Service Provider Routing and Switching, Specialist (JNCIS-SP)

Earn a specialist-level certification that demonstrates competency in networking technology in general and Juniper Networks service provider routing and switching platforms.

The Service Provider Routing and Switching track enables you to demonstrate a thorough understanding of networking technology in general and Juniper Networks service provider routing and switching platforms. JNCIS-SP, the specialist-level certification in this track, is designed for networking professionals with beginner to intermediate knowledge of routing and switching implementations in Junos. The written exam verifies your basic understanding of routing and switching technologies and related platform configuration and troubleshooting skills.

Recommended Training

- Junos Intermediate Routing
- Junos Service Provider Switching
- Junos MPLS Fundamentals

Exam Resources

- Industry/product knowledge
- Juniper TechLibrary

Additional Preparation

- Juniper Learning Portal

Exam Objectives

Here is a high-level view of the skillset required to successfully complete the JNCIS-SP certification exam.

Protocol-Independent Routing

Identify the concepts, operation or functionality of various protocol-independent routing components

- Static, aggregate, and generated routes
- Martian addresses
- Routing instances, including RIB groups
- Load balancing
- Filter-based forwarding

Demonstrate knowledge of how to configure, monitor, or troubleshoot various protocol-independent routing components

- Static, aggregate, and generated routes
- Load balancing
- Filter-based forwarding

Open Shortest Path First (OSPF)

Identify the concepts, operation, or functionality of OSPF

- Link-state database
- OSPF packet types
- Router ID
- Adjacencies and neighbors
- Designated router (DR) and backup designated router (BDR)
- Basic single-area LSA information
- Metrics

Demonstrate knowledge of how to configure, monitor, or troubleshoot OSPF Implement BGP routing policy

- Interfaces and neighbors
- Routing policy application

1133 Innovation Way p +1 408 745 2000
Sunnyvale, CA 94089 f +1 408 745 2100

- Troubleshooting tools

Intermediate System to Intermediate System (IS-IS)

Identify the concepts, operation, or functionality of IS-IS

- Link-state database
- IS-IS PDUs
- TLVs
- Adjacencies and neighbors
- Designated intermediate system (DIS)
- Metrics

Demonstrate knowledge of how to configure, monitor, or troubleshoot IS-IS IGMP, PIM-SM (including SSM)

- Interfaces and adjacencies
- Routing policy application
- Troubleshooting tools

Border Gateway Protocol (BGP)

Identify the concepts, operation, or functionality of BGP

- BGP basic operation
- BGP message types
- Attributes
- Route/path selection process
- IBGP and EBGP functionality and interaction

Demonstrate knowledge of how to configure, monitor, or troubleshoot BGP Filter-based VLANs

- Groups and peers
- Additional basic options
- Routing policy application

Layer 2 Bridging or VLANs

Identify the concepts, operation, or functionality of Layer 2 bridging for the Junos OS

- Service Provider switching platforms
- Bridging elements and terminology
- Frame processing
- Virtual Switches
- Provider bridging (e.g., Q-in-Q Tunneling)

Identify the concepts, benefits, or functionality of VLANs

- Port modes
- Tagging
- IRB

Demonstrate knowledge of how to configure, monitor, or troubleshoot Layer 2 bridging or VLANs

- Interfaces and ports
- VLANs
- IRB
- Provider bridging

Spanning-Tree Protocols

Identify the concepts, benefits, operation, or functionality of Spanning Tree Protocol and its variants

- STP, RSTP, MSTP and VSTP concepts
- Port roles and states
- BPDUs
- Convergence and reconvergence
- Spanning-tree security

Demonstrate knowledge of how to configure, monitor, or troubleshoot STP and its variants

- Spanning-tree protocols - STP, RSTP, MSTP, VSTP
- BPDU, loop and root protection

Multiprotocol Label Switching (MPLS)

Identify the concepts, operation, or functionality of MPLS CoS processing on Junos devices

- MPLS terminology
- MPLS packet header
- End-to-end packet flow and forwarding
- Labels and the label information base
- MPLS and routing tables
- RSVP
- LDP
- Segment routing with MPLS

Demonstrate knowledge of how to configure, monitor, or troubleshoot MPLS

- MPLS forwarding
- RSVP-signaled

1133 Innovation Way p +1 408 745 2000
Sunnyvale, CA 94089 f +1 408 745 2100

- LDP-signaled LSPs
- Shortest path segment-routing LSPs

IPv6

Identify the concepts, operation, or functionality of IPv6

- Static routes
- Dynamic routing - OSPFv3, IS-IS, BGP
- IPv6 over IPv4 tunneling

Demonstrate knowledge of how to configure, monitor, or troubleshooting IPv6

Tunnels

Identify the concepts, requirements, or functionality of IP tunneling

- Tunneling applications and considerations
- GRE

Demonstrate knowledge of how to configure, monitor, or troubleshooting IP tunnels

- GRE

High Availability

Identify the concepts, benefits, applications, or requirements of high availability

- Link aggregation groups (LAG)
- Graceful restart (GR)
- Graceful Routing Engine switchover (GRES)
- Nonstop bridging (NSB)
- Nonstop active routing (NSR)
- Bidirectional Forwarding Detection (BFD)
- Virtual Router Redundancy Protocol (VRRP)

Demonstrate knowledge of how to configure, monitor, or troubleshoot high availability components

- Link aggregation groups (LAG)
- GR, GRES, NSB, and NSR
- Bidirectional Forwarding Detection (BFD)
- VRRP

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

JN0-364

Prerequisite Certification

JNCIA-Junos

Delivered by

Pearson VUE

Exam Length

90 minutes

Exam Type

65 multiple-choice questions

Software Versions

Junos OS v25.2

1133 Innovation Way p +1 408 745 2000
Sunnyvale, CA 94089 f +1 408 745 2100

Recertification

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

1133 Innovation Way
Sunnyvale, CA 94089
p +1 408 745 2000
f +1 408 745 2100

Corporate and Sales Headquarters
Juniper Networks, Inc.
1194 North Mathilda Avenue
Sunnyvale, CA 94089 USA
Phone: 888.JUNIPER (888.586.4737)
or 408.745.2000
Fax: 408.745.2100
www.juniper.net

APAC and EMEA Headquarters
Juniper Networks International B.V.
Boeing Avenue 240
1119 PZ Schiphol-Rijk
Amsterdam, The Netherlands
Phone: 31.0.207.125.700
Fax: 31.0.207.125.701