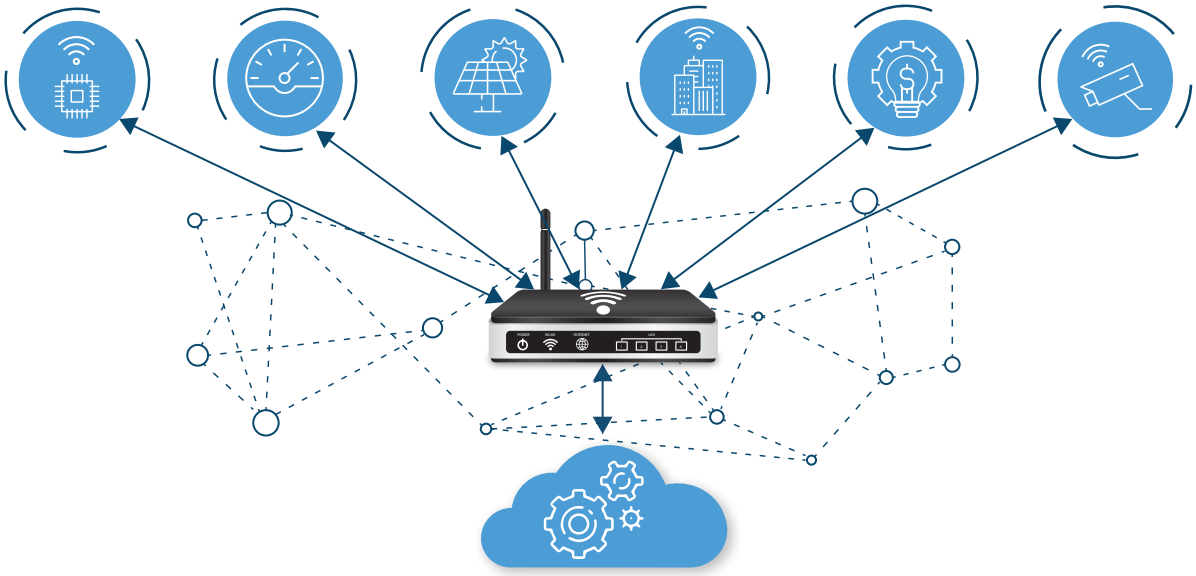
Kaa-based high-load system for tracking and aggregating user location data, and distributing advertisements through SMS notifications. Kaa collects user ID and location data as provided by the corresponding cell tower over TCP and UDP (Radius) protocols, distributes relevant SMS messages according to the user's location and profile data, and stores collected data in multiple storage systems for further analytics.

The solution has been architected as a multi-node cluster system, which features load balancing and handles up to 200 000 messages per minute. Data storage systems, such as Redis, Kafka, and MariaDB, are also integrated with Kaa in their cluster modifications.

The solution features additional analytics that takes into account user location transition timestamps to avoid repeated notifications. Finally, the solution has been integrated with the client's BI back-end and reporting applications.

Case study 03

Edge access provisioning and device management



Customer

US-based provider of smart grid network solutions

Problem

The customer deploys mesh networks to enable network connectivity for a wide range of utility, smart city, and industrial IoT devices. However, its network and device management capabilities stopped at the RF Mesh NIC and were also very limited in regard to any 3-rd party devices on the edge.

Solution

The Kaa-based IoT router that extends beyond the mesh to the edge by bridging to a wide range of networking and communication technologies. On top of it, we created the Network Access Provisioning System (NAPS), which solves the following challenges:

- ✓ Know which sensors are connected to the network
- ✓ Restrict network access to authorized sensors only
- ✓ Manage the router's Access Control List (ACL) policies for individual sensors
- ✓ Define and monitor Service Level Agreements (SLAs)
- ✓ Define and enforce Fair Usage Policies (FUP)
- ✓ Detect malicious behavior and improve security

Open-source vs. commercial IoT platforms

	Kaa IoT Platform	IoT PaaS
Technology ownership	100% technology ownership of your IoT solution	Proprietary, limited code control
Cost of ownership	Services + support	Usage fees + services + support
New features	Absolute control (open-source)	Limited control, slow response
Deployment	Any: on-premises, cloud, hosted or mixed	Third party cloud deployment
3rd party integrations	Open APIs, technology-independent	Vendor-dependent
Support and services	Dedicated team	Expensive, shared, on-demand resources