

# Spirent IMS LTE Developer Solution

## Advanced building blocks for developing IMS LTE-compliant products

Spirent is proud to offer a complete suite of IMS (IP Multimedia Subsystem) LTE (Long Term Evolution) developer solutions to meet the needs of IMS LTE client and server developers.

IMS-based services enable multi-mode communications—including voice, text, location, pictures and video, or any combination of these—in a highly personalized and secure manner. As a result, IMS is perceived as the cornerstone of the industry’s fixed/mobile convergence path.

With the rise of the all IP LTE network revolution as the foundation for 4G networks, IMS is the industry’s choice for next-generation network deployments. The IMS network is defined by a set of standards established by the 3GPP (Third Generation Partnership Project), the IETF (Internet Engineering Task Force) and TISPAN (Telecoms & Internet converged Services & Protocols for Advanced Networks).

Spirent’s IMS LTE Developer Suite includes toolkits and products that provide all the necessary signaling and media protocols to easily and cost-effectively meet the IMS LTE challenge for all IMS LTE specifications including the GSMA VoLTE initiative which specifies an exact IMS profile for LTE networks—IR.92.

### Protocol Toolkits

#### IMS SIP Developer Suite

The award-winning IMS SIP Developer Suite is a powerful and highly versatile set of tools designed to dramatically accelerate development of SIP applications. It is comprised of a suite of Toolkits, Add-ons and testing tools that enables developers to combine the necessary components for building an ideal development environment for an application’s specific needs. Delivers high performance, and provides multiple API layers for full user control and flexibility.

- Comprised of building blocks that simplify and dramatically reduce development time of all IMS SIP applications
- Has a dedicated development package for LTE-compliant devices which are in accordance with all GSMA VoLTE specifications.
- Compliant with the GSMA RCS (Rich Communication Suite)—an industry effort focused on the use of “IMS (IP Multimedia Subsystem) for providing mobile phone communication services”

#### IMS MEGACO/H.248 Toolkit

Designed for decomposed gateway architectures, Spirent’s highly scalable MEGACO/H.248 Toolkit is a set of software modules for developing Media Gateways or Media Gateway Controller applications. The IMS MEGACO/H.248 toolkit is fully compliant with both 3GPP and ETSI/TISPAN IMS architectures, enabling development of 3GPP IMS architecture elements: MGCF/IMMGW, MRFC/MRFP and ETSI/TISPAN architecture elements: AGW/RGW, SPDF/BGF.

#### IMS DIAMETER Toolkit

The DIAMETER Toolkit enables development of IMS DIAMETER compliant network elements. Implementing all major IMS interfaces, it allows seamless integration with IMS-based IP networks. Standards-based, the IMS DIAMETER Toolkit is highly reliable and delivers superior performance.

## IMS Advanced RTP/RTCP Toolkit

When IMS requires audio and video, Spirent's Advanced RTP Toolkit is an essential part of the solution. With its support for PoC-specific signaling and extended reports, the Advanced RTP Toolkit is capable of handling IMS related services. The Advanced RTP Toolkit comes with a large set of supported codec payloads, including AMR, AMR-WB, G.7xx, MPEG1 and 2, H.263, MPEG4, H.264, and the option to add additional codecs.

### Protocol Toolkits

- IMS SIP Developer Suite
  - ▶ IMS SIP Toolkit
  - ▶ XDM Toolkit
  - ▶ MSRP Toolkit
  - ▶ ICE/STUN/TURN NAT Traversal Toolkits
- IMS MEGACO/H.248 Toolkit
- IMS DIAMETER Toolkit
- IMS Advanced-RTP/RTCP Toolkit

IMS SIP Server Platform      IMS Client Suite

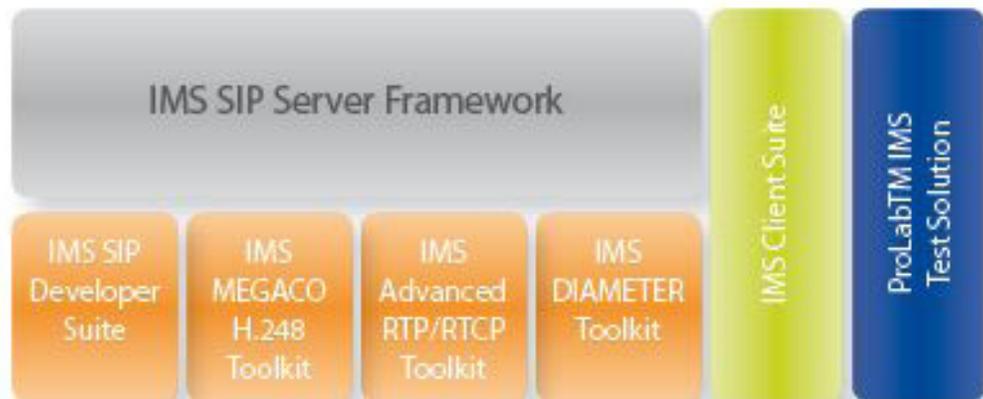
IMS SIP Server Framework      ProLab™ IMS Test Solution

## ProLab™ IMS Test Solution

The IMS ProLab Test Management Suite is specifically designed to perform advanced signaling tests (such as evaluating the number of calls handled), media tests (such as checking for packet loss, delay, and jitter), and voice and video quality. Additionally, ProLab™ enables simulating different network topologies. The IMS ProLab Test Solution is a powerful and highly versatile set of tools to facilitate testing and pre-deployment of IMS SIP applications while reducing time and costs. The IMS ProLab SIP Test Solution is fully compliant with IETF and 3GPP standards.

## IMS SIP Server framework

The IMS SIP Server framework is a software framework that implements all the necessary building blocks for SIP servers and supports rapid and effective development of IMS applications. Based on Spirent's market-leading IMS SIP Protocol Toolkit, the IMS SIP Server Platform implements a proxy server engine, B2BUA engine, IMS Presence engine, Redirect server component, registrar server and general events server engine. IMS SIP server application developers can use the IMS SIP Server Platform to develop AS, (x)CSCFs, BGCF, SEG and other IMS entities.



## IMS/NGN Network Architecture

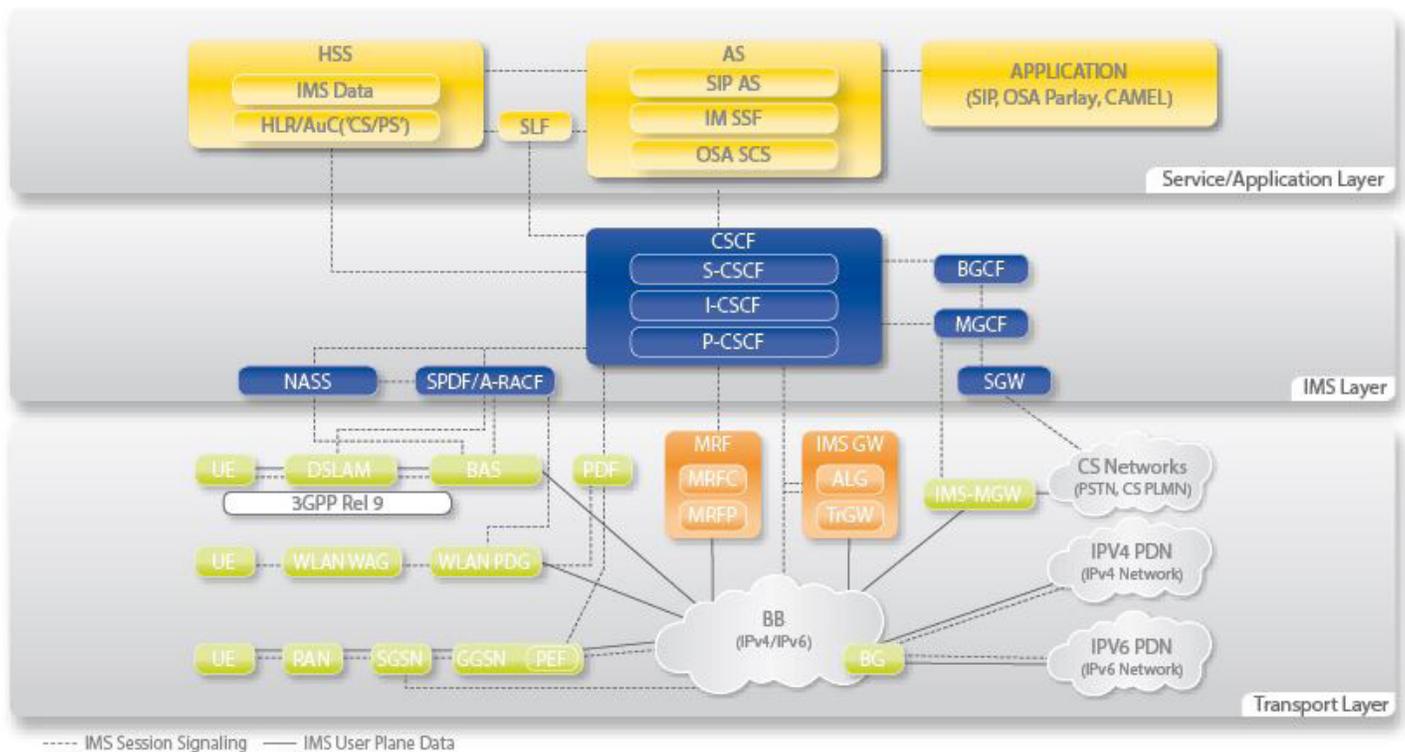
The IMS network separates between the access plane and the user plane. The access plane can be a radio access network (RAN) or any other access layer. In IMS the user plane is actually a Packet Switching network. This level is the transportation plane for all media and signaling within and outside the IMS network such as LTE, Fixed line, Cable, Wireless or WiMax. Above the user plane is the control plane. Entities in this layer control the media streams and signaling links between other entities – for example call control and media control. The application level, above the user level, handles delivery of advanced services that require service logic beyond session setup/teardown.

IMS separates between entities that provide different network services, as opposed to earlier architectures that lacked this separation. IMS defines unique network entities for call control, service control, resource control, media control and packet switch control.

## IMS Client Suite

Part of Spirent's Developer Suite, the IMS Client Suite is a complete package of IMS client-side building blocks designed to simplify and dramatically reduce development time of IMS Client applications. This complete set of versatile development and testing tools is OS independent, which allows seamless porting between platforms. The small footprint and modular and extendable platform allows developers to mix and match components, and reusing common building blocks, significantly reducing development time. In addition, the high level APIs hide the inherent complexity of IMS and SIP complexity, further reducing development time.

IMS Architecture - Layered Approach



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