

Technical Brief: Service Integration for Next Generation Networks

Synopsis

IPL has worked with UK telecoms product vendor Aepona to implement features for Aepona's Service Broker product:

- a conversion and interworking function, to integrate SIP / IMS networks with circuit mode IN networks.
- an application coordination function, to manage the interaction of multiple network applications

In the IMS architecture, these functions correspond to the IM-SSF and SCIM respectively. They make Aepona's product compellingly attractive to network operators that need both to migrate to NGN architectures and to support complex multi-service portfolios.

Aepona chose IPL as software partner because of IPL's track record of developing network-critical IN software.

IPL helped Aepona to define the product features and supported Aepona in early sales. IPL risk-managed the software development, delivering the software on time and to specification.

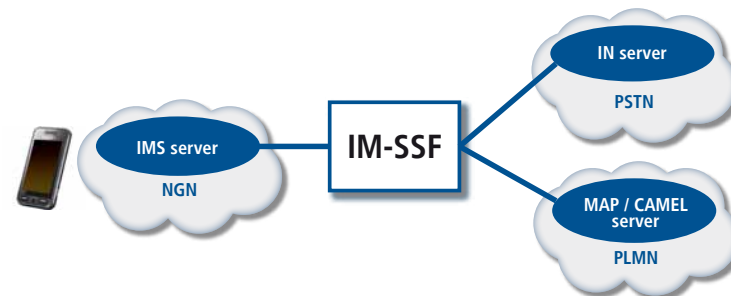
IPL continues to support the software and to work with Aepona in onward development of the USP.



Application coordination across SIP / IMS and IN

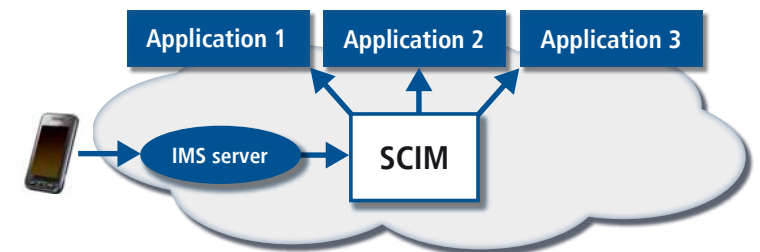
Integrating with the IP Multimedia Subsystem

The world's telecoms network operators are reducing their operating costs, and offering better integrated voice and data services, by migrating their networks to "Next Generation Network" (NGN) technology. NGN is based on Internet Protocol (VoIP), the Session Initiation Protocol (SIP) and the IP Multimedia Subsystem (IMS) network architecture standards. Migration to IMS will take some years, and so IMS systems will have to interwork with legacy Intelligent Networks (IN) and GSM core network systems. The vital interworking function is identified in the IMS architecture as the IP Multimedia Service Switching Function (IM-SSF). The IM-SSF has to translate between SIP family protocols in IMS networks, INAP protocols in fixed networks, MAP in GSM mobile networks, and CAP in CAMEL roaming networks.



Coordinating network applications

Also, as telecoms service providers offer increasingly rich portfolios of value-added services, the problem of managing interactions between services grows. In the IMS architecture, the challenges of passing network events to the correct service applications, of sequencing multiple applications that serve a single network event, and of resolving contention between service applications, are allocated to a component called the Service Capability Interaction Manager (SCIM). Similar challenges also have to be addressed in the more mature IN architecture.



From the technical perspective, SCIM acts as a broker, accepting trigger events from the network (for example, at call setup time), and then interacting and arbitrating between multiple applications throughout the call. SCIM controls the order of application invocation, whether invoked sequentially or simultaneously, and arbitration between application responses before providing a consolidated response to the network. Network operators can use SCIM to ensure safe interoperation of their network features.



Headquartered in the UK with regional offices across the world, Aepona is at the forefront of the evolution towards better, more service-rich communications networks. Aepona's Universal Service Platform (USP) enables the exposure and exploitation of telecoms network resources, allowing telecommunications operators to rapidly deploy profitable new services across fixed-line, mobile and SIP/IMS networks. Aepona's key area of focus are Telecom Web Services, Service Evolution and end-to-end, application-led solutions. Aepona possesses a unique combination of expertise in both telecoms infrastructure and IT, and its solutions have been chosen by Tier 1 operators such as France Telecom/Orange, KPN, Sprint, TELUS, Vimpelcom, E-Plus, Eircom and Bridge Mobile Alliance.

Service Broker

Aepona set out to address the market demand for IM-SSF and SCIM functionality through Service Broker, a part of its Universal Service Platform product. With a broad standards base including IN/AIN, CAMEL, OSA/Parlay, SIP and IMS, USP contains a rich set of network capabilities enabling a broad range of rapidly deployable, profitable services to be introduced by mobile, wire line and converged telecoms operators.

Throughout our 3-year relationship, IPL has provided us with a first class and dependable software development service. The IPL team has contributed value at many levels in the design and development cycle and has enabled us to realize our vision for the Service Broker product.

Kieran Dalton
CTO, AePONA

IPL made it happen

Why IPL?

Aepona invited IPL to develop the software for the SIP interworking and applications sequencing functions of its Service Broker product. Aepona chose IPL because of IPL's track record of developing network-critical IN software for a number of network operators and product vendors.

Active support

IPL worked closely with Aepona at every stage of this innovative project. IPL helped to define the product concept, assisting with the feasibility study, requirements definition and early sales support both to define the scope of the initial release and to help Aepona to secure its first customer.

Risk management

IPL took full technical and commercial responsibility for the full design and implementation process, leading to delivery of the product components, on time and as specified.

Continuing relationship

With Aepona's Service Broker now deployed across live telco networks, IPL continues to provide support for the applications software.

IPL and Aepona continue to work closely in order to define and extend the product's capabilities.

Aepona & IPL

Aepona's track record of successful product realization within the telecoms sector combined with IPL's technical expertise of carrier class telecoms solutions has resulted in a unique product which overcomes the problems of interworking between circuit-mode networks and the IMS, and of applications sequencing within both IN and IMS environments.

Further information about USP and Aepona's other products can be found at www.Aepona.com.

About IPL

Founded in 1979, IPL has a long history of successfully delivering excellent value consultancy and software solutions to both the public and private sectors.

IPL's track record in end-to-end solutions development is exceptional. Our proven development methodology allows us to cut through technical complexity, manage risk and completely focus on delivery. We consistently deliver reliable, efficient and accurate systems to a precise schedule.

IPL is an ISO9001:2000/TickIT registered company having a permanent workforce of 240, revenues of ca. £21Mp.a.

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