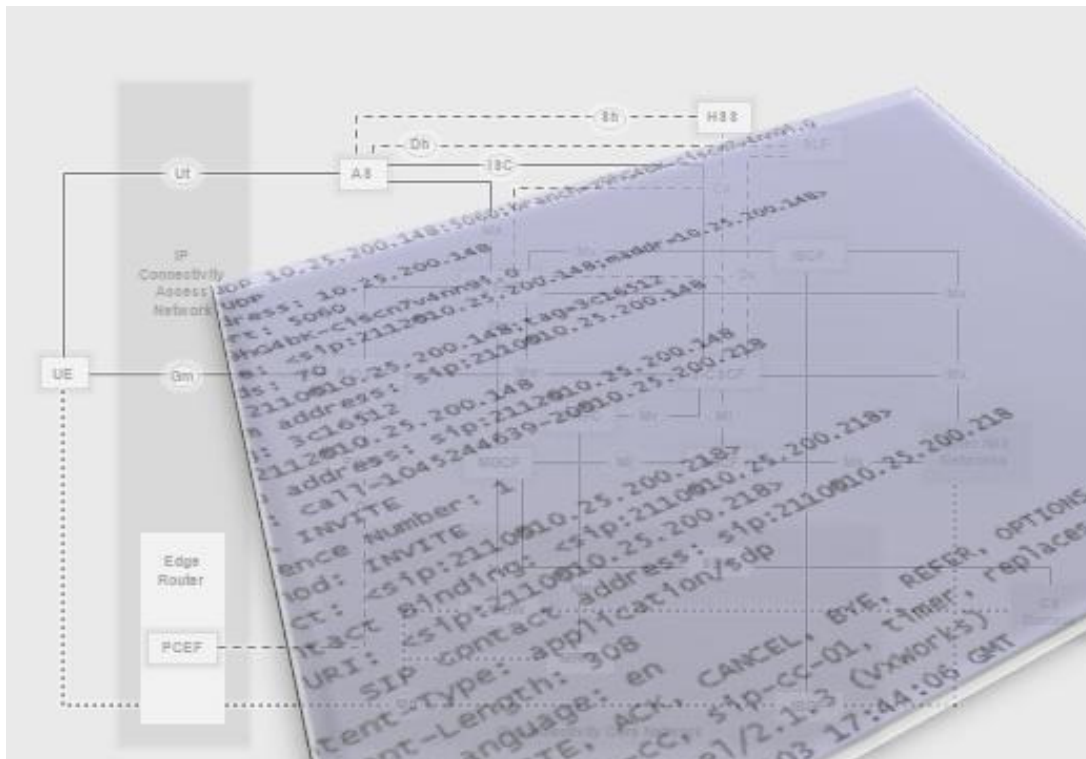


Extended SIP with Advanced Features

For **Engineers** who want to master advanced concepts in SIP for IMS/NGN applications
2 Days

Business Value

You will become very well-versed in most significant SIP extensions and develop sharp analytical skills in highly complex scenarios. Our extensive experience with the SIP/IMS/NGN standardization will help you cut through the enormous complexity found in hundreds of bulky documents with many interdependencies. It will ultimately save you much valuable project-time which you would otherwise spend on researching and cross-referencing.



Who should attend

The course is designed for engineers in Software-Design, Network-Integration/Verification, End-to-End Planning/Performance Testing, Troubleshooting and other technical areas. If you would like to master SIP in all its complexity, this course will definitely bring you a good step forward.

Presentation/Exercises

Instructor presentation (whiteboard-60%, transparencies-25%, powerpoint-15%) with the Futurenetz active learning tools. You get a text-book/work-book where you comfortably fill out pictures with information during lecture.

Text-based exercises are included.

In addition, the course includes **Active-Learning** modules to help you absorb concepts in a more energetic manner. Some of those are based on protocol traces.

Content Summary

1. SIP Core

A deeper analysis of core concepts in SIP.

You will get a more thorough analysis of protocol concepts normally brushed over in a basics course.

- SIP-based IMS and NGN deployment considerations
- Layered Structure of SIP, TU, Transaction Layer, Transport Layer
- State machines & Timers for SIP Transactions and Dialogs
- **Active-Learning:** Detailed analysis of core SIP entities, headers, state and timer handling
- Extension headers, option tags, and other parameters (Session Timers, sent-by, received-by, rport ...)

2. 3GPP Profile of SIP

Detailed usage of extensions introduced by 3GPP

Study about concepts unique to IMS-SIP implementations.

- P-Headers: P-Access-Network-Info, P-Asserted-Identity, P-Charging-...)
- State creation and maintenance in UE and xCSCFs during Registration and Session Initiation

3. Advanced SIP Concepts for VoIP Services in IMS and NGN

Further details on extensions used by 3GPP & TISPAN

You will dive deeper into complex mechanisms, indispensable to the realization of most VoIP services designed for IMS.

- SDP extensions Preconditions: "a=curr:", "a=des:", "a=conf:", "qos", ...
- Usage of PRACK mechanism
- Unusual Offer/Answer exchanges, B2BUA and 3rd-Party Call Control
- Early-Media, Early-Dialogs and provision of tones/announcements
- Refer, Refer-to, Referred-by, Replaces and GRUU for NGN ECT service
- IMS Policy & Charging

4. Extensions for Application Design

Overview of non-VoIP services for IMS

Overview of extensions employed to provide services beyond VoIP.

- Service Triggering and the ISC interface
- **Active-Learning:** How to implement a Customized Alerting service
- 3rd-Party Registration
- OMA-Presence, Events, PUBLISH, SUBSCRIBE-NOTIFY, XDMS
- OMA Instant-Messaging and MSRP

Contact

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