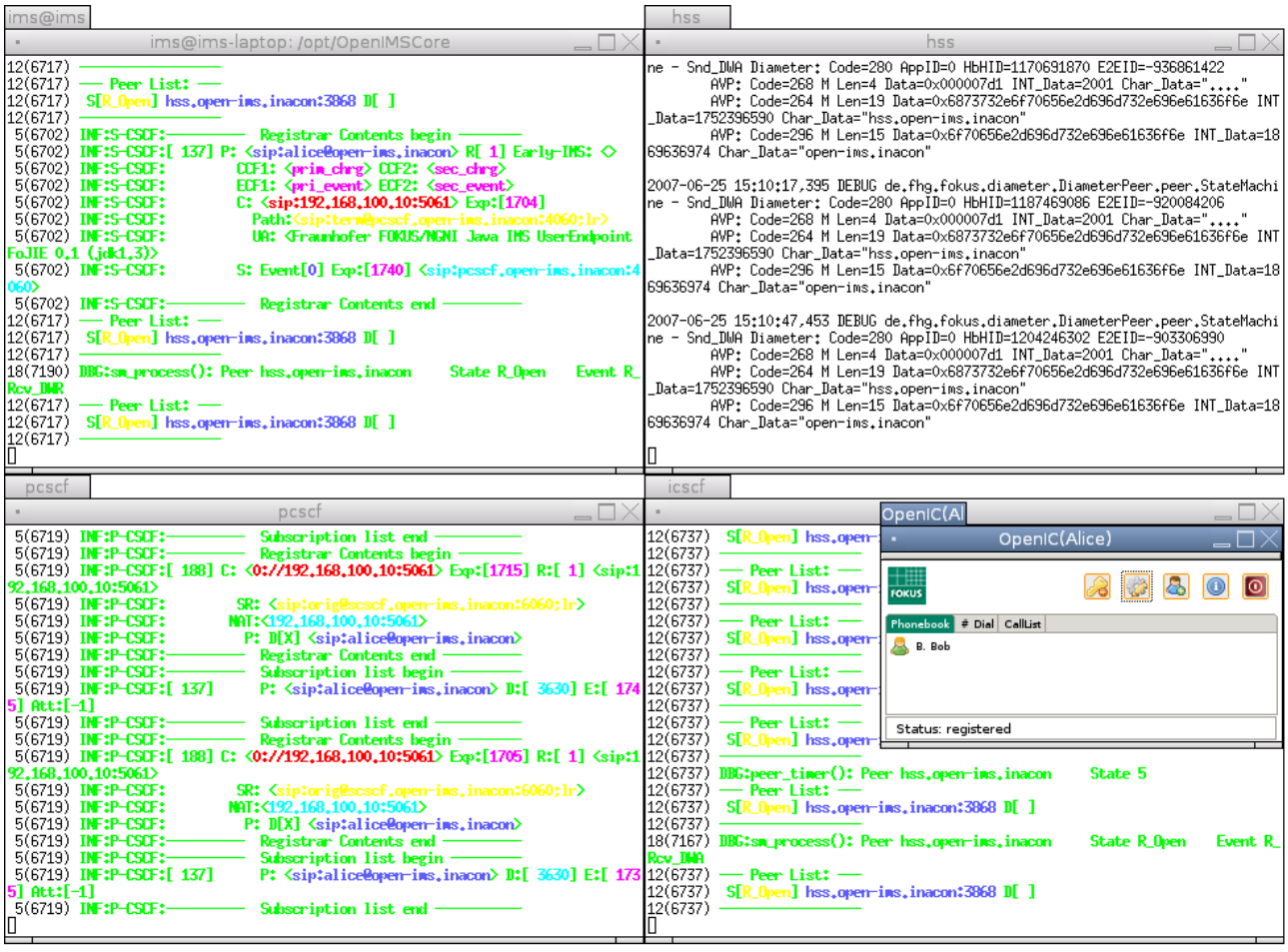
Experience INACON Bootcamp

IMS Signaling Protocols (e.g. SIP, SDP, DIA)

- Hands-On
- Close to Reality
- Small Audience
- Practical Learning



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IMS Bootcamp

IMS Signaling Protocols (SIP, SDP, DIA)

Course Duration:

- 3 days

Course Description:

- This bootcamp is addressed to everybody who needs to understand the ideas and concepts of an IMS.
- The bootcamp is structured in different sessions with their own key topics. Each sections consists of a theoretical part followed by a practical exercise.
- The bootcamp starts with a general introduction to the IMS and the Open IMS. This includes the used tools (e.g. wireshark as trace analyzer) and the bootcamp workflow.
- The first registration related practical exercise makes the student familiar with the tools and the behavior of the system as well as with the characteristics of the Open IMS.
- The next section covers SIP and SDP especially their protocol structure, tasks and functions. We conclude that section with a review of a call setup.
- The practical part deepens the use of SIP and SDP during the session establishment and shows the used message routing mechanisms within the IMS.
- This section provides the student the theoretical background to understand the a call setup procedure with QoS negotiation between the peers by using the parameters *preconditions* and *100rel*.
- Within this practical exercise the students are forced to recall their knowledge about SIP and SDP.
- The last session relates to the important Application and Service domain. The students will refresh their knowledge about event server and the purpose of the SIP messages *PUBLISH*, *SUBSCRIBE* and *NOTIFY* and the signaling over the ISC interface towards the A&S domain.
- This practical exercise introduces to presence as a service offered by the A&S domain. Furthermore the students analyze a scenario related to an IP TV / VoD service.

Course Target:

After this bootcamp the student...

- is able to analyze protocol traces taken within the IMS test-system
- has the ability to nail down errors and bugs within an IMS
- has the ability to identify the problem sources
- understands the message flow inside the IMS
- understands the interworking with the common IP-Components (DNS, DHCP)

Pre-Requisites:

- This course requires participants to have a very good knowledge of SIP, IMS and IP.
- We advise to visit our classes “SIP, SDP and other NGN Protocols -Signaling & Protocol Analysis” and “IMS-Architecture Details & System Engineering” before.

Who should attend this bootcamp?

- Technicians and Engineers who need the ability to nail down errors within the IMS
- Technicians and Engineers who like to be enabled as practical field staff

Related Courses:

- IMS-Architecture Details & System Engineering
- SIP, SDP and other NGN Protocols - Signaling & Protocol Analysis

Necessary Equipment:

- Laptop/PC to take and analyze traces

Example of a Practical Exercise and used Tools:

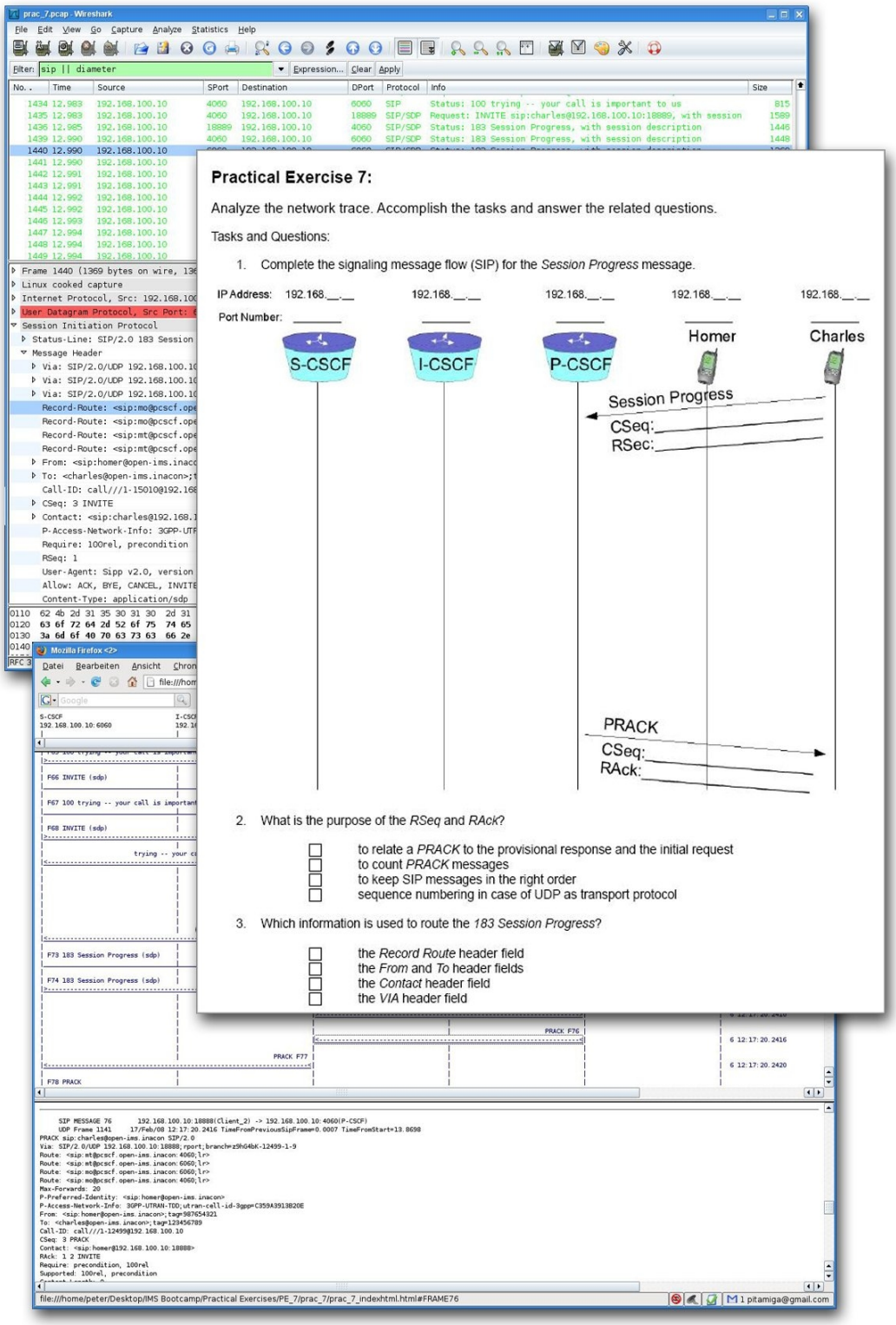

Table of Contents:

Theory 3: SDP and SIP Interworking

- Introduction of SIP Methods PRACK and UPDATE and the SDP parameter for preconditions
- Considerations about Call Setup Scenarios with QoS Negotiating

Practice 3: Extended Call Setup

- Analysis of a Call Setup with QoS Negotiating
- Considerations about required and supported features

Theory 4: Application Server within the IMS

- Use of different AS
- Methods SUBSCRIBE, PUBLISH and NOTIFY
- Communication over the ISC Interface
- HSS involvement and Routing decisions based on Trigger Points

Practice 4: Accessibility of AS over the ISC Interface

- Analysis of the signaling towards a Presence Server
- Considerations about the Tasks and Functions of the X-CSCFs, HSS and the UA
- Examination of the delivery of Presence related information using SIP
- Signaling analysis towards an IP TV / VoD AS