

Implementing Broadband Aggregation on Cisco Routers

Dauer: 4 Tage **Kurscode: BBAGG**

Kursbeschreibung:

This four-day hands-on course provides you with the information required to implement various broadband aggregation technologies on Cisco Systems® routers, including routed bridge encapsulation (RBE), Point-to-Point Protocol over ATM (PPPoA), Point-to-Point Protocol over Ethernet (PPPoE), and Layer 2 Tunneling Protocol (L2TP). Nine lab sessions help you practice the techniques taught to ensure you are able to implement the technologies on your network. You also explore related technologies including PPPoE over Ethernet (PPPoEoE), PPPoE over IEEE 802.1Q (PPPoEoVLAN), and PPPoE over IEEE 802.1Q Tunneling (PPPoEoQinQ). You will learn how to implement broadband aggregation on the Cisco® 10000 Series Router and apply the lessons learned as applicable to the Cisco 7200 and 7301 Series Routers.

Zielgruppe:

This course is intended for network professionals who need to know how to implement broadband aggregation technologies on Cisco 10000, 7200, and 7301 Series Routers.

Kursziele:

- **After completing this course, you should be able to:**
- Compare and contrast the various broadband aggregation architectures available with Cisco routers
- Explain how RBE and Request for Comments (RFC) 1483 routing work, describe their typical architectures and benefits, and configure them on Cisco routers
- Explain how PPPoA and PPPoE work, along with descriptions of their typical architecture and benefits, and configure them on Cisco routers
- Explain and configure various methods for optimizing subscriber connections, including permanent virtual connection (PVC) range, autodetect PPP over X (PPPoX) encapsulation, virtual connection (VC) class, ATM PVC autoprovisioning, and broadband aggregation (BBA) groups
- Explain authentication, authorization, and accounting (AAA) services available on Cisco routers and RADIUS servers and configure AAA services on Cisco routers
- Explain how L2TP works, describe its typical architecture and benefits, and configure it on Cisco routers

Voraussetzungen:

Basic DSL end-to-end architecture, either video on demand or leader-led or equivalent experience

Relevant Courses:

- Interconnecting Cisco Network Devices Part 2(ICND2)
- Campus ATM (CATM)

Tests und Zertifizierungen

Nicht verfügbar

Folgekurse:

Bitte kontaktieren Sie uns.

Schulungsinhalt:

COURSE OUTLINE

1. Broadband Aggregation Architectures Overview

- Broadband Aggregation Network Components
- ATM Bridging and Routing Methods
- PPP Broadband Access Methods
- Remote Access into MPLS2. RBE and RFC 1483 Routing
- RBE Protocol Events
- RBE Configuration
- RFC 1483 Routing Protocol Events
- RFC 1483 Routing Configuration3. Point-to-Point Protocol over ATM (PPPoA)
- PPPoA Protocol Stack
- PPPoA Protocol Events
- PPPoA Configuration
- PPPoA Troubleshooting4. Point-to-Point Protocol over Ethernet (PPPoE)
- PPPoE Discovery Process
- PPPoE Protocol Stack
- PPPoE Protocol Events
- PPPoEoA Configuration
- PPPoEoE, PPPoEoVLAN, and PPPoEoQinQ Termination Scenarios
- PPPoEoE, PPPoEoVLAN, and PPPoEoQinQ Configurations
- PPPoE Troubleshooting5. Cisco Aggregation Optimization Features
- PVC Range
- VC Class
- ATM PVC Autoprovisioning
- Autosense PPPoX Encapsulation
- PPPoE Profiles6. AAA Services
- AAA Functions
- AAA-supported Protocols
- Configuring AAA on Cisco Routers
- Troubleshooting Aids7. Layer 2 Tunneling Protocol (L2TP)
- L2TP Components
- L2TP Tunnel and Session Identifiers
- L2TP Protocol
- Typical L2TP Scenarios
- L2TP Configuration
- Tunnel Verification

LAB OUTLINE

Lab 1: Lab Network Orientation
Prepare your lab environment for the rest of the labs by loading the correct configurations into the hardware and ensuring the network is functioning correctly.

Lab 2: Configuring and Testing RBE
Configure RBE on the aggregation router using DHCP addressing. Verify that RBE is functioning properly by observing IP interface address, route and DHCP tables, by using ping and by transferring data to a server.

Lab 3: Configuring and Testing RFC 1483 Routing
Similarly to Lab 2, configure the aggregation router for RFC 1483 routing and confirm its successful deployment.

Lab 4: Configuring and Testing PPPoA
Configure a classroom router to terminate PPPoA connections from customer premises equipment (CPE) usi

Hinweis:

Cisco Advanced Trainings werden vom Global Knowledge Partner Cisco Systems selber durchgeführt. Bitte bringen Sie ggfs. Ihr eigenes Notebook und Patchkabel mit zum Seminar.

Weitere Informationen:

Für weitere Informationen oder Buchung kontaktieren Sie uns bitte unter 0800 / 295 26 33

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