
Cisco IOS XR Broadband Network Gateway Implementation and Verification

Duration: 4 Days Course Code: IOSXR304 Version: 1.0

Overview:

The Cisco IOS XR Broadband Network Gateway Implementation and Verification course teaches you how to successfully deploy, configure, operate, maintain, and support a Cisco IOS XR Broadband Network Gateway (BNG) solution. This course will show you how to implement and verify BNG on a Cisco IOS XR device to manage subscriber access. You will learn how to implement and verify subscriber management functions, including authentication, authorization, accounting of subscriber sessions, address assignment, security, policy management and Quality of Service (QoS).

Target Audience:

Individuals involved in the deployment, configuration, operation and maintenance of a Cisco IOS XR Broadband Network Gateway Solution.

Objectives:

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| ■ After completing this course you should be able to: | ■ Establish and verify subscriber sessions |
| ■ Describe the architecture and function of the Cisco IOS XR Broadband Network Gateway | ■ Prioritize subscriber traffic using QoS |
| ■ Configure and verify Authentication, Authorization, and Accounting (AAA) in a Broadband Network Gateway deployment | ■ Implement subscriber features |
| ■ Define policies to control subscriber traffic | ■ Deploy redundancy for subscriber sessions |
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Prerequisites:

Attendees should meet the following prerequisites:

- Experience working with Cisco IOS XR Software-based platforms
- Basic understanding of routing protocols and Multiprotocol Label Switching (MPLS)
- Basic understanding of AAA functions

Testing and Certification

Recommended as preparation for the following exams:

- There are no exams currently aligned to this course
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Content:

Broadband Network Gateway Overview

- BNG Architecture
- BNG Software and Hardware Requirements

Configuring and Verifying Authentication, Authorization, and Accounting

- AAA Overview and Operation
- RADIUS Operation and Configuration
- DIAMETER Operation and Configuration

Activating Control Policy

- Control Policy Overview
- Creating and Activating Class Maps and Policy Maps
- Defining Dynamic Templates

Establishing Subscriber Sessions

- Subscriber Session Overview
- Establishing IPoE and PPPoE Sessions
- DHCP Operation
- Subscriber Interface Neighbor Discovery
- Static Session and Session Limits
- BGP Subscriber Support

Deploying Quality of Service

- Quality of Service Overview and QoS Feature Support
- RADIUS Based Policing
- Share Policy Instances and Merged Policy-Maps

Configuring Subscriber Features

- Managing Control Plane Traffic
- Controlling Packet Forwarding
- Providing Multicast Services
- Routing and Traffic Mirroring on Subscriber Sessions

BNG Geo Redundancy and XML Support

- Geo Redundancy Overview and Deployment Models
- Configuring and Verifying Geo Redundancy
- XML Support

Labs

- Lab 1: Configuring and Verifying Authentication, Authorization, and Accounting
- Lab 2: Activating Control Policy
- Lab 3: Establishing Subscriber Sessions
- Lab 4: Configuring QoS
- Lab 5: Configuring Subscriber Features
- Lab 6: Configuring BNG Geo Redundancy

Further Information:

For More information, or to book your course, please call us on 353-1-814 8200

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