

NFV MANO in Half a Day

CONTENTS

This course uses as a starting point the main ETSI NFV architecture with its building blocks, and then focuses its attention on the Management and Orchestration (MANO) functions. While still keeping the big picture and real-world use cases in view, it describes the three main sub-components of MANO (NFVO, VNFM and VIM) and explains how they are used to construct a Network Service (NS) comprising virtualized as well as physical network functions (VNFs and PNFs) connected with virtual network links (VLs).

This course exists in a shorter version, MANO in an Hour, and a full-length version covering all topics in much more detail.

PREREQUISITES

Working knowledge of computer and telecommunications systems as well as understanding of the ETSI NFV architecture corresponding to the course “Network Function Virtualization - Architecture and Principles”.

NOTE: This course is not delivered with the FoldOut methodology.

ETSI NFV

- NFV Architecture
- ETSI Reference Points
- Network Services
- PNFs and VNFs
- Virtual Links and Connection Points

MANO Functions and RESTful APIs

- NFV Orchestrator (NFVO)
- VNF Manager (VNFM)
- Virtualized Infrastructure Manager (VIM)
- NFVO/VNFM/VIM
 - Responsibilities
 - Stored Data
- Reference Points vs Interfaces
- Main Functionality of Interfaces
- RESTful API Approach
- HTTP Request Line Construction

The NFV Network Service

- Profiles for VNF/PNF/NS
- Virtual Links and Link Ports
- VNF Forwarding Graphs
- Example: Voice over 5G

Network Service Instantiation

- The Role of Descriptors
- The Role of Deployment Flavours (DF)
- The Role of Instantiation Levels
- NS Instantiation Flow
- VNF Instantiation Flow

On-Boarding Network Services and Functions

- VNF Packages
- VNFD/NSD/PNFD Files
- TOSCA, YAML and CSAR
- VNF Onboarding Flow
- NS Onboarding Flow

Scaling

- NS Scaling
- VNF Scaling
- Who Decides Scaling
- Who Performs Scaling

MANO Extended Edition

- Multiple NFVOs and VIMs
- WAN Infrastructure Manager (WIM)

Open Source MANO Examples

- OSM
- ONAP