

Casa Systems

Axyom™ Ultra-Broadband EPC

Virtualization of the Evolved Packet Core (EPC) allows service providers to reduce costs, improve network efficiency, and deploy new services faster. A key component of solutions for scale out of multimedia (VoLTE/VoWiFi/ViLTE), enterprise services as well as NB-IOT services for the Internet of Things and smart cities, demand for virtual overlay EPCs is quickly becoming the new norm. Casa Systems Ultra-Broadband EPC is a fully functional EPC built from the ground up to run in virtualized environments. The EPC is a component of Casa's Axyom Ultra-broadband Software Framework, a modular software architecture that separates control and user plane processing to enable the multi-dimensional scaling and performance service providers require.

Axyom Ultra-Broadband Software Framework

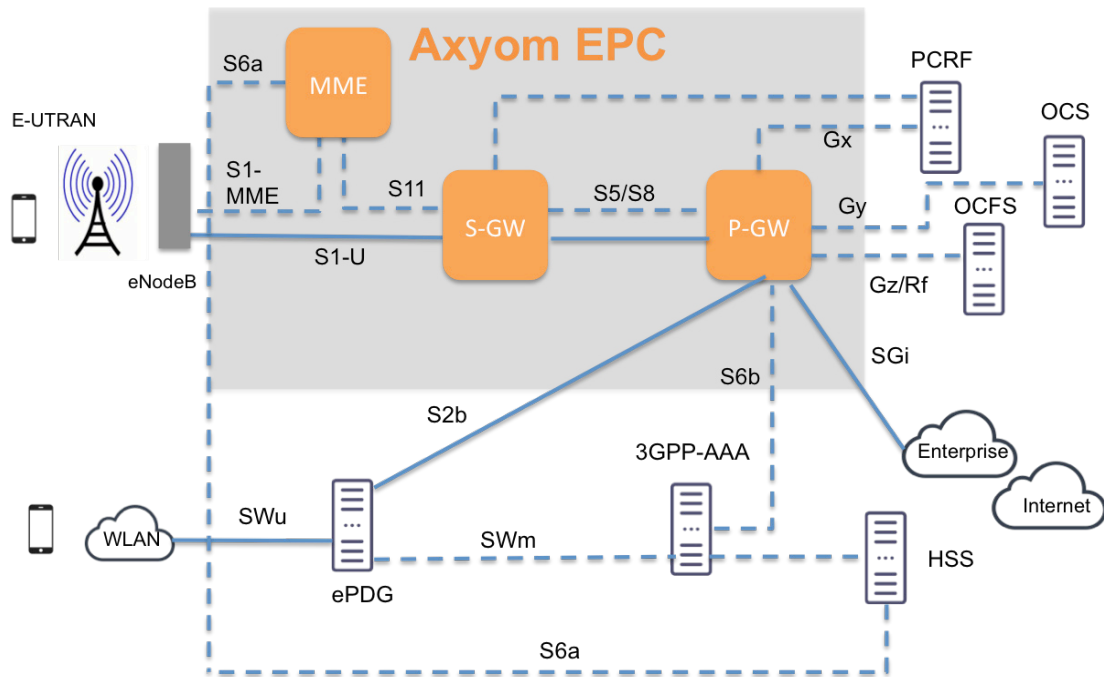
Separating purpose-built hardware from purpose-built software is only one aspect of virtualization. Casa Systems' Axyom Framework further separates control and user plane processing in a horizontal micro-service architecture for delivery of converged fixed and mobile broadband services. Axyom enables multi-dimensional scaling and dynamic service chaining to address an increasing range of use cases. The architecture delivers high performance (up to 80Gbps per RU) on COTS x86 hardware using standard Linux operating systems in an open NFVI environment. Providing high performance in a 1RU / 2RU server at the network edge or as a VNF deployed in a data center cloud, Axyom is designed to put powerful network functions where they make the most sense for each service provider and for each ultra-broadband service.

Axyom EPC

The Axyom EPC provides full MME, S-GW and P-GW functions in an optimized software framework. Each service can scale independently, allowing rapid adaptation to changes in user, signaling and session requirements. This reduces the risk of over-provisioning for Busy Hour Call Attempts (BHCA) and optimizes network resources, which in turn reduces CAPEX and OPEX. Casa's Axyom EPC is state of the art, utilizing the latest in open source virtualization solutions and compliant with 3GPP R13 specifications. The Axyom architecture enables line rate throughput, even for small packet sizes.

Highlights

- Deployment flexibility at enterprise or metro-edge or in a centralized data center; bare metal, fully virtual or container-based
- Fully functioned EPC including SGW, PGW, MME and/or SAE-GW
- 5G-ready with seamless upgrade path to next generation services
- Up to 80 Gbps full-duplex throughput per RU
- 3GPP R13 compatibility
- Multi-dimensional scaling
- Independently scalable control and user planes
- High availability; carrier-grade
- Open API Framework
- Deployable on COTS x86 -based hardware or in service provider NFVI environments
- Improved network efficiency
- Lower TCO
- Accelerated time-to-market for new services



Casa's EPC can be deployed stand alone or in conjunction with other Casa Axyom products, for example the Security Gateway, Small Cell Gateway or ePDG to create an end to end network leveraging Axyom's superior performance benefits. The Axyom P-GW supports up to 11 EPS bearers per UE (user equipment). Each bearer can be assigned a different QoS as needed, enabling service providers to flexibly define and enforce policy control and charging rules.

The Axyom S- and P- gateways are also available as an SAE (System Architecture Evolution) – GW. This architecture enhances operational efficiency by avoiding the need to process the subscriber context through independent data plane services. At the same time, it has the capacity to break out an independent PGW in order to anchor S8 calls from subscribers in visited roaming networks.

The Axyom EPC provides a Virtual Management Controller (VMC) with FCAPS integration to OSS/BSS systems along with complete VNF lifecycle management. The VMC promotes

automated programmability of Casa VNF's using industry-standard Open Source MANO (OSM) / OpenO northbound interfaces to third party NFV Orchestrators. Additionally, the Casa VMC provides extensive service assurance with the capacity to process numerous system and application-level KPI's. Casa's Axyom products are high-availability, carrier grade solutions that can be deployed in bare metal, containers or as fully virtualized solutions.

By virtualizing an NFV2.0 high performance cloud native core and facilitating integration with third party management and orchestration solutions, Casa Systems is modernizing next generation virtual infrastructure for the 5G era and enabling service providers to cost effectively introduce overlay solutions for diverse areas ranging from M2M/NB-IOT, smart cities, smart transportation, smart industries, and IMS/VoLTE.