



Building Cisco Service Provider Next-Generation Networks (SPNGN2), Part 2 (640-878)

Exam Description: The “Building Cisco Service Provider Next-Generation Networks (SPNGN2), Part 2” (640-875) exam is associated with the CCNA® SP certification. This exam tests a candidates knowledge and skills necessary to implement and support a service provider network. Candidates can prepare for this 90-minute, 65–75 questions exam by taking the “Building Cisco Service Provider Next-Generation Networks (SPNGN2), Part 2” course.

The following topics are general guidelines for the content likely to be included on the exam. However, other related topics may also appear on any specific delivery of the exam. In order to better reflect the contents of the exam and for clarity purposes, the guidelines below may change at any time without notice.

- 21%** **1.0** **IP NGN Architecture**
 - 1.1 Identify the functional components required to meet a given network specification
 - 1.2 Troubleshoot common network problems at layers 1, 2, 3, 4, and 7 using a layered model approach
 - 1.3 Describe the different types of service providers
 - 1.4 Describe service provider principal and reference NGN architecture
 - 1.5 Describe the IP address and AS number allocation process via IANA/RIRs

- 23%** **2.0** **Switched Network Technologies II**
 - 2.1 Configure enhanced switching technologies (including RSTP, MST, and PVSTP) on Cisco IOS switches
 - 2.2 Describe how VLANs create logically separate networks and the need for routing between them
 - 2.3 Configure VLANs on Cisco IOS switches
 - 2.4 Configure trunking on Cisco IOS switches
 - 2.5 Configure InterVLAN routing
 - 2.6 Configure REP on Cisco IOS switches
 - 2.7 Configure QinQ on Cisco IOS switches

- 24%** **3.0** **Routed Network Technologies II**
 - 3.1 Configure basic single area OSPFv2 and OSPFv3 routing on Cisco routers
 - 3.2 Configure basic single area IS-IS routing on Cisco routers
 - 3.3 Describe the differences between static versus dynamic routing, as well as distance vector versus link-state routing protocol operations
 - 3.4 Configure basic BGP routing on Cisco routers
 - 3.5 Describe the address family concept on Cisco routers
 - 3.6 Describe IPv6 transitioning technologies
 - 3.7 Configure first hop router redundancy protocol (HSRP, VRRP, GLBP) on Cisco routers

- 3.8 Implement ACL on Cisco routers
- 3.9 Describe Carrier Grade NAT and NAT64
- 3.10 Describe MPLS functions in the SP IP NGN
- 3.11 Configure LDP on Cisco routers

32% 4.0 Cisco Operating Systems and Platforms II

- 4.1 Manage the IOS XR configurations and software packages
- 4.2 Describe IOS XE software packagings
- 4.3 Describe Cisco SP router platforms, their operating system and placement in the SP IP NGN