OSM: 7 FULLY FUNCTIONAL DEMOS

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OSM COMMUNITY IS REALLY LARGE AND DIVERSE, WITH 106 MEMBERS TODAY...

- 11 Global Service Providers
- Leading IT/Cloud players
- VNF providers

(*) Names & brands may be claimed as the property of others
OSM IS ABOUT TO DELIVER ITS 5TH RELEASE, AFTER REACHING PRODUCTION READINESS...

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• The Open Source Mano community encourages members to design and deploy Proofs of Concept (PoCs) that are:
  • Relevant to contribute to further development of OSM
  • Showcase OSM in real-world useful scenarios and use cases

• Multi-vendor and/or component PoCs are welcome and encouraged
DEMO 1: OSM MWC16 E2E ORCHESTRATION

• **BY:** 6Wind, Canonical, Indra, Intel, Metaswitch, Rift.IO and Telefónica

• **SCOPE:** A network core composed by 3 PE routers (multi-tenant VNF) is deployed with EPA characteristics and automatic dataplane underlay connectivity

• Multi site L3 VPN service with value added services

• A carrier VPN is provisioned and used to demonstrate 10 GbE line rate performance using a traffic generator.

• IMS Service deployed in a separate data center and call pinned up

• Video Available at: [https://www.youtube.com/watch?v=JJlxwJStkTk&t=105s](https://www.youtube.com/watch?v=JJlxwJStkTk&t=105s)
DEMO 1 TOPOLOGY

[Diagram showing network topology with labels such as "Corporation SP 10.0.1.0/24," "Corporation A 10.0.1.0/24," "SSL VPN 1," "SSL VPN 2," "VLANs," and "VIMs." Symbols for multi-tenant VNF, single-tenant VNF, VIM tenant, L2 connection for dataplane, and L2 connection for low BW are also present.]
DEMO 2: LIFE CYCLE MANAGEMENT OF VIMS WITH OSM

- **BY:** xFlow Research, Metaswitch

- **Scope:** Deployment of Clearwater All-in-1 vIMS using OSM R#1 on OpenStack

- Deployment, configuration and management of full virtual IMS solution.

- vIMS NS/VNF package creation and deployment on OpenStack

- Video Available at: [https://www.youtube.com/watch?v=x9zWQyRU2zY](https://www.youtube.com/watch?v=x9zWQyRU2zY)
DEMO 3: OSM DEPLOYMENT IN TO PUBLIC CLOUD

• **BY:** xFlow Research

• **Scope:** Deployment of sample NS (CirrOS, VyOS) on Amazon Web Services using OSM Release 1

• Explanation of various available components in AWS

• Comparison of AWS components with OpenStack components

• Deck available for download here: https://docbox.etsi.org/OSG/OSM/05-CONTRIBUTIONS/2017/OSM(17)000045_Public_cloud_-_AWS.pptx
RELEASE 2 DEMOS
DEMO 4: SERVICE ASSURANCE WITH VPROBES AND OSM

• **BY:** RADCOM

• **SCOPE:** OSM to deploy and configure MaverIQ vProbes

• Create and instantiate a vProbe via OSM

• Capture and monitor network traffic

• Verify vProbe’s packet reception

DEMO 5: NETWORK SERVICES WITH INTEGRATED VNF VERIFICATION

• **BY:** Ixia, Canonical, DataArt Solutions, and Sonus

• **SCOPE:** Network Services with Integrated VNF Verification

• Automated deployment and execution of carrier-grade network testing and monitoring

• Packaging and modelling with OSM and Juju

• Using Ixia’s Phantom Virtual Tap for network visibility

• Using Ixia’s IxLoad Virtual Edition for comprehensive network testing

• Sonus Session Border Controller Software Edition to operate across diverse virtualized infrastructure
RELEASE 3 DEMOS
DEMO 6 (POC #1): DEVOPS IN SERVICE CHAINS AND 5G NETWORK SLICES

• **BY:** Telenor, Arctos Labs, Cisco, Intel, Netrounds, and RIFT.io

• **SCOPE:** Automation of active testing through DevOps approaches to network management during 5G network slice deployment.

  • Dynamic control of virtual services and 5G network slices.

  • Using OSM for advanced orchestration of virtual test agents as part of network service design (NSD) for full SLA assurance.
DEMO 6: RESOURCES

- Official OSM POC #1 Web
  - https://osm.etsi.org/wikipub/index.php/OSM_PoC_1_-_DevOps_in_Service_Chains_and_5G_Network_Slices

- White Paper

- Demo Video
• BY: VMware, RIFT.io, Fortinet, DataArt
• Additional Software used: ffmpeg, vyatta router, ixia traffic sim
• SCOPE: OSM Rel THREE as an orchestrator to deploy and maintain edge services in several different use cases including:
  • Video transcode at the network Edge with ffmpeg
  • Fortinet as an sGW in vRan edge scenarios
  • SD-WAN with vyatta vrouter
  • Operational intelligence for distributed architectures.
POC #2 TOPOLOGY

Management Cluster
- VMware Integrated OpenStack
- vCloud NFV

Core Data Center
- NSX Fabric

Resource Cluster
- NSX DLR
- NSX Edge

MDC 1 Cluster
- OpenStack
- ixia
- vRouter
- FORTINET sGW
- Video Encoder

Micro Data Center 1
- NSX DLR
- NSX Edge

MDC 2 Cluster
- OpenStack
- ixia
- vRouter
- VNF

Micro Data Center 2
- NSX DLR
- NSX Edge

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Open Source MANO

RELEASE 4 DEMOS
(1) Unified NBI can control any OSM component through the bus.
DEMO 9: METRICS COLLECTION AND VISUALIZATION

(1) MON collects VIM/VNF metrics and puts on the bus

(2) Prometheus reads and stores selected VNF metrics

(3) Grafana presents selected VNF metrics

Optional tools

Prometheus

TSDB

Grafana

OSM KAFKA BUS

MON module
DEMO 10: EVENTS PROPAGATION AND VISUALIZATION

(1) Creates alarms through MON, based on metric thresholds

(2) Ensures alarms and notifications flow between PM and VIM/VNFs

(3) When alarms are triggered, PM decides what to do (log, scale, etc.)

(4) Logs can be collected through TCP or message bus

Optional tools

Collect & Transform

Search & Analyze

Visualize & Manage

logstash

elasticsearch

kibana

KAFKA BUS

PM module

MON module

vnf1

vnf2

openstack

vmware

amazon web services