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## Cisco IOS XR Broadband Network Gateway Implementation and Verification

**Duration: 4 Days**    **Course Code: IOSXR304**    **Version: 1.0**

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### 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).

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### Target Audience:

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

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### Objectives:

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

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## Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

[info@globalknowledge.co.uk](mailto:info@globalknowledge.co.uk)

[www.globalknowledge.com/en-gb/](http://www.globalknowledge.com/en-gb/)

Global Knowledge, Mulberry Business Park, Fishponds Road, Wokingham Berkshire RG41 2GY UK