

SIP Trunking Advanced

Optimization and Troubleshooting

More and more company sites are connected via SIP trunks to the provider networks. Time and again, this causes problems with the availability, basic functions, and numerous added-value services. The course at hand examines frequently occurring error situations in detail and suggests solutions how to ensure a smooth operation. Hands-on exercises support and explain the individual topical fields.

Course Contents

- Setup of a SIPTrunk
- End-to-End Flows
- Functions of the Session Border Controller
- Security Concepts
- Features
- Forwarding
- Fax
- Emergency Calls
- Frequent Error Patterns
- Early Media
- Forking
- Provider Coupling
- Troubleshooting
- NAT in Detail

E-Book You will receive the comprehensive documentation package of the ExperTeach Networking series – printed documentation, e-book, and personalized PDF! As online participant, you will receive the e-book and the personalized PDF.

Target Group

The course offers technicians and designers a practice-related and deeper insight into operation, design, and troubleshooting for an SIP trunk.

Prerequisites

In addition to IP knowledge, VoIP and particularly SIP know-how will be helpful for a successful course participation. Previous attendance to the SIP-Trunking—Breakout into the All-IP Provider Network course is desirable.

This Course in the Web



You can find the up-to-date information and options for ordering under the following link:

www.expertech-training.com/go/SITA

Reservation

On our Website, you can reserve a course seat for 7 days free of charge and in a non-committal manner. This can also be done by phone under +49 6074/4868-0.

Guaranteed Course Dates

To ensure reliable planning, we are continuously offering a wide range of guaranteed course dates.

Your Tailor-Made Course!

We can precisely customize this course to your project and the corresponding requirements.

Training		Prices, excl. of V.A.T.	
Classes in Germany	2 Days	€ 1,595	
Online Training	2 Days	€ 1,595	
Date/course venue	Course language German 		
15/12-16/12/22	 Online	09/03-10/03/23	 München
19/01-20/01/23	 Hamburg	09/03-10/03/23	 Online
19/01-20/01/23	 Online		

Status 11/25/2022



Table of Contents

SIP Trunking Advanced – Optimization and Troubleshooting

1 Basic processes

- 1.1 The path through the IMS
 - 1.1.1 Packet Switched to Packet Switched
 - 1.1.2 Packet Switched to Circuit Switched
- 1.2 Provider without IMS
- 1.3 Transit Provider
- 1.4 Basic Call: PS-PS
- 1.5 Basic Call: PS-CS
- 1.6 Early Media and its control
 - 1.6.1 Customized Alerting and Ringing
 - 1.6.2 Announcements and IN
- 1.7 Tasks of the Enterprise SBC
- 1.8 SIP trunk and NAT

2 SIP header fields and SDP attributes

- 2.1 SIP header fields
 - 2.1.1 Caller identification and identity
 - 2.1.2 Destination of a call
 - 2.1.3 Processes in the provider network
 - 2.1.4 Option Tags
 - 2.1.5 Reason Protocols
- 2.2 SDP
 - 2.2.1 SDP attributes
 - 2.2.2 Media Description
 - 2.2.3 Bandwidth attributes

3 Features

- 3.1 Basic Call
- 3.2 SIP Trunk and Features
 - 3.2.1 Caller ID
 - 3.2.2 Forwarding
 - 3.2.3 Transfer
 - 3.2.4 Forking

4 Special services

- 4.1 Key tones via DTMF
 - 4.1.1 Inband: Encoding by the codec
 - 4.1.2 RTP event according to RFC 4733 (RFC 2833)
 - 4.1.3 Key tones via signaling
 - 4.1.4 DTMF on the SIP Trunk
- 4.2 Fax on the SIP Trunk
 - 4.2.1 Inband fax
 - 4.2.2 T.152
 - 4.2.3 T.38
- 4.3 Emergency call
 - 4.3.1 Emergency call regulation
 - 4.3.2 Emergency calls in the Enterprise
 - 4.3.3 Emergency calls at the provider



ExperTech GmbH

Waldstraße 94 • 63128 Dietzenbach • Phone: +49 6074 4868-0 • Fax: +49 6074 4868-109
info@experteach.de • www.experteach-training.com

