I Deployed my Snowflake - Now What?

OSM VNF Onboarding Task Force

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Agenda

- Intro to OSM and VNF Onboarding
- Demo: Deploying Magma EPC
- Closing Remarks
What is OSM?

A community-driven production quality E2E Network Service Orchestrator for telco services. It focuses on delivering operational-ready virtualized Network Services.
Benefits of OSM

- A well-known Information Model (IM), aligned with ETSI NFV, allows operators to model Network Services without worrying of the virtualization of resources and the underlying infrastructure.
- Capable of modelling and automating the full lifecycle of:
  - Network Functions (virtual, physical or hybrid),
  - Network Services (NS)
  - Network Slices (NSI)
- Includes all the way from their initial deployment (Instantiation / Day-0, and Day-1), to their daily operation and monitoring (Day-2).
OSM Group formed in 2019, in charge of coordination and support of activities related to VNF onboarding with OSM.

- Open to all OSM members
- Maintains a **VNF Onboarding Guide**.
- Maintains a repository of VNFs, starting in Q4 2020.
- Proposes new features needed for improving VNF onboarding.
- Leads the **OSM Hackfest** sessions content.
VNF Onboarding Workflow

- Network Functions Virtualisation will only scale if all of the functions can be automated.
  ...specially true for 5G!

1. Instantiate Network Services/Slices, making VNFs manageable ("Day 0")

2. Initialize VNFs so they provide the expected service ("Day 1")

3. Operate the service: monitoring, reconfigurations and (closed-loop) actions ("Day 2")
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So what is an Evolved Packet Core? (EPC)
Operational EPC in minutes!

- Docker and VM-based virtualization lifecycle management
- Complex KNF deployment in minutes
- Physical Network Function automation
- VNF Monitoring
- Automatic Horizontal Scaling
- High performance techniques activation
- Underlay network automation
- Network Function Day-0, Day-1 and Day-2 operations
- Network Slicing with shared services
A note on OSM VNF Catalogues
Automating VNF Package distribution and simplifying onboarding

1. Operator onboards VNFs directly from provider’s repo
2. Operator onboards own Network Service composed by those VNFs
3. Operator launches the Network Service!
A note on SDN Assist
Automating connectivity between data plane VNFs

Underlay connectivity:
VXLAN, OpenFlow, VLAN, etc.
(depend on the SDN Controller or Manager)

OSM’s SDN Assist feature takes care of the “underlay” connectivity whenever it sees VLDs with SR-IOV or PASSTHROUGH ports that need to connect between each other.

* Supported as of REL8 → Arista, Juniper Contrail, Floodlight, ONOS and Open Daylight
Test it out!

https://osm.etsi.org/gitlab/vnf-onboarding/osm-packages/tree/master/magma
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Zero Touch is here! An end-to-end network service automated deployment is possible with Open Source MANO.

NFV MANO is a must! NFV MANO Orchestration is key to fulfill multi-vendor Hybrid NF onboarding & automation, from instantiation to operations, given the increased modularity and distributed nature of network functions.

Rich VNF Onboarding simplifies deployments! OSM Release EIGHT bring rich onboarding possibilities to cover complex use cases like the mobile network functions use case.
Thank you!

Questions:
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