AGENDA

- Architectural Principles
- Scope & Mapping to ETSI NFV
- Status Update & Releases
- Data Model
OSM ARCHITECTURAL PRINCIPLES

- Layering
- Abstraction
- Modularity
- Simplicity

Architectural Principles
OSM SCOPE & MAPPING TO ETSI NFV MANO

Run-Time Scope
- Automated end-to-end Service Orchestration
- Superset of ETSI NFV MANO
- Plugin model for multiple VIMs/SDN Controllers
- Generic VNFM style functionality with support for integrating Specific VNFMs
- Physical Network Function integration
- Greenfield and brownfield deployments
- GUI

Design-Time Scope
- Network Service Definition (CRUD operations)
- Model-Driven Environment with Data Models aligned with ETSI NFV
- VNF Package Generation
- GUI
OSM: DEVELOPMENT THEMES

- On-boarding & VNF Packaging
  - Simplified install & upgrade process
- Improved development environment
- Service Modelling
- Enhanced Platform Awareness
- Multiple VIMs & SDN Controllers
- Multiple Sites
RELEASE ZERO HIGHLIGHTS

Community Release
• Ahead of schedule on May 26, 2016

Single entry point
• VNF and NS packages.

Readability
• YAML

Apache 2.0 licenced
• Clean code base

Documentation
• Extensive set

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RELEASE ONE HIGHLIGHTS

On-boarding & VNF Packaging

- Simplified install & upgrade process
- Improved development environment
- Service Modelling
- Enhanced Platform Awareness
- Multiple VIMs & SDN Controllers
- Multiple Sites

- cloud-init
- Create networks at VIM
- Remove NSD Datacenter Network Reference
- Error Messages and Logging
- YAML Format Descriptor Display
- Package Creation
On-boarding & VNF Packaging

Simplified install & upgrade process

Improved development environment

Service Modelling

Enhanced Platform Awareness

Multiple VIMs & SDN Controllers

Multiple Sites

- Single entry point for all Modules for compilation and installation
- One Click Installation
On-boarding & VNF Packaging
Simplified install & upgrade process
Improved development environment
Service Modelling
Enhanced Platform Awareness
Multiple VIMs & SDN Controllers
Multiple Sites

- Comprehensive CI/CD environment
- Jenkins based build system
- Git
- Gerrit integration
- Containerised Deployments
- Remote Labs
Network of Remote Labs offering different combinations of NFV Infrastructure and VIMs.

Part of the OSM CI/CD pipeline.

Remote labs securely connected over ETSI’s Hub for Inter-operability and Validation (HIVE).

Ensure that OSM inter-operates successfully with multiple VIMs and NFV Infrastructure.

Minimise barriers for community engagement.
On-boarding & VNF Packaging
Simplified install & upgrade process
Improved development environment

Service Modelling

- Enhance Visual Differentiation between NS Catalog and VNF Catalog
- Restructure Layout of Service Primitive Page
- Juju-2.x
  - Multi-model controller
  - Multi-user controller
- Network Types in RO
- Allow IP Parameters for
On-boarding & VNF Packaging
Simplified install & upgrade process
Improved development environment
Service Modelling

Enhanced Platform Awareness

Multiple VIMs & SDN Controllers
Multiple Sites

• High Performance, High Efficiency Deployments with EPA
  • NUMA
  • CPU Pinning
  • Huge Pages
  • PCI Passthrough
  • SR-IOV
On-boarding & VNF Packaging
- Simplified install & upgrade process
- Improved development environment
- Service Modelling
- Enhanced Platform Awareness
- VMware vCloud Director
  - Initial implementation
- OpenVIM
  - Now under OSM governance
  - Powerful EPA support
- OpenDaylight
- Floodlight
Multiple VIMs & SDN Controllers
Multiple Sites
On-boarding & VNF Packaging

Simplified install & upgrade process

Improved development environment

Service Modelling

Enhanced Platform Awareness

Multiple VIMs & SDN Controllers

Multiple Sites

- Enables even more powerful automated end-to-end service delivery
RELEASE ONE: AUTOMATED E2E SERVICE DELIVERY WITH MULTIPLE VIMS
INFORMATION VS DATA MODELS

IM --> conceptual/abstract model
     for designers and operators

+--------------------------+

| DM | DM | DM |

DM --> concrete/detailed model
     for implementors

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OSM DATA MODELS

Aligned with ETSI NFV ISG Phase 1 Information Models

Analysis underway on ETSI NFV ISG Phase 2 Information Models

- Will work with the NFV community for clarifications, bug fixes (sightings) and feature advances.
- Possible intersect with OSM Release THREE
<table>
<thead>
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DIRECT MAPPING FROM MODELS AT THE UI

**OSM INTERNALS**

**VNF package**
- VNFD
- VNF Artefacts
- Additional Metadata

**OpenMANO VNFD**
- VNF resource orchestration info (EPA resources and internal connectivity)

**Juju charm**
- Descriptive information
  - metadata.yaml
  - config.yaml
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- Executables
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  - Actions
- Additional info (icon, README)
ARCHITECTURE SUPPORTS MULTIPLE DATA MODELS

VNF package
- VNFD
- VNF Artefacts
- Additional Metadata

Data Model Translator

OpenMANO VNFD
- VNF resource orchestration info (EPA resources and internal connectivity)

Juju charm
- Descriptive information
  - metadata.yaml
  - config.yaml
  - actions.yaml
- Executables
  - Hooks
  - Actions
- Additional info (icon, README)
SUMMARY & DIRECTION

Release ONE

- Completed Ahead Of Time
- Delivering Functionality Aligned With Chosen Focus Areas

Release TWO Development Themes

- Data Plane Performance
- Service Assurance (KPIs, Scaling)
- Security
- Dynamic Configuration (SFC, Nested Services, etc.)
- Data Model Attribute Coordination with the Industry
- Support for Multiple Input Formats