

Policy and Access Control Portfolio

The Enea Policy and Access Control portfolio provides innovative software-based functions for the control plane in telecom networks. The products are used by mobile and fixed network operators worldwide and complement solutions from all major suppliers of 4G and 5G network equipment. The three main functional areas supported by the portfolio are authentication, policy control and user data management.

Key facts

Enea AUSF and Enea AAA

- ▶ Authentication and authorization
 - (U)SIM in 3GPP networks
 - Certificates or credentials in Wi-Fi networks
 - Ports or line IDs in fixed networks
- ▶ Mobility management across different bearer types
- ▶ Connectivity control
 - Packet gateways
 - Tunnel termination
 - Post processing
- ▶ Access characteristics
 - IP addresses
 - Quality of service class

Enea PCF and Enea PCRF

- ▶ Resource allocation
 - Service gating
 - Bandwidth
 - Charging
- ▶ Traffic control
 - Subscriber information
 - Network information
 - Context (e.g. time of day and day of week)
- ▶ Dedicated bearers
 - Voice services
 - Multimedia services

Enea UDM

- ▶ User data management
 - UE context management
 - Event exposure
- ▶ 4G and 5G interworking
 - Seamless integration

Authentication

The Enea AUSF and the Enea AAA provide the functionality operators need to authenticate users and devices for access to services over multiple access technologies. They support 3GPP access networks (i.e. 3G, 4G, and 5G) as well as non-3GPP access networks, for example Wi-Fi networks as well as fixed-mobile convergence networks, and mobility across them.

The products offer a range of valuable features, for example authentication, authorization (including Voice over Wi-Fi) mobility management and connectivity control. These features protect the integrity of subscribers and make sure that access to the right services is granted in an appropriate way that is in line with the terms and conditions of the different subscriptions.

Policy control

The importance of powerful policy control servers has continued to increase with more complex networks and advanced services. The Enea PCF and the Enea PCRF can be deployed in dedicated stand-alone nodes or as part of integrated solutions.

The features of the products make it possible for operators to optimize network utilization and secure service performance by automatically allocating resources. The operators can define rules that control how traffic is managed in different situations and how users should be charged for services. The rules can also be updated by the operator while the products are in operation.



User data management

The Enea UDM enables operators to manage subscriber data in an efficient way and to use the information for development of innovative and attractive 5G services. It also supports interworking with existing HSS deployments in 4G networks through a variety of options.

The product provides the features needed to build subscriber databases and user data repositories based on the 5G Service-Based Architecture interfaces. The underlying database has the Unified Data Repository capabilities and can also be used for Unstructured Data Storage Function as defined by 3GPP for 5G networks.

Umbrella features

The Enea Policy and Access Control portfolio is available with a set of features that further enhances the capabilities and performance of the solutions on a system level. They act as stateless frontends to the products concerned and include:

- ENUM (IMS E.164 number mapping)
- Binding Support
- Network Slicing
- Network Capability Exposure
- Network Repository Functions

5G evolution

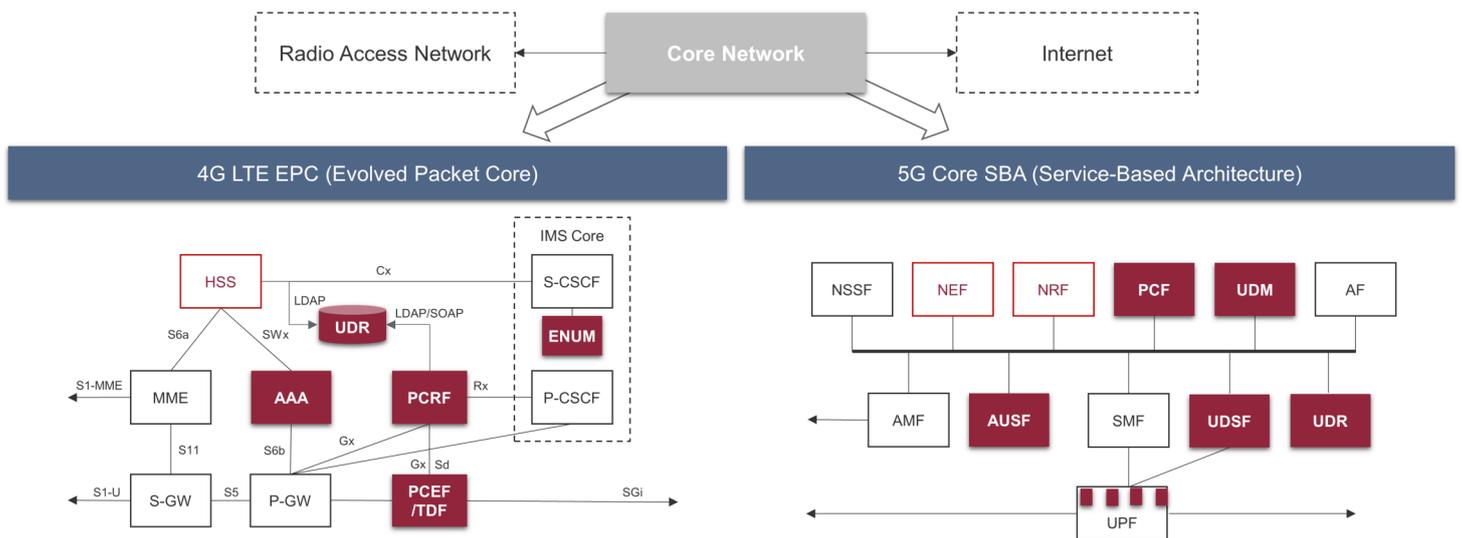
The introduction of 5G with gigabit throughput, minimal delays and full separation between the user and control planes will create new business opportunities for operators but also present new challenges and requirements.

The Enea Policy and Access Control portfolio facilitates the migration from 4G to 5G no matter if the new technology is deployed as part of a current 4G network or as a separate 5G network.

The flexible and scalable architecture of the Enea products extends inherently from virtualization to cloud-native deployments and containerization. It supports simplified operations and 3GPP compliant stateless network functions on top of a centralized universal data layer for user data management.

The Enea products can be deployed co-located and use the same database as well as share the same resources and the common functionality. The portfolio also constitutes a dual-native approach with combinations of new and legacy signaling protocols (HTTP/2, REST, Diameter, RADIUS etc.).

The scalability of the Enea products, the option to deploy them on various platforms, the dual-native approach and the compliance with 3GPP, are factors that will pave the way for operators to have a smooth and timely introduction of 5G.



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Enea develops network software for the connected society. We provide solutions for mobile traffic optimization, subscriber data management, network virtualization, traffic classification, embedded operating systems, and professional services. Solution vendors, systems integrators, and service providers use Enea to create new world-leading networking products and services. More than 3 billion people around the globe already rely on Enea technologies in their daily lives.