



# ETSI NFV MANO Northbound API Overview

- [ETSI NFV MANO Northbound API Overview, on page 1](#)

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The ETSI NFV MANO API (ETSI API) is another programmatic interface to ESC that uses the REST architecture. The ETSI MANO adheres to the standards defined by the European Telecommunications Standards Institute (ETSI), specifically around Management and Orchestration (MANO). The API accepts and returns HTTP messages that contain JavaScript Object Notation (JSON) payloads. The API contains its own datamodel designed around the ETSI MANO specifications that abstract away from the ESC core datamodel.

For information on VNF lifecycle management operations using the REST/NETCONF APIs, see the [Cisco Elastic Services Controller User Guide](#).

**Table 1: ETSI MANO Specifications**

Specification	Version Support	Description
SOL001	v2.7.1	Format and structure for the VNF Descriptor
SOL002	v2.7.1	Defines all interactions over the Ve-Vnfm reference point
SOL003	v2.7.1	Defines all interactions over the Or-Vnfm reference point

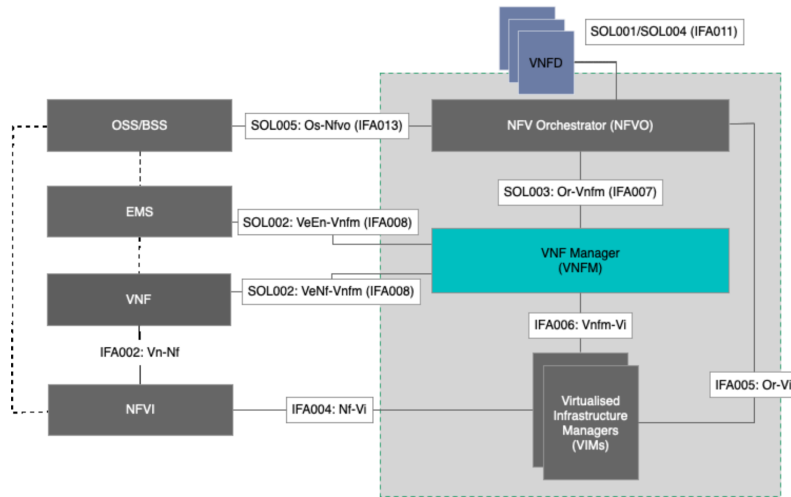


**Note** The terminology used in the ETSI-specific sections of the user guide align to the ETSI MANO standards defined in the ETSI documentation. For more information, see the [ETSI website](#).

The current implementation of the ETSI NFV MANO standards consists of the Or-Vnfm and Ve-Vnfm reference points, which are the interfaces between the NFVO and VNFM, and the EM and the VNFM respectively. Both of these allow for the onboarding of ETSI-compliant CSAR packages, management of virtualized resources, and VNF lifecycle management (LCM) operations.

For more information on Or-Vnfm and Ve-Vnfm reference points, see the *ETSI Group Specification document* on the ETSI website. The figure below represents the NFV MANO architecture for all reference points.

Figure 1: NFV MANO Architecture with Reference Points



For information on managing resources, see [Resource Definitions for ETSI API](#).