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Learning Style: On Demand

Technology: Cisco

Difficulty: Intermediate

Course Duration: 40 Hours

Cisco IOS XR Broadband Network Gateway Implementation and Verification (IOSXR304) v1.0 - On Demand

Course Information

About this course:

This course is designed to provide you skills required to successfully deploy,

configure, operate, maintain, and support a Cisco IOS® XR Broadband Network Gateway (BNG) solution.

The course will teach you to manage subscriber access by implementing and verifying BNG on a Cisco IOS XR device. You will also implement and verify subscriber management functions, including authentication, authorization, and accounting (AAA) of subscriber sessions, quality of service (QoS), security and policy management and address assignment.

Course Objective:

You will be equipped with these skills after taking this course:

- Describe the architecture and function of the Cisco IOS XR Broadband Network Gateway
- Define policies to control subscriber traffic
- Establish and verify subscriber sessions
- Prioritize subscriber traffic using QoS
- Implement subscriber features
- Configure and verify authentication, authorization, and accounting (AAA) in a Broadband Network Gateway deployment
- Deploy redundancy for subscriber sessions

Audience:

- Network administrators
- Solution designers
- System installers, integrators, and administrators

Prerequisite:

To fully benefit from this course, you should have the following knowledge and skills:

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

Course Outline:

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

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