

 **SummaNetworks**

The logo consists of three white chevrons pointing to the right, stacked vertically. The background is a dark blue aerial view of a city at night, overlaid with a network diagram of white nodes and connecting lines.

AAA

**Authentication, Authorization
and Accounting**

Pioneering Smart Connectivity
for a Connected World

Authentication, Authorization and Accounting

As defined by industry standards, "AAA stands for Authentication, Authorization and Accounting, and the Diameter-based Protocol AAAS, which stands for Authentication, Authorization and Accounting with Secure Transport. These protocols were defined by the Internet Engineering Task Force in RFC 6733 and are intended to provide an Authentication, Authorization, and Accounting (AAA) framework for applications, such as network access or IP mobility in both local and roaming situations."

And this is exactly what AAA from Summa Networks does. Secure access to your network under different scenarios to enable use cases like VoWiFi, use of secondary devices, access from WiFi networks.

Key Features at a Glance: Elevate Security with Summa Networks' AAA

Unlock a secure and controlled digital environment with Summa Networks's AAA. In essence, AAA's key features provide a secure, controlled, and compliant environment by verifying identities, granting access, and tracking activities. Elevate your security strategy with Summa Networks' AAA—where precision meets protection.

Overall, AAA is a comprehensive framework that plays a crucial role in securing network access, enforcing policies, and maintaining accountability:

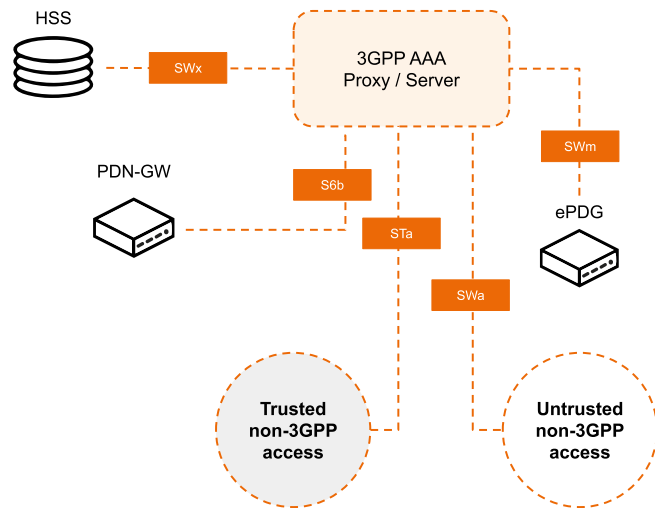
- **Authentication Simplified:** User inserts SIM card, initiates network connection. Network requests IMSI from the SIM card. Seamless, secure user authentication process.
- **Authorization Precision:**
Access Control: Define user access based on permissions and roles. **Granular Control:** Fine-tuned access rights for users or resources. **Policy Enforcement:** Enforce access control policies seamlessly.
- **Efficient Accounting:**
Audit Trails: Log user activities for auditing and compliance. **Usage Tracking:** Monitor and manage network/system resources.
- **Scalability and Compatibility:**
Scalability: Accommodate large user/device numbers while maintaining performance. **Interoperability:** Compatible with diverse environments, devices, and protocols.
- **Smart Session Management:**
Session Management: Ensure continuous user access and privileges. **Integration with External Systems:** Connect with external identity providers.
- **Customization for Precision:**
Customization: Tailor authentication, authorization, and logging to organizational needs. **Security Event Alerts:** Real-time monitoring with alerts for unauthorized activities.
- **Insightful Reporting:**
Reporting and Analytics: Analyze access patterns and identify potential threats. **Compliance Support:** Meet regulatory requirements with detailed logs and audit trails.

Flexible deployment

Summa Networks AAA can be deployed as a stand-alone product to connect to existing HSS, ePDG, PGW.

As a 3GPP standard compliant product, it can interwork with any other standard elements. Summa Networks' AAA is offered as well integrated with Summa Networks HSS as a single piece of software. This bundling creates a number of advantages for carriers:

- Both network functions are deployed in the same HW, no need for extra resources or communication links.
- No need for interoperability testing as products come pre-integrated and pre-tested.
- Functions are in the same instance so M&S are done over the same SW instance.



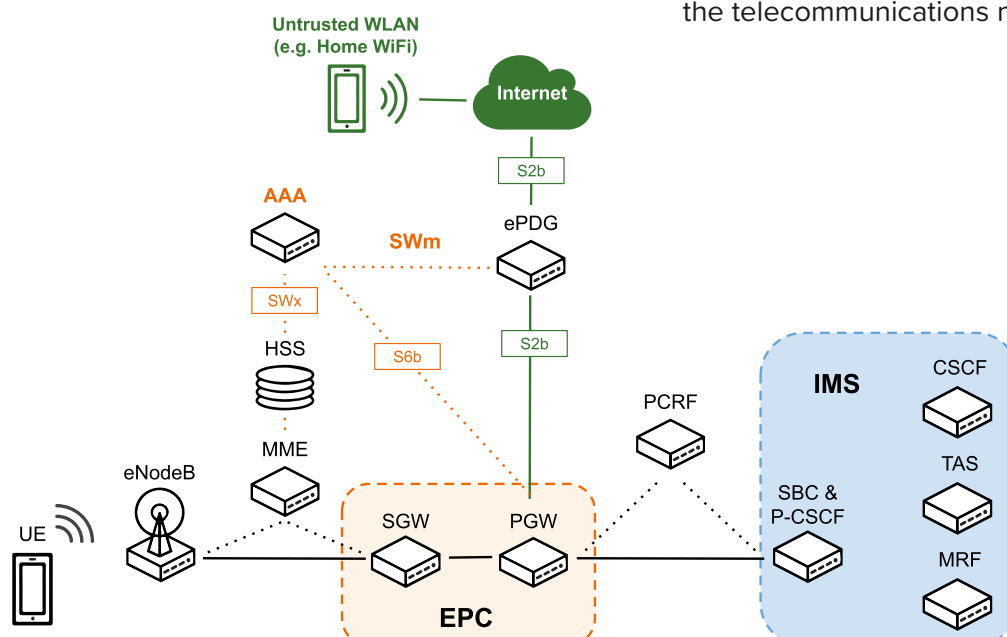
Use cases

Summa Networks' AAA cover several functional cases.

- **Trusted, untrusted access:** Non-3GPP connections into your network, from WiFi networks to IoT devices.
- **VoWiFi:** Connection from mobile devices connected to WiFi networks to perform calls over WiFi.
- **Entitlement server:** Securely connect extra devices from a subscriber (wearable SIM or eSIM devices).
- **IoT Device Authentication and Authorization:** With the rise of IoT (Internet of Things) devices, AAA systems play a crucial role in authenticating and authorizing connected devices, ensuring the security and integrity of the telecommunications network.

Product features

- **SWx.** To connect to an HSS.
- **SWm.** Enables the connection to an ePDG for VoWiFi.
- **S6b.** It allows connection from AAA to PGW.
- **Sta.** Trusted non-3GPP access.
- **SWa.** Untrusted non-3GPP access.





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.



SummaNetworks

www.summanetworks.com
go@summanetworks.com

+34 911590514

UTOPICUS, Paseo de la Habana 9-11, 28036 Madrid, Spain

© Copyright Summa Networks 2024