

EPC 500

The Bridgewater® EPC 500 is an integrated LTE system that provides best-of-breed subscriber and device data management, and policy control functions for the LTE Evolved Packet Core. Specifically designed to support LTE lab trials, field trials and small to medium scale deployments, the EPC 500 features the Bridgewater® Home Subscriber Server and Policy Controller (PCRF), anchored by Bridgewater's Subscriber Data Broker™. These proven Bridgewater products are pre-integrated on a single carrier-grade Sun T5120 platform, creating an easy-to-deploy LTE system. As a vendor-agnostic solution, the EPC 500 system offers standards-based interfaces to enable end-to-end interoperability testing. It can be deployed in days to support a range of functions such as subscriber and service modeling, roaming, and quality of service management in trial or early market deployment environments.

Why Choose the Bridgewater EPC 500

More than 20 service providers around the world have announced plans to deploy commercial LTE networks in 2010 and 2011, the majority of them with plans to trial their systems in 2010. Bridgewater provides the optimal solution with all the necessary standards-based control plane components for interoperability testing and trialing of new devices, infrastructure and services. This reduces service provider deployment resources and systems costs.

Small footprint allows for accelerated LTE trials

The EPC 500 is a single LTE platform housing multiple EPC components designed to help service providers accelerate end-to-end interoperability trials with proven best-of-breed solutions from the leading control plane expert. Its cost effective, modular system approach can be deployed in a matter of days, accelerating LTE EPC trials and reducing the time and complexity of setting up lab trials.

Flexible implementations

The EPC 500 also offers flexibility in how LTE trials are conducted. It can be configured to support HSS, PCRF, or 3GPP AAA functions- or any combination of these, thereby providing flexibility in testing plans as part of a large interoperability or proof of concept program.

Dynamic subscriber management

The Bridgewater HSS, PCRF and interworking products are powered by an intelligent policy-driven core that provides inherent flexibility to easily manage subscribers, networks, devices, and applications in real time. This is accomplished using configurable business rules that leverage a range of subscriber and device entitlements.

Easy migration to commercial deployments

The EPC 500 is designed to support lab and field trials and enables support for commercial deployments of up to 100,000 subscribers. This wide ranging support allows for an easy transition from lab to commercial deployments with a common platform, allowing service providers to accelerate time to market for their LTE network. The EPC 500 can also support migration to separate HSS and PCRF platforms in order to scale to meet commercial deployment requirements.

Fully compliant with the 3GPP Release 8 standard, Bridgewater's solutions are vendor independent and can be easily integrated into other vendors' EPC ecosystems to take advantage of vendor-specific enhancements. The EPC 500 provides the flexibility to leverage EPC components from multiple vendors while providing the experience and assurance that Bridgewater can support multiple types of vendor equipment simultaneously.

System Overview

The Bridgewater EPC 500 pre-integrates key 4G EPC functionality onto a SUN SPARC T5120 hardware platform. It includes the following Bridgewater solutions, pre-integrated as an LTE network system:

The Bridgewater Home Subscriber Server (HSS) is the master repository that contains subscriber and device profile and state information and supports authentication, authorization and mobility management functions in LTE. It leverages the rich subscriber data management capabilities of Bridgewater's Subscriber Data Broker to enable subscriber identity management, service profile management, static and dynamic QoS management and state and usage tracking. The HSS supports broad interoperability using standards-based interfaces - 3GPP-AAA (Wx) and LTE MME (S6a). The Bridgewater Home Subscriber can federate data from existing Home Location Registers (HLR), as well as other databases, to ensure smooth service migration and allow service providers to leverage their investment in existing subscriber databases.

The market leading Bridgewater Policy Controller provides real-time network, application, and subscriber policy control that allow service providers to manage mobile data growth and deliver personalized services. It functions as the Policy and Charging Rules Function (PCRF) required in LTE EPC networks, applying dynamic QoS to IP flows through its support of Gx and Rx interfaces.

The Policy Controller allows service providers to manage mobile data traffic by applying real-time bandwidth controls that adapt to changing network conditions and subscriber context. It is unique in the industry in leveraging multiple types of policy that work together to deliver a superior mobile experience. It also supports subscriber policy capabilities that give subscribers direct control over their own mobile usage including: tracking real-time data, SMS, and applications usage; setting personalized limits, parental controls, and notifications; and receiving special offers.

Bridgewater's Subscriber Data Broker is an integral part of Bridgewater's LTE control solutions. It brings together rich subscriber data such as location, context, profile and usage with the sophisticated tools to broker that data to multiple systems and applications to personalize services. This is particularly important in an open LTE ecosystem in which third-party devices and applications are commonplace. Subscriber Data Broker provides a common subscriber data management solution for the Bridgewater Home Subscriber Server and Bridgewater Policy Controller, enabling rich dynamic service personalization.

Features and Benefits

Bridgewater's solutions are standards based and vendor independent, offering service providers greater flexibility in equipment choice:

- Allows service providers to leverage existing investments in the migration to an LTE core
- Enables a multivendor strategy with standards-based interfaces and interoperability with a range of network equipment vendors

The EPC 500 system is pre-integrated and pre-configured on a single platform to accelerate LTE trials and commercial deployments

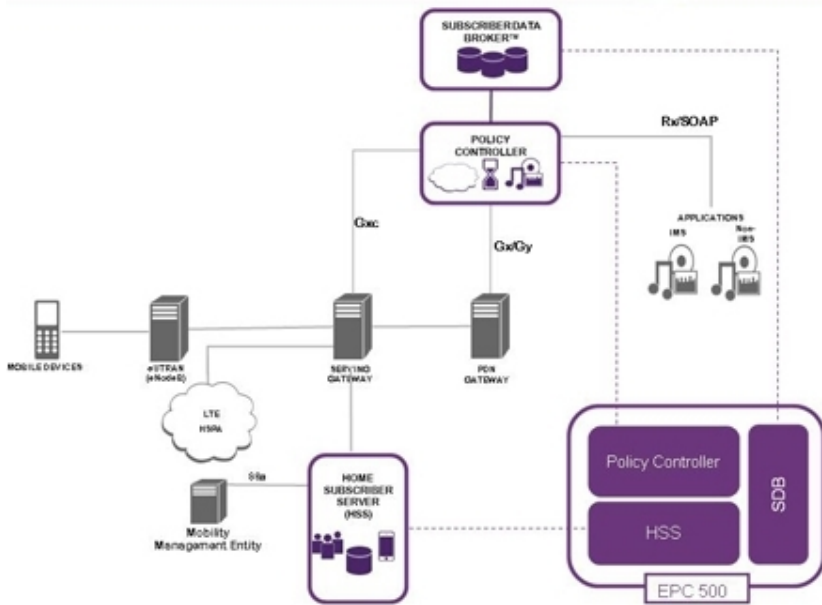
- Deployed in a matter of days with smooth migration from existing Bridgewater products
- Features a proven, carrier grade Sun T5120 platform
- Can be deployed in a standalone or redundant configuration

Supports a range of LTE trial use cases including:

- Basic interoperability testing between the Bridgewater EPC 500 (HSS) and the Mobility Management Entity (MME) using an S6a interface required as part of end-to-end testing – authentication, location, tracking, notification
- LTE Service Modelling and Testing - Ability to model differentiated services to test QoS management, 3G/4G roaming
- Wholesale/retail service modeling
- Features sample test plans and compliance and interoperability notes.

Deployment Architecture

The Bridgewater EPC 500 is an integrated "LTE in a box" system that provides key service control, subscriber management (HSS), and policy control (PCRF) functions for the LTE evolved packet core. Specifically designed to support lab trials, field trials and deployments of up to 100,000 subscribers, this LTE system features the Bridgewater Home Subscriber Server and Policy Controller anchored by the Bridgewater Subscriber Data Broker, pre-integrated on a single carrier-grade Sun T5120 platform.



Hardware Configuration

Operating System	Solaris 10
CPU	UltraSPARC T2 quad-core processor
Memory	8 GB RAM (expandable to 128GB)
Hard Drives	2 x 146 GB, 10,000 rpm SAS disks. Expandable to 8 disks (hot pluggable)
Optical Drive	DVD+/-R/W , CD+/-R/W
Ethernet ports	4 x 10/100/1000 Mbps, RJ-45
USB ports	2 front, 2 rear
PCI Express	1 x PCIe 8-lane, 2 x PCIe 4-lane slots
Power	2 redundant power supplies, hot swappable, 110-240VAC
Dimensions	425mm x 44mm x 714mm (width x height x depth)

About Bridgewater Systems

Bridgewater Systems, the mobile personalization company, enables service providers to efficiently manage and profit from mobile data services, content and commerce. The company's market leading mobile personalization portfolio provides a real-time, unified view of subscribers including entitlements, devices, networks, billing profiles, preferences and context. Anchored by Bridgewater's Subscriber Data Broker™, the portfolio of carrier-grade and standards-based products includes the Bridgewater® Service Controller (AAA), the Bridgewater® Policy Controller (PCRF) and the Bridgewater® Home Subscriber Server (HSS). More than 150 leading service providers including America Movil, Bell Canada, Clearwire, Cox, Hutchison Telecom, Iusacell, Scartel, SmarTone-Vodafone, Sprint, Tata Teleservices, Tatung, Telmex, Telstra, and Verizon Wireless use Bridgewater's solutions to rapidly deliver innovative mobile services to over 150 million subscribers. For more information, visit us at www.bridgewater.com.

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