ENTERPRISE ROUTING AND SWITCHING, PROFESSIONAL (JNCIP-ENT)

Exam Preparation

We recommend the following resources to help you prepare for your exam. However, these resources aren't required, and using them doesn't guarantee you'll pass the exam.

Recommended Training
- Advanced Junos Enterprise Routing (AJER)
- Advanced Junos Enterprise Switching (AJEX)

Exam Resources
- Industry/product knowledge
- Juniper TechLibrary

Additional Preparation
- Juniper Learning Portal

Exam Objectives

Here's a high-level view of the skillset required to successfully complete the JNCIP-ENT certification exam.

Interior Gateway Protocols (IGPs)

Describe the concepts, operation, or functionality of IGPs:

- IS-IS
- OSPFv2 and OSPFv3
- Routing Policy
- Given a scenario, demonstrate knowledge of how to configure, troubleshoot, or monitor IGPs.

BGP

Describe the concepts, operation, or functionality of BGP:

- BGP route selection process
- Next hop resolution
- BGP attributes - concept and operation
- BGP communities
- Load balancing - multipath, multihop, forwarding table
- NLRI families - inet, inet6
- Advanced BGP options

Given a scenario, demonstrate knowledge of how to configure, troubleshoot, or monitor BGP:

- Implement BGP routing policy

IP Multicast

Describe the concepts, operation, or functionality of IP multicast:

- Components of IP multicast, including multicast addressing
- IP multicast traffic flow
- Any-Source Multicast (ASM) vs. Source-Specific Multicast (SSM)
- RPF - concept and operation
- IGMP, IGMP snooping
- PIM sparse-mode
- Rendezvous point (RP) - concept, operation, discovery, election
- Anycast RP
- MSDP
- Routing policy and scoping

Given a scenario, demonstrate knowledge of how to configure, troubleshoot, or monitor IP multicast:

- IGMP, PIM-SM (including SSM)
- Implement IP multicast routing policy

Ethernet Switching and Spanning Tree

Describe the concepts, operation or functionality of advanced Ethernet switching:

- Filter-based VLANs
- Private VLANs
- Dynamic VLAN registration using MVRP
- Tunnel Layer 2 traffic through Ethernet networks
- Layer 2 tunneling using Q-in-Q and L2PT

Given a scenario, demonstrate knowledge of how to configure, troubleshoot, or monitor advanced Ethernet switching:

- Filter-based VLANs
- Dynamic VLAN registration using MVRP
- Tunnel Layer 2 traffic through Ethernet networks
- Layer 2 tunneling using Q-in-Q and L2PT

Describe the concepts, operation, or functionality of advanced spanning tree protocols, including MSTP or VSTP.

Given a scenario, demonstrate knowledge of how to configure, troubleshoot, or monitor MSTP or VSTP.

L2 Authentication and Access Control

Describe the operation of various Layer 2 authentication or access control features:

- Authentication process flow
- 802.1x - concepts and functionality
- MAC RADIUS
- Captive portal
- Server fail fallback
- Guest VLAN
- Considerations when using multiple authentication/access control methods

Given a scenario, demonstrate how to configure, troubleshoot, or monitor Layer 2 authentication or access control.

IP Telephony Features

Describe the concepts, operation or functionality of features that facilitate IP telephony deployments:

- Power over Ethernet (PoE)
- LLDP and LLDP-MED
- Voice VLAN

Given a scenario, demonstrate how to configure, troubleshoot, or monitor features used to support IP telephony deployments.

Class of Service (CoS)

Describe the concepts, operation, or functionality of Junos CoS for Layer 2/3 networks:

- CoS processing on Junos devices
- CoS header fields
- Forwarding classes
- Classification
- Packet loss priority

- Policers
- Schedulers
- Drop profiles
- Shaping
- Rewrite rules

Given a scenario, demonstrate knowledge of how to configure, troubleshoot, or monitor CoS for Layer 2 or 3 networks.

EVPN

Describe the concepts, operation, or functionality of Junos EVPN:

- Route types (e.g., Type 1, 2 3)
- VXLAN
- Multi-homing (e.g., active route types)

Given a scenario, demonstrate knowledge of how to configure, troubleshoot, or monitor EVPN.

Exam Details

Exam questions are derived from the recommended training and the exam resources listed above. Pass/fail status is available immediately after taking the exam. The exam is only provided in English.

Exam Code

JN0-649

Prerequisite Certification

JNCIS-ENT

Delivered by

Pearson VUE

Exam Length

90 minutes

Exam Type

65 multiple-choice questions

Software Versions

- Junos OS 21.2

Recertification

Juniper certifications are valid for three years. For more information, please see Recertification.

About Juniper Networks

At Juniper Networks, we are dedicated to dramatically simplifying network operations and driving superior experiences for end users. Our solutions deliver industry-leading insight, automation, security and AI to drive real business results. We believe that powering connections will bring us closer together while empowering us all to solve the world's greatest challenges of well-being, sustainability and equality.