



SummaNetworks
SMSC
RedCap for IoT



Pioneering Smart Connectivity
for a Connected World



Reason Why

Over time, the landscape of IoT has undergone a remarkable evolution, transcending the realms of vending machines and trucks to encompass a wide array of applications including wearables, voice-activated devices, and beyond. As this evolution continues, companies find themselves in need of robust technological solutions, including SMSC (Short Message Service Center), to facilitate seamless communication within their IoT networks.

Solution

At Summa Networks, we recognize this growing demand for advanced technology in the IoT space. That's why we offer an innovative solution known as SMSC REDCap for IoT, specifically designed to address the evolving needs of modern IoT ecosystems. Our Redcap solution not only supports the intricate requirements of IoT networks but also provides enhanced connectivity, scalability, and efficiency to drive innovation and success in today's IoT-driven world.

Furthermore, our advantage lies in the modularity of our RedCap SMSC, allowing for seamless integration or separation from other core components. This modular design offers unparalleled flexibility, enabling the SMSC to operate independently or integrate seamlessly with the Home Subscriber Server (HSS) and other core elements. Whether you require a standalone SMSC solution or seek integration within your existing infrastructure, Summa Networks provides the versatility and customization needed to optimize your IoT network performance. Embrace the future of IoT with Summa Networks, where innovation meets adaptability for unparalleled success.

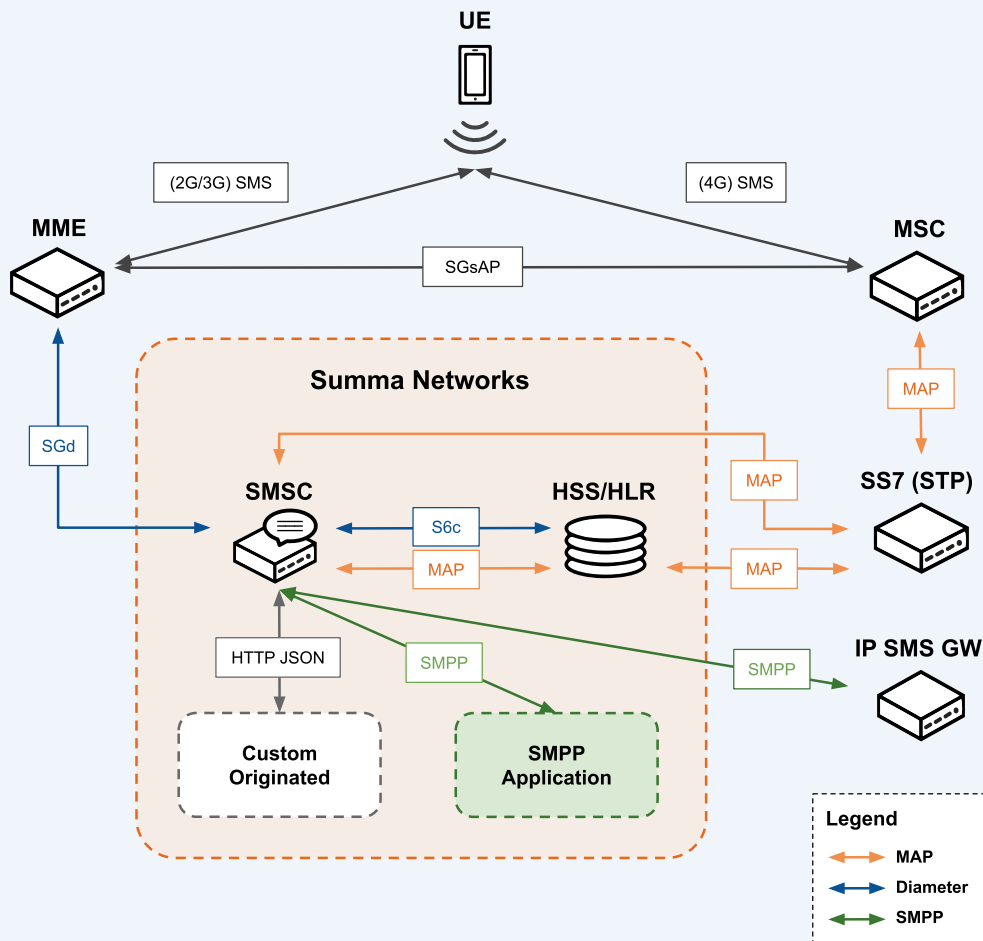
In addition to our cutting-edge IoT solutions, Summa Networks boasts the advantage of being an adaptable company. Our dna allows us to be agile, responsive, and deeply compromised in the success of our clients.

When considering the implementation of a SMSC for IoT, it is imperative to select a provider offering a comprehensive, cutting-edge solution within a flexible licensing framework, coupled with exceptional customer service, designed for carrier-grade operations, that facilitates seamless migration and interworking across various access technologies, operating under a versatile commercial model. This model comprises both traditional CAPEX (perpetual license with annual maintenance) and PAYG (no upfront investment, monthly payments options, all based on the number of ACTIVE subscribers.

Our core principles are structured to foster enduring partnerships:

- Flexibility and adaptability tailored to specific customer requirements, guided by an open roadmap philosophy. Our system is equipped to serve from a few hundred to millions of subscribers.
- Transparent pricing aimed at managing overall Total Cost of Ownership (TCO). We steer clear of feature redundancies and avoid any form of lock-in, ensuring a balance between competitive pricing and costly add-ons.
- Grounded on open standards and open source solutions, our approach offers a cost-effective, carrier-grade solution. Our system accommodates subscriber bases ranging from a few hundred to millions, catering for an ever-growing roster of satisfied customers and subscribers.
- Standards compliance. All products are always compliant to the latest 3GPP release.

Summa Networks RedCap SMSC for IoT equips smaller service providers with the necessary tools to compete effectively in the dynamic IoT market and challenge the big carriers.



Key Summa Networks RedCap SMSC Features

Summa Networks RedCap in IoT: The Perfect Connection -Reliable, Cost-Effective, and Secure Communication.

The SMSC implements the main functionality of the next services:

- Handle MO Forward Short Messages requests using MAP (see TS 29002 12.2).
- Send MT Forward Short Message requests using MAP (see TS 29002 12.9).
- Send Reports SM Delivery Status requests using MAP (see TS 29002 12.3).
- Handle Alert Service Center messages using MAP (see TS 29002 12.5).
- Status Report Capabilities (see TS 23040 3.2.9).
- SMPP service. The SMSC supports the SMPP protocol, so it can send and receive messages using SMPP.
- Routing. The SMSC allows users to configure routing rules that determine how the Short Messages are discarded, rejected, or routed between MAP and SMPP.
- Monitoring The SMSC offers users two different ways of monitoring the SMS KPIs.
- End-point The SMSC allows users to read KPI from an end-point build using the micrometer technology.
- WebHook. The SMSC allows users to register URLs where they receive notifications of the different events that happened in the SMSC.

Benefits of RedCap SMSC for IoT Applications:

RedCap brings numerous advantages to IoT applications, including:

- 1. Higher Peak Data Rate:** RedCap supports significantly higher peak data rates compared to LTE Cat1. This capability is beneficial for applications demanding increased data throughput, like video surveillance and smart grid monitoring.
- 2. Lower Latency:** Offering latency comparable to existing 4G LTE technologies, 5G RedCap outperforms most LPWA technologies, such as NB-IoT. This lower latency is crucial for applications requiring near real-time data communication, such as industrial automation and smart grid operations.
- 3. Improved Power Consumption:** RedCap enhances the power efficiency of IoT devices, contributing to extended battery life. This is particularly valuable for battery-powered applications like wearables and sensors.
- 4. Enhanced Spectrum Efficiency:** 4G technologies utilize advanced techniques like Orthogonal Frequency Division Multiple Access (OFDMA) and Multiple Input Multiple Output (MIMO) to optimize spectrum utilization and increase network capacity. This translates to better performance in densely populated areas and during peak usage times, ensuring a smoother experience for users accessing the network simultaneously.
- 5. Improved Coverage, Reliability and Security:** 3G networks generally offer broader coverage and better signal penetration compared to previous generations, making them more reliable in rural areas or indoors. This extended coverage is advantageous for users who need seamless connectivity regardless of their location.
- 6. Global Reach & Network Stability:** Operates globally across 2G to 5G networks for reliable connectivity, crucial for IoT applications.
- 7. Cost-Friendly & Sky-High Deliverability:** Cost-efficient bulk messaging and near 100% deliverability rates for effective and economical communication.
- 8. Compatibility & Real-Time Alerts:** Widely supported by IoT devices, ensuring seamless integration, and capable of delivering real-time alerts for swift responses to critical events.

SMSC RedCap - RedCap technology enhances IoT devices by minimizing data flow and ensuring dependable connectivity, leading to a notable extension of device battery life. This innovation offers a solution to the issues associated with battery replacement in remote locations and the high production costs of IoT devices.

Use Cases for Summa Networks SMSC RedCap:

Our product finds practical applications in various scenarios that need simple SMSC functionality, including:

- 1. Smart Grids management:** Employing RedCap to monitor and control power grids enhances the efficiency and reliability of the grid.
- 2. Remote connectivity configuration:** Here are some examples of what SMS is used to configure and action:
 - a) **Set an Access Point Name (APN).**
 - b) **Assign your device to an application server.**
 - c) **Trigger a remote reboot.**
- 3. Remote Sensors management:** Enable sending information via SMS to inform about a problem so a decision can be taken.
- 4. Devices Positioning:** IoT devices can inform about the position answering to an SMS message received.



Sustainability statement

Summa Networks is committed to sustainability from the ground up, it is an energy-efficient company by design.

Telecom industry represents 3% of energy consumption and carbon footprint.

Within that, while the Radio Access Network (RAN) significantly contributes to global energy usage, accounting for approximately 73% of energy consumption in telecom networks, Mobile Core, where Summa Networks operates with its software, represents only 0.06% of the energy consumption within the telecom sector.

Nevertheless, when it comes to our energy-efficient software production, we can highlight how we design and develop our solutions in ways that optimise hardware and energy resource usage. This involves implementing efficient algorithms, optimising code, and responsibly utilising system resources, all of which reduce the burden on hardware equipment and minimise energy consumption during the execution of our applications. We could also emphasise that our software development philosophy includes a continuous commitment to improving and innovating in energy efficiency.

Moreover, we have a clear compromise with the sustainability principles:

- 🌱 We focus on producing software that minimises resource consumption, including CPU, memory, and disk usage, ensuring efficient operations while reducing environmental impact.
- 🌱 Our commitment to sustainability extends to our operational practices. With no physical office, we prioritise remote work, enabling our employees to work from home using personal PCs. This not only reduces our carbon footprint but also promotes a healthier work-life balance. By embracing remote work, we minimise commuting emissions, alleviating traffic congestion and air pollution in our communities.
- 🌱 We use cloud services for our processes, taking advantage of their green policies on our behalf.

Furthermore, Summa Networks partners with responsible suppliers who share our commitment to ethical and environmental standards. Our internal servers are located in data centres with green certification, and all our code resides in secure cloud systems where we rely on green initiatives by Hyperscalers. This ensures that our operations align with sustainable practices and contribute to a more sustainable future for all.

In summary, Summa Networks is dedicated to sustainability in every aspect of our operations. From our minimal energy consumption as a software producer to our remote work policies and responsible supplier selection, sustainability is woven into the fabric of our company. We believe that by prioritising sustainability, we can make a meaningful contribution to a greener, more sustainable future.

About Summa Networks

Summa Networks is the market specialist in Subscribers, Policy, Identity and Connectivity Management. Our mission is to help carriers of all sizes and types to navigate their long and complex transition to 5G with a unique suite of Control Plane products that cover 2G, 3G, 4G, 5G NSA and 5G SA in a single system. Summa Networks facilitates a swift transition to 5G while ensuring the business-as-usual helping carriers to control their TCO with a future-proof technological evolution as a main principle. Interworking is key for the years to come and Summa Networks is a well recognized player in converged control plane technology.

Our trusted SDM solution, including an HLR, HSS for LTE, HSS for IMS, EIR, ENUM, AAA, PCRF and 5G NSA and as well UDR, UDM, AUSF, PCF provided in a single piece of software, has a numerous set of features like Multi-IMSI (for 4G-5G), Lawful interception (HSM) and the ability to be deployed in any kind of environment: bare metal, VMs, Kubernetes or a hybrid environment.

Our solution is suitable for MNOs, MVNOs, MVNE/As as well as segments like IoT, Private Networks and Satellite Communications.

With us, your network is ready to evolve into 5G.



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