MEF-SNCP Certified Professional Exam Resources

The MEF-SNCP exam attests and formally certifies that the successful candidate has vendor-neutral knowledge, skills, and abilities in the major domains of software defined networking (SDN) and Network Functions Virtualization (NFV). This certification exam presupposes foundational knowledge in computer networking practices and technologies, which can be validated by the MEF Networking Foundations (MEF-NF) certification exam (note: the MEF Networking Foundations certification is a suggested, but not a mandatory prerequisite, for the MEF-SNCP certification exam. As regards the cognitive difficulty or intellectual rigor of the MEF-SNCP certification exam, it is a professional-level (operator, engineer) level certification examination for technical professionals attesting to professional, practitioner-level mastery of the content domains. The content domains are structured about the major tasks in operating SDN and NFV—planning, deploying, and managing.

To pass the MEF-SNCP exam, a foundational knowledge of computer networking is assumed, with specific familiarity with various conceptual models of networking (OSI, Internet, etc.) and technologies also required. Such knowledge is formally validated by the CompTIA Network+™ certification examination. Additionally, the MEF Network Foundations certification training and exam is a thorough introduction to SDN and NFV. At least two years' familiarity with the technologies of SDN/NFV are recommended. Resources that would be helpful include publications on networking, as well as foundational certifications in networking from Cisco, Citrix, CompTIA, Juniper, or Microsoft, and materials freely available from MEF, Open Networking Foundation, ETSI-NFV, and SDN/NFV projects from The Linux Foundation.

Minimally Qualified Candidate (MQC)

The Minimally Qualified Candidate (MQC) determination is integral to a valid and reliable certification exam. This main character must be clearly-defined before starting the exam development project. From designing the blueprint, composing test questions to identifying the passing score, the MQC Profile provides subject matter experts (SMEs) with a mental picture to help them determine the point of separation between minimally-proficient and less-than-proficient qualifications. The MEF SDN/NFV MQC has the knowledge of foundational networking technology (as validated by the CompTIA Network+ certification, the MEF Network Foundations certification, or their equivalent), and has likely managed computer or telecom networks for 3-4 years. The MQC possesses vendor-neutral skills in software-centric networking technologies. The MQC will typically have experience in one or more of the areas of network operations, network design, network architecture, product management, and sales engineering. The MQC is expected to complete these tasks without assistance:

- Create conceptual-level designs for SDN and /or NFV solutions (independent of technology)
- Explain how SDN and NFV complement and reinforce each other
- Explain the concept of a service chain
- Determine required SDN controller functionality
- Explain the interfaces and functionality of SDN and NFV components
- Identify the various components in an SDN/NFV system
- Select products for networking services based on the business requirements using SDN/NFV
- Explain the three levels of SDN as defined in the MEF Network Foundations examination blueprint
- Explain the various SDN frameworks
- Anticipate potential issues and determine how to prevent them
- Describe the steps when integrating a new network element/network function into an SDN/NFV domain

The MQC is expected to participate in these tasks with substantial guidance, mentoring, or instruction:

- Implement an SDN/NFV solution
- Implement a service chain
- Troubleshoot SDN/NFV technologies when they break or are misconfigured
- Choose and install an SDN controller
- Select an SDN and NFV ecosystem based on the functional requirements of the services each will carry
- Integrate a new network element/network function into an SDN/NFV domain
- Capacity planning/dimensioning/scale in and scale out of network functions and SDN controllers

The MQC is should be able to perform these tasks, or to define these terms, which are below the knowledge, skills, and abilities assessed on this exam:

- Definitions of SDN, characteristics of SDN solutions, evolution, benefits, challenges in deployment, scenario & implementation analysis, understanding the components involved in an SDN solution. This knowledge is concept-level only.
- Definitions of NFV, characteristics of NFV solutions, evolution, benefits, challenges in deployment, scenario & implementation analysis, security, understanding the components involved in an NFV solution. This knowledge is concept-level only.

The MQC may be able to perform these tasks, but it is not expected at this level:

- Software development
- Hardware design
- Develop and program an SDN application or controller service
- Develop and program a network function
- Onboard a virtual network function
- Complete network design of an operator network

The MQC should be familiar with these tools:

- Packet analyzer
- Network simulator/emulator
- Desktop Hypervisor

The MQC should be comfortable working in these environments:

- Virtualization environments
- Production network environment
- Telecom industry

Primary References:

1. Building the Network of the Future: Getting Smarter, Faster, and more Flexible with a Software-Centric Approach, by John Donovan and Krish Prabhu. New York, CRC Press, 2017. Click here
2. Computer Networks: An Open Source Approach, by Ying-Dar Lin, Ren-Hung Hwang, and Fred Baker. McGraw Hill Science/Engineering/Math; (January 24, 2011) Click here
3. Foundations of Modern Networking: SDN NFV, QoE, IoT, and Cloud, by William Stallings. Addison Wesley, 2016. Click here
4. MPLS in the SDN Era: Interoperable Scenarios to Make Networks Scale to New Services, by Antonio Sanchez Monge and Krzysztof Grzegorz Szarkowicz. Boston: O'Reilly Publishers, 2016. Click here
5. Navigating Network Complexity: Next Generation routing with SDN, Service Virtualization, and Service Chaining, by Russ White and Jeff Tantsura, Addison Wesley, 2016. Click here
6. Network Innovation through OpenFlow® and SDN: Principles and Design, By Fei Hu. CRC Press (February 18, 2014) click here
7. Network Functions Virtualization (NFV) with a Touch of SDN, by Rajendra Chayapathi, Syed Hassan, and Paresh Shah. New York, Addison Wesley, 2017. Click here
8. OpenFlow® Cookbook, by Kingston Smiler. Publisher: Packt Publishing ebooks Account (March 27, 2015) Click here
9. SDN & NFV Simplified: A Visual Guide to Understanding Software Defined Networks and Network Function Virtualization, by Jim Doherty. Addison Wesley, 2016. Click here
10. SDN Security Considerations in the Data Center, ONF Solutions Brief, 2013. Published by Open Networking Foundation. Click here
11. Software Defined Networking (SDN): Anatomy of OpenFlow® Volume I, by Doug Marschke, Jeff Doyle, Pete Moyer, 2015. Click here
12. Software Defined Networking: Design & Deployment, by Patricia Morreale and James Anderson. CRC Press, 2015. Click here
13. Software Defined Networking with OpenFlow, by Siamak Azodolmolky, Publisher: Packt Publishing, 2013 Software Defined Networks: A Comprehensive Approach, 2nd Edition, by Paul Goransson, Chuck Black and Tim Culver. Publisher: Morgan Kaufmann; 2016. Click here