OSM#9 Hackfest – Day 2
Part 2. Orchestrating a CNF in OSM - Magma Orch

Gerardo García (Telefónica)
Felipe Vicens (Atos)
Hands-on session.
Context: Magma Orchestrator KNF
Session schedule

- We will follow these guides:
  - **User Guide - Using Kubernetes-based VNFs**
  - **VNF Onboarding Guidelines - KNF walkthrough**

- Add a K8s cluster
- Add a Helm-chart repo
- Onboard KNF and NS packages from VNF repository
- Instantiate and check status
- Running implicit primitives
- Terminate NS
First of all, we need a K8s cluster

Installation: [K8s cluster installation guide](#)

Your Kubernetes cluster needs to meet the following requirements:

- Kubernetes Loadbalancer, to expose your KNFs to the network
- Kubernetes default Storageclass, to support persistent volumes.

A K8s cluster has already been created for you!
Association of K8s cluster to VIM
A K8s cluster is expected to be connected

K8s cluster deployed inside a VIM

```
osm k8scluster-add --creds ...
   --version ...
   --vim <VIM> \
   --k8s-nets '{"net1": "vim-net"}' \
<CLUSTER_NAME>
```
Adding a K8s cluster

• Information to create the cluster:
  • Credentials file: kube.yaml
  • Version: 1.15
  • VIM: osm_hackfest_X
  • K8s nets:
    • net1: osm-ext
  • ClusterName: osm_cluster_X

• Please check that the status of the k8s cluster shown with `osm k8scluster-list` and `osm k8scluster-show` is `ENABLED`. 
Searching the packages in VNF repo

- Search the following packages in the repo:
  - fb_magma_knf
  - fb_magma_ns

  osm nfpkg-repo list
  osm nfpkg-repo show ...
  osm nspkg-repo list
  osm nspkg-repo show ...
The Magma Orchestrator helm chart

• **Magma Orchestrator helm chart structure**
Adding a helm-chart repo

• Information to add the Helm-chart repo where Magma Orc8r is located:
  • URI: https://felipevicens.github.io/fb-magma-helm-chart/
  • Repo name: magma

    osm repo-add --type helm-chart \
    --description "..." \
    [NAME] [URI]

• Check that the repo has been added
Onboarding KNF and NS packages

```
osm nfpkg-create ...
osm nspkg-create ...
```
Instantiation config file

```yaml
---

additionalParamsForVnf:
- member-vnf-index: 'orc8r'

additionalParamsForKdu:
- kdu_name: orc8r

additionalParams:
  proxyserviceLoadBalancerIP: '172.21.250.199' # MetalLB IP Address
```
Instantiation. Checking status of the KDU instance

- Launch NS
  
osm ns-create ...
osm ns-list
osm vnf-list --ns ...
osm vnf-show <VNF_ID> --kdu orc8r

- Check status in OSM and in the K8s cluster

IS IT WORKING? 
LET’S FIX IT!
Running implicit primitives

- Upgrade and rollback are implicit operations in KNFs
- Running a NS primitive

  `osm ns-action ...
osm ns-op-list ...
osm ns-op-show ...

- More info in next sessions
Terminating NS

- Delete the NS instance

  `osm ns-delete ...`