DMTF Network Management Initiative - NETMAN

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Disclaimer

- The information in this presentation represents a snapshot of work in progress within the DMTF.
- This information is subject to change. The Standard Specifications remain the normative reference for all information.
- For additional information, see the Distributed Management Task Force (DMTF) Web site.

Synopsys and Outline

- Why NETMAN?
- Why DMTF?
- NETMAN Goals
- NETMAN Methodology
- Network Management Profile Architecture
- Relevant Management Profiles
- NETMAN DMTF Alignment Areas
- NETMAN and Peer SDOs and Forums
- NETMAN Governance

Why NETMAN?

- Rapid development of cloud, virtualization and software defined networks magnified the management challenges for service providers
  - Without seamless network management the consumers will not be able to fully benefit from the dynamic, cost-effective and fault tolerant services these environments enable
- Existing and emerging network management standards still do not attempt to integrate across server, virtualization and cloud management
  - Narrowly focused on the individual domains
  - Customer facing service management still requires expensive integration between various individually standard-compliant systems
- The goal of the DMTF Network Management Initiative is to develop and promote the network management standards that spawn across these technology domains

Why DMTF?

- DMTF already has a solid foundation in the area of compute and storage management
  - Starting from non-virtualized environment
  - Supporting virtualized environment and cloud ecosystems
- We can expand the same principles towards the management of the virtualized, physical and hybrid **network** environments
  - Enabling the creation of the management ecosystem across technology domains
    - Compute
    - Network
    - Storage
  - Allowing creation of complete management stacks across management viewpoints
    - Virtualization System and Network Management Profiles
    - OVF
    - CIMI

NETMAN Goals

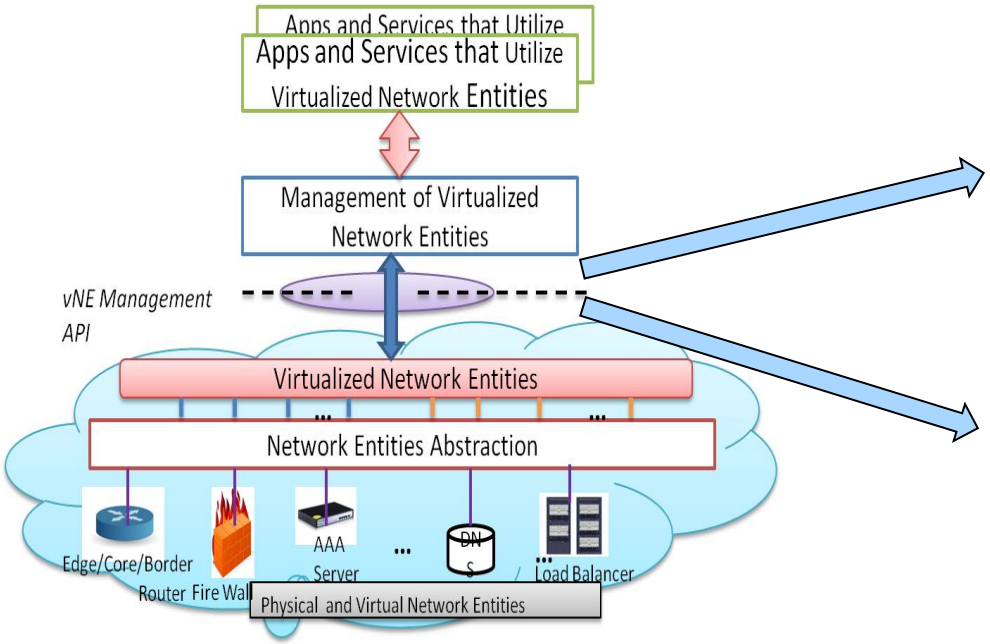
- Facilitate interoperable management across multiple network environments
  - Physical, Virtual and Hybrid
  - Including support for the ETSI NFV requirements
- Enable creation of a common management infrastructure for network resources and services
  - Across technology domains
  - Across management viewpoints
  - Spanning across multiple implementations, including open source solutions
- Deliver effective management of the network environment within Software Defined Data Center (SDDC)

NETMAN Methodology

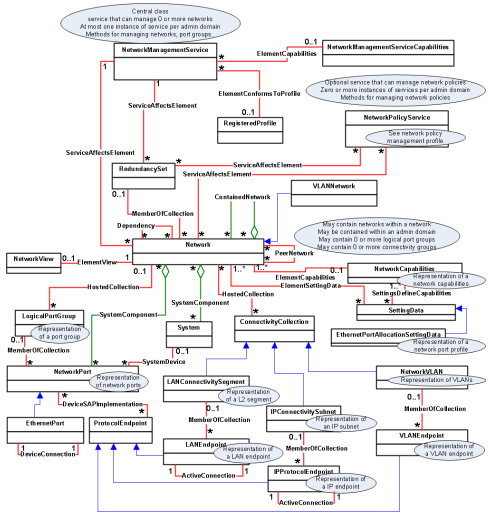
- Development of the relevant management profiles
  - The Network Services Management WG (NSMWG) is already working on the number of management profiles
- Alignment within DMTF on all network management related work
  - The goal is to make sure that all the specs that are touching the network management aspects are harmonized across DMTF
    - Virtualization management
    - Cloud Management
    - OVF
    - Security
- Work with the peer SDOs and forums on
  - Use and adoption of DMTF standards
  - Harmonization of standards

Network Management Profiles Architecture

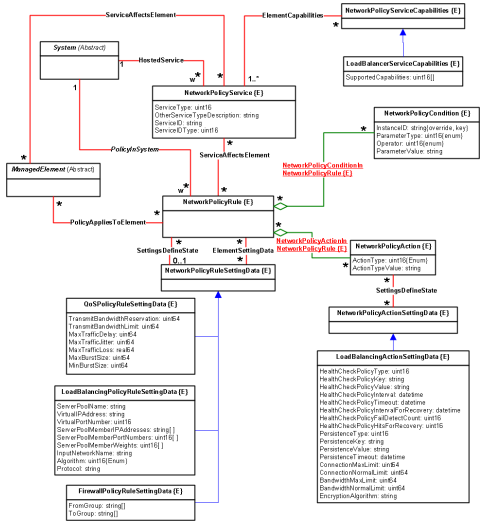
Network entities (resources and services) abstraction, virtualization and management



Network Management



Network Policy Management



The Management Profiles

Published

DSP#	Title	Document Name	Publication Date
DSP2034	Network Services Management Use Cases White Paper	DSP2034_1.0.0	2013-06-12
DSP1050	Ethernet Port Resource Virtualization Profile	DSP1050_1.0.0.pdf	2010-10-14
DSP1097	Virtual System Ethernet Switch Profile	DSP1097_1.1.0.pdf	2012-06-21
DSP2025	Virtual Networking White Paper	DSP2025_1.0.0.pdf	2012-02-14

Work in Progress – publicly available

DSP#	Title	Document Name	Expiration Date
DSP1063	Network Management L3 Interface Management Profile	DSP1063_1.0.0b	2014-07-13
DSP1065	Network Policy Management – Virtual Routing and Forwarding Management Profile	DSP1065_1.0.0a.pdf	2014-07-13
DSP1046	Network Management Profile	DSP1046_1.0.0b	2014-07-13

The Management Profiles, Contd.

In Development

DSP#	Title	Completion Date
DSP1046	Network Management Profile	Q3 2014
DSP1048	Network Policy Management Profile	Q3 2014
DSP1062	Network Policy Management – Access Control List Profile	Q4 2014
DSP1063	Network Management L3 Interface Management Profile	Q3 2014
DSP1064	Network Management – BGP Profile	Q3 2014
DSP1065	Network Policy Management – Virtual Routing and Forwarding Management Profile	Q3 2014
DSP1066	Network Management – Routing Service Profile	Q4 2014
DSP2035	Network Policy Management White Paper	Q3 2014
DSP1060	Network Policy Management – Network Resource Security Group Profile	Q4 2014
DSP2036	Topology Management Whitepaper	Q4 2014
DSPxxxx	Network Management Whitepaper	Q4 2014
DSP1068	DHCP Service Management Profile	Q4 2014
DSP1069	DNS Service Management Profile	Q4 2014
DSPxxxx	Network Management – Tunneling Management Profile	Q1 2015

NETMAN Alignment Areas

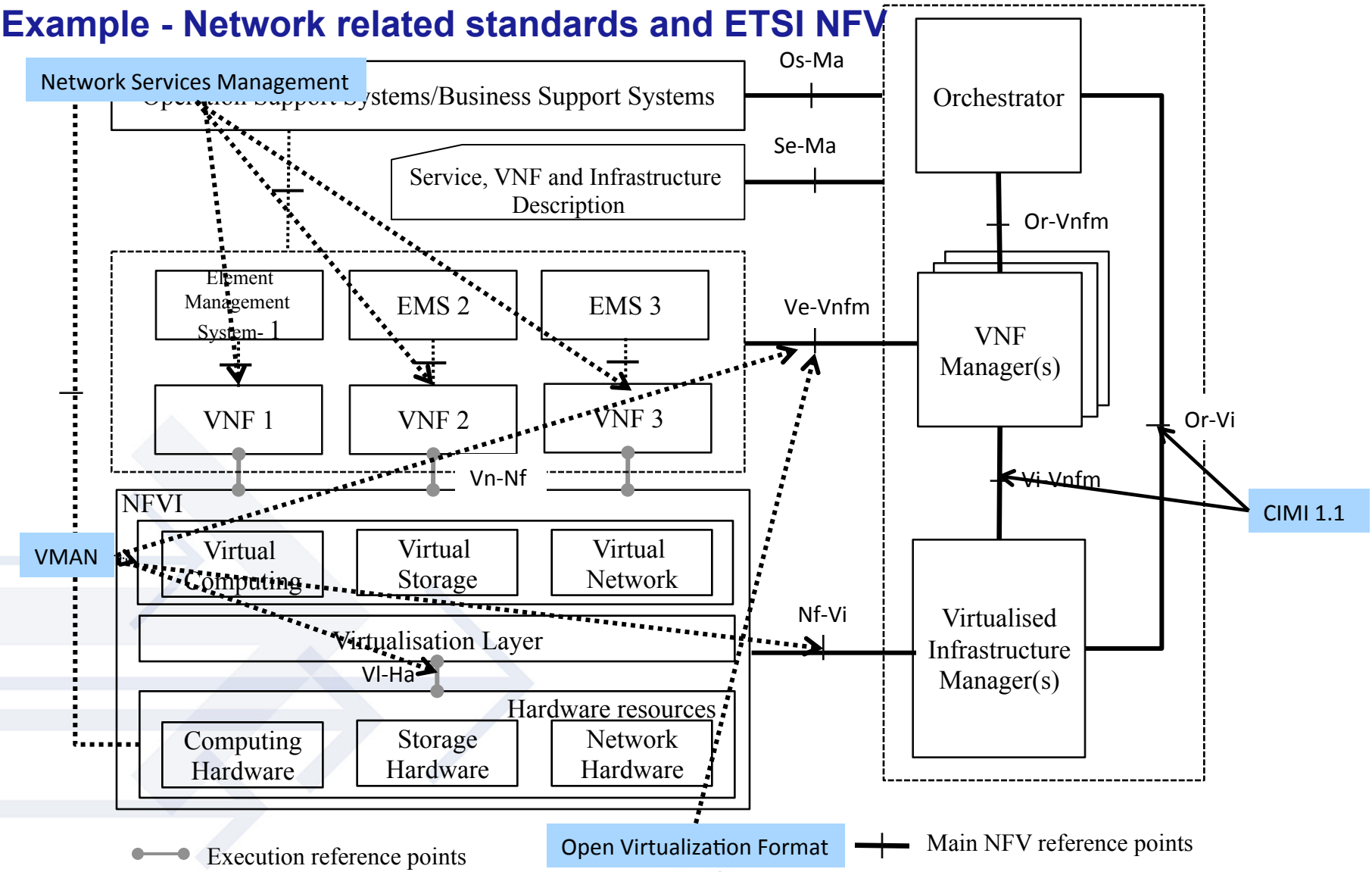
- Use Case alignment
  - Consider the levels of abstractions and show how the concepts are connected together in each model and between the models
  - Consider different user roles – user, admin, network admin – each user needs different management view into a system, different level of abstractions.
  - Need to take storage into account as well
- Relationships between CMWG, OVF and CIM network edge models
  - Network edge specification differences between CIMI and OVF and the relationships to the CIM network model
  - Network termination point model differences
    - Network ports and machine network interfaces and where to apply CoS and measure QoS
- Network model differences
  - Network and Network Forwarding groups. Currently in CIMI there are very simple representation of routing between L2 broadcast domains
  - Forwarding/internetworking in OVF. The representation of Virtual Network Devices in OVF and the corresponding CIMI abstraction
- Networking above L2 in CIMI
  - There are at least 2 Use Cases related to the OVF import and CIMI needs to support this as well
  - Need to have an acceptance of the OVF Use Cases in CIMI/CMWG
- Concepts or Private/Public/Guest in CIMI and how they map to OVF
- Alignment with OpenStack

NETMAN and Peer SDOs and Forums

- To accelerate the development and adoption of standards across the industry NETMAN will conduct work with peers SDOs and Forums
- On use and adoption of DMTF standards
  - **ETSI Network Function Virtualization** [1]
  - **ODCA** [1]
  - **ISO**
  - **GICTF** [1]
- On standards harmonization
  - **TM Forum** [1]
  - ONF
  - IETF (for management)

1. Liaison and Work Register

Example - Network related standards and ETSI NFV



NETMAN Initiative Governance

- The NETMAN Initiative has the following components:
  - Technical Committee is responsible for Technical Components and Definition of Network Management. These Will Include:
    - The TC Approved NETMAN Implementation Requirements Specification (i.e. the wrapper spec)
    - The Specifications referenced by the NETMAN Implementation Requirements Specification
    - An NETMAN White Paper that defines NETMAN's technical components
  - Marketing Committee is responsible for the Messaging Components of NETMAN. These Will include:
    - Web Page Content for the NETMAN Web Pages
    - Press Releases, Tech Note development, Web Page messaging, organization & content, and Event Coordination for the messaging of the NETMAN Management Initiative
  - The Interoperability Committee is responsible for the Compliance & Interoperability Components of NETMAN. These may include
    - Plugfests, Demonstrations, Compliance Specification Development & Test Suites

Questions, Ideas, Thoughts?