

JNCIS-SP Exam Objectives (Exam: JN0-361)

This list provides a general view of the skill set required to successfully complete the specified certification exam.

Protocol-Independent Routing

- Identify the concepts, operation and 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 and monitor 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)
 - OSPF area and router types
 - LSA packet types
- Demonstrate knowledge of how to configure, monitor and troubleshoot OSPF
 - Areas, interfaces and neighbors
 - Additional basic options
 - Routing policy application
 - Troubleshooting tools

Intermediate System to Intermediate System (IS-IS)

- Identify the concepts, operation and functionality of IS-IS
 - Link-state database

- IS-IS PDUs
- TLVs
- Adjacencies and neighbors
- Levels and areas
- Designated intermediate system (DIS)
- Metrics
- Demonstrate knowledge of how to configure, monitor and troubleshoot IS-IS
- Levels, interfaces, and adjacencies
- Additional basic options
- Routing policy application
- Troubleshooting tools

Border Gateway Protocol (BGP)

- Identify the concepts, operation and 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
- Groups and peers
- Additional basic options
- Routing policy application

Layer 2 Bridging and 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, and functionality of VLANs
- Port modes
- Tagging
- MVRP
- IRB
- Demonstrate knowledge of how to configure, monitor, or troubleshoot Layer 2 bridging and VLANs
- Interfaces and ports

- VLANs
- MVRP
- 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
 - MPLS terminology
 - MPLS packet header
 - End-to-end packet flow and forwarding
 - Labels and the label information base (LIB)
 - MPLS and routing tables
 - RSVP
 - LDP
- Demonstrate knowledge of how to configure, monitor, or troubleshoot MPLS
 - MPLS forwarding
 - RSVP-signaled and LDP-signaled LSPs

IPv6

- Identify the concepts, operation, or functionality of IPv6
 - IPv4 vs. IPv6
 - Address types, notation and format
 - Address scopes
 - Autoconfiguration
 - Tunneling
- Demonstrate knowledge of how to configure, monitor, or troubleshoot IPv6
 - Interfaces
 - Static routes

- Dynamic routing: OSPFv3, IS-IS, BGP
- IPv6 over IPv4 tunneling

Tunnels

- Identify the concepts, requirements, or functionality of IP tunneling
 - Tunneling applications and considerations
 - GRE
 - IP-IP
- Demonstrate knowledge of how to configure, monitor, or troubleshoot IP tunnels
 - GRE
 - IP-IP

High Availability

- Identify the concepts, benefits, applications, or requirements of high availability
 - Link aggregation groups (LAG) and multichassis LAGs (MC-LAGs)
 - Graceful restart (GR)
 - Graceful Routing Engine switchover (GRES)
 - Nonstop active routing (NSR)
 - Nonstop bridging (NSB)
 - Bidirectional Forwarding Detection (BFD)
 - Virtual Router Redundancy Protocol (VRRP)
 - Unified In-Service Software Upgrade (ISSU)
 - Ethernet Ring Protection (ERP)
- Demonstrate knowledge of how to configure, monitor, or troubleshoot high availability components
 - LAG, MC-LAG
 - GR, GRES, NSR and NSB
 - VRRP
 - ISSU