IMS Service Architecture & Protocols

Who Should Attend?
The course is intended to anyone who needs to broaden knowledge about IMS architecture, role of SIP and Diameter in Multimedia over IP Systems.

Course Scope

1. IMS Concept & Architecture introduction.
    - IMS introduction.
    - Network & services evolution brought by IMS.
    - Deployment outlook.
2. IMS, technical aspects.
    - IMS standardisation.
    - IMS architecture & functional elements.
    - IMS identities.
    - Charging aspects in IMS.
    - IMS interfaces & signalling protocols.
3. IMS services – introduction & technical implementation.
    - Presence.
    - Group management.
    - Push To Talk.
    - Messaging.
4. SIP Fundamentals.
    - SIP main architecture.
    - SIP components (servers and clients) and their functions: SIP user agents (AU client and server).
    - SIP servers: proxy (statefull and stateless), redirect, registrar.
    - SIP location servers.
    - SIP gateways.
    - SIP message structure.
    - SIP requests and response codes.
    - SIP supporting IETF protocols (SAP, SDP).
    - SIP sessions: session setup, proxying and redirecting requests, address resolution, media negotiation via SDP.
    - SIP security.
    - General SIP message flow examples.
5. Diameter.
    - Diameter architecture.
    - Cx, Dx, Dh, Sh, Rf Interfaces details.

6. IMS procedures over SIP & Diameter.
    - Registration (initial registration, re-registration, deregistration).
    - IMS –to-IMS Call.
    - Non-IMS – to IMS call.
    - IMS to non-IMS call.
7. Q&A, open discussion.

Course Objectives

This technical, 4-days long IMS training seminar provides a deep knowledge on IMS architecture, services and protocols used, SIP in particular. It is recommended for the technical staff with basic knowledge of wired and wireless telecommunications systems.

Pre-requisites

There are no prerequisites to attend the course, but basic knowledge about IP would be beneficial.

Training Structure

Four days training divided into logical sessions.

Methodology

Instructor led training.