

NN-VCP

**NUAGE NETWORKS VIRTUOSO
CERTIFICATION PROGRAM**



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From Nokia



Nuage Networks Virtuoso Certification Program

The Nuage Networks Virtuoso Certification Program (NN-VCP) is designed for engineers, operations, installation, technical sales and product support personnel involved with implementing cloud-based solutions using innovative Nuage Networks Software Defined Networking (SDN) products and technology.

Whether your goal is to develop a better understanding of Nuage Networks cloud-based SDN connectivity solutions or to establish yourself as a distinguished virtuoso, NN-VCP can help get you, your career, and your organization on the winning path.

The Nuage Networks advantage

NN-VCP participants benefit from extensive knowledge and innovative solution approach to delivering cloud services. From the beginning, Nuage Networks recognized the unique challenges that cloud service providers and large enterprises face delivering and managing large, multi-tenant clouds. Our mission is to empower our customers to deliver the level of services long anticipated from the cloud. We envision a world in which IT and IP are no longer in conflict, but rather work in concert to propel your business forward and elevate cloud functionality for every one of your customers. We see a world where innovation isn't hampered by infrastructure and network resources are as effortlessly consumable as compute and storage.

To make this vision a reality, Nuage Networks brings a unique combination of groundbreaking technologies and unmatched networking expertise. This enables us to create solutions that do more than provide incremental improvement. It allows us to introduce radically new thinking and pick up where others have left off, delivering a massively scalable SDN solution that ensures the datacenter and wide area network are able to respond instantly to demand and are boundary-less.

The advantages of the NN-VCP program for you and your organization are significant. You will gain the knowledge, skills and credibility needed to work in leading-edge SDN environments. And you will be well positioned to help your organization or customers succeed in the exciting world of cloud services.



Key program benefits

1. FOCUSES ON INNOVATIVE, LEADING PRODUCTS AND TECHNOLOGIES.

Learn the technologies, products, and best practices for planning, deploying, and operating cloud-based networks and services using the Nuage Networks Virtualized Services Platform (VSP).

2. PROVIDES A FLEXIBLE LEARNING PROGRAM.

Benefit from a defined curriculum tailored to meet varying job roles, career objectives and experience levels.

3. OFFERS HANDS-ON TRAINING.

During the lab components of the program, acquire the techniques and tools needed to accurately install, configure, operate and support SDN-based networks and services.

4. ENABLES ADVANCED SPECIALIZATION.

You can leverage our certification programs to master all aspects of planning and supporting cloud-based networks.

5. IS TAUGHT BY SUBJECT MATTER EXPERTS.

Our certified instructors bring deep technical knowledge and product experience to the classroom.

Learn more about Nuage Networks solutions at
www.nuagenetworks.net

Nuage Networks Virtuoso Certification Program structure

The NN-VCP structure consists of five certifications and seven courses designed to meet varying job roles, objectives and experience levels of program participants.

To achieve a certification, students must complete all the written exams and practical lab exams required for the certification. NN-VCP courses are recommended for learning the content to be covered by the exams but are not required for certification. The recommended courses and required exams for each certification are described below.

Certification overview



Nuage Network Professional – Datacenter (NNP-DC)

Learn the technology and best practices for implementing Nuage Networks SDN solutions for the datacenter.



Nuage Networks Professional – Virtualized Network Services (NNP-VNS)

Learn the technology and best practices for implementing scalable SDN solutions using Nuage Networks Virtualized Network Services (VNS).



Nuage Networks Installation Specialist (NNIS)

Acquire the specialized knowledge and skills required for software installation, verification and troubleshooting of the Nuage Networks VSP.



Nuage Networks Expert (NNE)

Develop expert-level knowledge for planning, installing and operating networks based on the Nuage Networks VSP.



Nuage Networks Virtuoso (NNV)

Master the complete set of end-to-end knowledge, skills and best practices for planning and implementing cloud-based solutions across datacenters and branch sites using innovative Nuage Networks SDN technology.

Exam requirements for certification

The following table summarizes the recommended courses and mandatory requirements for each certification. Class delivery options include:

- Instructor-led classroom
- Instructor-led virtual classroom (live, on-line)
- Dedicated class delivery on-site at customer-specified locations (requires a minimum of 6 students per class)

Courses and written exams	NNPDC <small>NUAGE NETWORKS CERTIFIED</small>	NNP.VNS <small>NUAGE NETWORKS CERTIFIED</small>	NNIS <small>NUAGE NETWORKS CERTIFIED</small>	NNE <small>NUAGE NETWORKS CERTIFIED</small>	NNV <small>NUAGE NETWORKS CERTIFIED</small>
Nuage Networks VSP Fundamentals*	■			■	■
Nuage Networks VNS Fundamentals*		■		■	■
Nuage Networks VSP Software Installation**			■	■	■
Nuage Networks VSP Operations				■	■
Nuage Networks API and Openstack Integration					■
Nuage Networks VSP – Advanced Networking					■
Nuage Networks VNS – Advanced Topics					■
Practical lab exams					
Nuage Networks VSP Software Installation Lab Exam			■	■	■
Nuage Networks Virtuoso Lab Exam					■

* Only one of the VSP/VNS Fundamentals exams is required for NNE and NNV certification. You do not need to complete both.

** There is no written exam for the VSP Software Installation course. The course is recommended for the NNIS, NNE, and NNV certifications.

Certifications are valid for three years. You must complete a recertification exam to keep your certification active.

Class schedules and registration information are available at
www.nuagenetworks.net/certification

Nuage Networks Virtuoso Certification Program exam requirements

NN-VCP written exams are available through the Nokia exam delivery partner, Prometric. The practical lab exams are available at select facilities.

Written exams

Written exams encompass 40 questions, and last 90 minutes.

RECOMMENDED COURSES AND REQUIRED EXAMS	COURSE DURATION (DAYS)	WRITTEN EXAM NUMBER	EXAM REQUIRED FOR CERTIFICATION
Nuage Networks Virtualized Services Platform Fundamentals	5	4A0-N01	NNP-DC NNE** NNV**
Nuage Networks Virtualized Network Services Fundamentals	4	4A0-N02	NNP-VNS NNE** NNV**
Nuage Networks Virtualized Services Platform Software Installation*	4	N/A	NNIS NNE NNV
Nuage Networks Virtualized Services Platform Operations	3	4A0-N03	NNE NNV
Nuage Networks OpenStack Integration	4	4A0-N04	NNV
Nuage Networks Virtualized Services Platform – Advanced Networking	4	4A0-N05	NNV
Nuage Networks Virtualized Network Services – Advanced Topics	3	4A0-N06	NNV

* There is no written exam component for Nuage Networks VSP Installation. The course is recommended for the NNIS, NNE and NNV certifications.

** Only one of the VSP/VNS Fundamentals courses are required for NNE and NNV certification. You do not need to complete both.

Practical lab exams

PRACTICAL LAB EXAM	EXAM DURATION (HOURS)	LAB EXAM NUMBER	EXAM REQUIRED FOR CERTIFICATION
Nuage Networks Virtualized Services Platform Software Installation Lab Exam	3.5	NNIS4A0	NNIS NNE NNV
Nuage Networks Virtuoso Lab Exam	3.5	NNV4A0	NNV

Nuage Networks Virtuoso Certification Program course descriptions and availability

Information and descriptions of NN-VCP courses are provided below. All courses are designed to train participants in Nuage Networks SDN product and solution technology. For participants who want to acquire a certification, the courses prepare them for passing the certification exam(s). You are strongly advised to enroll in the recommended courses if you plan to seek certification. However, candidates are only required to pass mandatory exams to achieve a certification. Each course dedicates a significant amount of time to hands-on lab training to ensure participants develop proficiency in configuration, operations and provisioning.

Courses

Nuage Networks Virtualized Services Platform Fundamentals (course # TTP36005)

This course is designed for service providers, web-scale operators and enterprises needing to understand the technology, techniques and best practices for implementing an SDN solution for datacenters using the Nuage Networks VSP. The course provides detailed coverage of the Nuage Networks VSP components and practical exercises implementing common SDN use cases.

DURATION: 4 DAYS

Nuage Networks Virtualized Network Services Fundamentals (course # TTP36009)

This course is designed for service providers, web-scale operators and enterprises needing to understand the technology, techniques, and best practices for implementing an SDN solution using the Nuage Networks VNS. The course provides detailed coverage of the Nuage Networks VNS components and practical exercises using it to implement cloud-based WAN services.

DURATION: 5 DAYS

Nuage Networks Virtualized Services Platform Software Installation (course # TTP36006)

This course is designed for individuals who need to understand the requirements for, and to perform the software installation of, the Nuage Networks VSP. The course provides practical experience verifying and configuring the hardware and software environment as well as troubleshooting common installation problems.

DURATION: 4 DAYS

For class schedules and availability, please check the NN-VCP website: www.nuagenetworks.net/certification

Nuage Networks Virtualized Services Platform Operations (course # TTP36007)

This course is designed for network operators who are responsible for datacenter operations, including the Nuage Networks VSP and Virtualized Services Assurance Platform (VSAP). The course provides hands-on operations experience with the Nuage Networks VSP including troubleshooting and log file management as well as maintenance and operations using VSAP.

DURATION: 3 DAYS

Nuage Networks OpenStack Integration (course # TTP36011)

This course is designed for systems integrators and developers working with the Nuage Networks application programming interface (API) and integrating the Nuage Networks VSP with common cloud management systems such as OpenStack, CloudStack™ and Docker™ containers.

DURATION: 3 DAYS

Nuage Networks Virtualized Services Platform – Advanced Networking (course # TTP36008)

This course is designed for network professionals who need a deep understanding of the network protocols and technologies used by the Nuage Networks VSP. The course provides a detailed investigation of the operation of the Nuage Networks VSP including VXLAN and BGP EVPN routes as well as integration with MPLS/IP VPNs.

DURATION: 4 DAYS

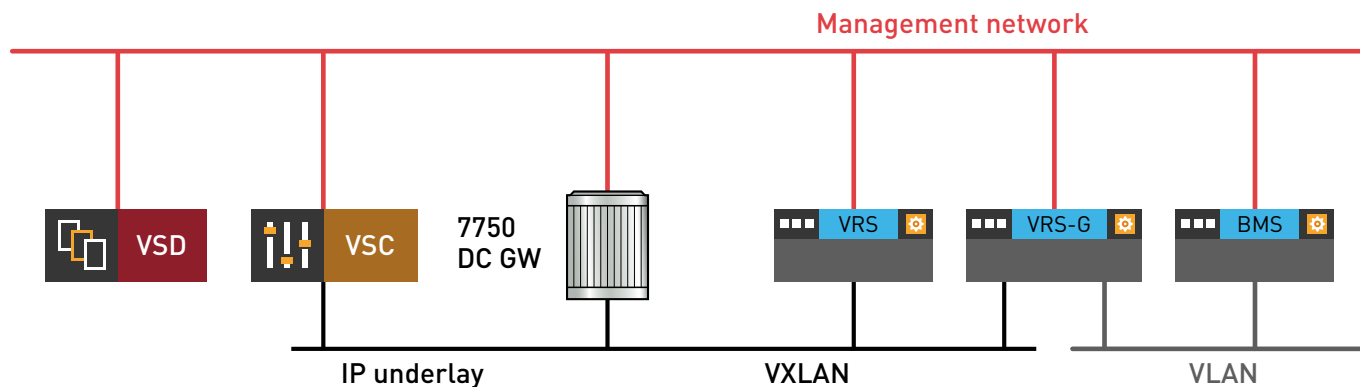
Nuage Networks Virtualized Network Services – Advanced Topics (course # TTP36010)

This course is designed for network professionals who need a deep understanding of the network protocols and technologies used by the Nuage Networks VNS. The course provides a detailed investigation of Nuage Networks VNS operation including device bootstrapping, IPsec and certificate management.

DURATION: 3 DAYS

Need access to a Nuage Networks lab?

MyNuageNetworksLab provides private, remote access to a Nuage Networks SDN lab environment so that users can practice their routing and configuration skills, experiment with features and services and/or get prepared to take the NNV practical lab exam.



For further information, visit the MyNuageNetworksLab website at www.nuagenetworks.net/certification

Get prepared for the new and exciting world of innovative, massively-scalable cloud-based service solutions from Nuage Networks

We all have great expectations for the cloud. Our mission at Nuage Networks is to help you realize its full potential. The Nuage Networks Virtuoso Certification Program is specifically designed to build the skill sets of SDN professionals tasked with building and operating advanced, massively scalable cloud networks and services that align with business goals of customers and their end users. A Nuage Networks certified workforce translates into many business and competitive advantages, including:

- Faster time-to-market
- Ability to implement massively scalable and flexible SDN solutions for datacenters and wide area networks
- Improved operational costs and efficiencies
- Superior planning, deployment and operational delivery skills
- Improved customer service experience

For more information about the Nuage Networks Virtuoso Certification Program visit www.nuagenetworks.net/certification