ENEA

Product Datasheet

# Enea Access Manager

## *Authentication and Authorization on Cloud Scale for all System Generations and Access Networks*

| Benefits |
|---|
| ▸ Flexible support for all use cases including 5G, 4G, 3G, Wi-Fi, and fixed networks |
| ▸ Powerful Enea Rules Engine for introduction of customized rules and interfaces |
| ▸ Wide deployment with Tier 1 operators around the world |
| ▸ Rigorous implementation of the latest standards and full 3GPP compliance |

| Deployment Details | |
|---|---|
| Sessions: | From 1 to 1 billion simultaneous sessions |
| Transactions: | From 1 to 500,000 transactions per second |
| Redundancy: | N+1 including geo-redundancy options |

### One Product for All Systems

The Enea Access Manager is a key network element that performs the roles of the Authentication, Authorization, and Accounting (AAA) server in 4G networks, and the Authentication Server Function (AUSF) in 5G networks. With 5G, a new core network has been defined, and the AUSF performs the authentication of subscriber and devices, across all access networks. In 4G, the role is performed by the AAA server, but only for non-3GPP access. The Enea Access Manager combines both roles in one product, supporting all use cases, including 3G, Wi-Fi, and fixed networks as well.

### Cloud-Native Design

The evolution to 5G requires a new core network with cloud-native software that allows operators to achieve the full potential of 5G and other new technologies such as Internet of Things and network slicing. Subscriber profile and data management are key elements of the new core network, and must provide a comprehensive and agile feature set, while supporting a multitude of new use cases.

The Enea Access Manager implementation follows these cloud-native principles. This implies a software design built on the pillars of separation of processing and state, microservices, and the use of software containers. Such an implementation is mandatory for the 5G core, but also beneficial for 4G as it delivers clear advantages in operations and management, scalability, and highly available services.

| Signaling Protocols and Authentication Methods | | |
|---|---|---|
| Signaling Protocols: | RADIUS, Diameter, HTTP 1.1/2, REST, SOAP, DNS, LDAP, OCSP, SMPP | Optional MAP/SIGTRAN support |
| SIM Authentication: | 3GPP SIM and non-SIM authentication for 5G and 4G/3G/2G | Legacy Wi-Fi authentication including OTP and Captive Portal integration |
| Database Authentication: | EAP-SIM, EAP-AKA, EAP-AKA', 5G AKA, PAP, CHAP, MS-CHAP | HLR, HSS, UDM, UDR/SPR (LDAP), Mapping Tables |

## Competitive Advantages

The Enea Rules Engine is an important feature of the product that allows network operators to add customized rules and interfaces quickly and effectively. This is key in the AAA and AUSF elements since they interact between the profile and data storage functions in the core and access networks. It is also critical for revenue generation as it enables the delivery of differentiated services and helps network operators gain competitive advantages.

The Enea Access Manager implements web services for 5G, and Diameter for 4G, but also supports all other relevant signaling protocols in heterogeneous network environments, such as RADIUS and LDAP. The large number of supported protocols makes it possible to rapidly implement many new innovative use cases, like Wi-Fi Calling (Voice over Wi-Fi).

## Operational Savings

Network operators can reduce operational expenditure by deploying the Enea Access Manager. Its cloud-native design and zero-touch operation mean that no downtime is required, even for upgrades and complex scaling operations.

## Effective Integration

In addition to access management, the Enea Subcriber Management and Policy Control portfolio includes products for functions such as UDM, PCF and 5G-EIR. Together with Enea Access Manager they provide a complete 5G subscriber core network solution. Interoperability with products from other vendors is easily achieved. Open Source functions approved by the Cloud Native Computing Foundation can be integrated. Even products that are not fully compliant with the relevant standards can be integrated effectively.

| 3GPP Interfaces and Services | |
|---|---|
| 5G: | ▪ Nausf_UEAuthentication Service<br>▪ Nausf_SoRProtection Service<br>▪ Nausf_UPUProtection Service |
| 4G | ▪ STa ▪ SWx ▪ SWa<br>▪ S6b ▪ Wx ▪ S13<br>▪ Wx ▪ SWm ▪ SGi |

| Deployment Platforms | |
|---|---|
| Private Cloud | ▪ VMware<br>▪ OpenStack<br>▪ Kubernetes |
| Public Cloud | ▪ Amazon Web Services |
| Bare-Metal | ▪ HP Blades<br>▪ RedHat |

| Standards Compliance | | | |
|---|---|---|---|
| 3GPP | ▪ TS 21.061<br>▪ TS 23.401<br>▪ TS 23.402<br>▪ TS 23.501<br>▪ TS 23.502 | ▪ TS 29.210<br>▪ TS 29.234<br>▪ TS 29.273<br>▪ TS 29.500<br>▪ TS 29.501 | ▪ TS 29.503<br>▪ TS 29.509<br>▪ TS 33.501 |
| IETF | ▪ RFC 791<br>▪ RFC 1034/5<br>▪ RFC 2131<br>▪ RFC 2251<br>▪ RFC 2716<br>▪ RFC 2865<br>▪ RFC 2866<br>▪ RFC 2868 | ▪ RFC 2869<br>▪ RFC 3046<br>▪ RFC 3576<br>▪ RFC 3579<br>▪ RFC 3588<br>▪ RFC 3748<br>▪ RFC 3993<br>▪ RFC 4005 | ▪ RFC 4072<br>▪ RFC 4186<br>▪ RFC 4187<br>▪ RFC 4282<br>▪ RFC 5448<br>▪ RFC 7068<br>▪ RFC 7540<br>▪ RFC 7683 |

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