Nokia Network Routing Specialist II

Nokia Certified

Network
Routing
Specialist II

The Nokia Network Routing Specialist II (NRS II) certification builds on the strong foundation established in the NRS I certification and provides a solid foundation for understanding the more advanced networks and services that can be deployed with IP and Ethernet technologies supported in the Nokia Service Router portfolio.

Key learning outcomes

The NRS II will be of great value to junior and intermediate level engineers who want to take the next step in their careers, advance to a senior network engineer/IP network architect level, and work on the most advanced IP networks in the world. Operations staff and network engineers will find the NRS II invaluable.

Upon completion of the NRS II certification, participants will have strong knowledge of internet routing protocols, IP/MPLS technology, and the Nokia network and services architecture and how it can be utilized to deliver residential and business communication services.

Market need

- Entire markets are transforming rapidly with the convergence of voice and video over packet-based networks. IP has established itself as the protocol of choice to enable convergence of video, voice and data services to meet the requirements of both consumers and enterprises.

- Carrier Ethernet is quickly transforming the service delivery architecture for virtual private networks (VPNs) and triple play service aggregation. The delivery landscape is changing for both consumer and enterprise services alike.

- Service providers need to accommodate and support the new demands for content-rich applications and bandwidth-intensive services based on IP and carrier Ethernet.

- Service providers are looking to evolve their network support staff's aptitude in IP and carrier Ethernet to deliver profitable consumer and enterprise services.

Certification objectives

- Build on the fundamentals and strong foundation established by the NRS I certification.

- Provide a logical career-development progression for network professionals.

- Understand the basics of TCP/IP, routing, routing protocols, IP addressing, Ethernet and services.

- Identify the key functions of the Ethernet protocol and an IP network.

- Know how to configure IP addresses and subnet masks on router interfaces, and verify addressing on an operational network.

- Examine the intricacies of standards-based routing protocols, such as open shortest path first (OSPF) and intermediate system-to-intermediate systems (IS-IS).

- Understand the design decisions that are necessary for the successful implementation of routing protocols in large-scale, service-oriented networking infrastructures for mobile, managed communication and triple play networks.

- Provide an in-depth understanding of multiprotocol label switching (MPLS) concepts, terminology, signaling protocols, design considerations such as resiliency, and the implementation, monitoring and basic troubleshooting of an MPLS network.

- Ensure participants can demonstrate a good understanding of MPLS and the establishment of label switched paths (LSPs) using either label distribution protocol (LDP) or resource reservation protocol (RSVP) and resource reservation protocol with traffic engineering (RSVP-TE).

- Understand the steps for deploying virtual private network (VPN) and residential services in a service provider's MPLS network.
- Understand Nokia's concept and approach to the implementation of various IP services, including Internet enhanced service (IES), virtual private wire service (VPWS) and virtual private LAN service (VPLS).
- Gain an understanding of Nokia's Service Router and Ethernet Service Switch products and how they support advanced IP-based services.

Benefits
- Provides an exceptional professional development path for any IP professional who is involved with building and operating the next-generation of service-driven networks.
- Students will gain a powerful combination of classroom instruction and in-depth lab training to significantly advance their understanding of IP routing protocols and carrier Ethernet for deployment in consumer triple play services and carrier-grade business VPNs.
- Career paths are enhanced by the completion of industry-leading and industry-recognized certification.
- Students are equipped with the skills and knowledge to confidently work in increasingly complex and rapidly changing standards-based IP network environments.

- Students can build on their Nokia NRS I and NRS II certifications and further enhance their networking knowledge by obtaining the: Nokia Mobile Routing Professional, Nokia Triple Play Routing Professional and Nokia Service Routing Architect certifications.

Students may choose to follow courses based on their experience and expertise. Courses have suggested prerequisites. However, a certification can be awarded only to those who pass the written and lab exams required for their chosen certification. All exams identified per certification are mandatory.

The NRS II certification is valid for three years. Re-certification requirements are available at networks.nokia.com/src/recertification.

For more information on the Nokia SRC Program, contact your local Nokia account representative or visit networks.nokia.com/src.

Credit for other IP certifications
If you have already received an IP certification from Cisco or Juniper, and your certification is still valid, you may be eligible to receive credit towards prerequisite written exams in the Nokia Service Routing Certification program. To find out which third-part certifications are eligible for credit, which SRC exam exemptions you may be qualified to receive, and instructions on how to request an exemption, please visit the networks.nokia.com/src/exemptions web page. Please note that your third-party certification must be current/active to receive credit.

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Course and written exam
The following course is recommended but not mandatory. All courses include classroom hours and in-depth lab training.
All exams are mandatory but may be completed in any order to obtain a certification.

Recommended courses	Course duration (days)	Mandatory exam	Mandatory exam pre-requisites
Nokia Scalable IP Networks	4	4A0-100	N/A
Nokia Interior Routing Protocols and High Availability	5	4A0-101	N/A
Nokia Multiprotocol Label Switching	5	4A0-103	N/A
Nokia Services Architecture	4	4A0-104	N/A

Practical lab exam

After completing the required written exams, students are required to complete the following practical lab exam, which tests their ability to configure and troubleshoot a managed communications network.

Mandatory exam	Exam duration (hours)	Mandatory exam	Mandatory exam pre-requisites
Nokia Network Routing Specialist II Lab Exam	3.5	NRSII4A0	4A0-100, 4A0-101, 4A0-103, 4A0-104