OBJECTIVES FOR THE OSM#11 HACKFEST

• Validate the CNFM capabilities of the ETSI OpenSource MANO (OSM NINE)

• Create the onboarding artifacts (NS and VNF packages) for the NetNumber CNF

• Onboard the CNF and execute basic LCM tasks (instantiation, upgrade, termination)

• Set up and verify the VNF Configuration API (ETSI GS NFV-SOL 002)

Result:

• All objectives met but the setup of the VNF Configuration API (ETSI GS NFV-SOL 002)

• In addition, the OSM NBI (ETSI GS NFV-SOL 005) was successfully verified (offline system)
CNFs (containerized workload) is managed by Helm that is the de-facto standard packaging framework for Kubernetes. The lifecycle of a CNF instance (release) is managed by the Helm Client that can be operated from the CLI or can be part of NFV-MANO (AKA CNFM) or can be deployed as a specialized CNF (AKA KNF).
"MnS" acts as the server endpoint for the ETSI VNF Configuration API.

Example: curl http://10.20.2.54:31370/vnfconfig/v1/api_versions --header 'Version: 1.2.0'
{
  "uriPrefix": "/vnfconfig/v1",
  "apiVersions": [
    "version": "1.2.0",
    "isDeprecated": false
  ]
}
Day 0:
- Container image v1.0.0
- Helm chart v1.0.0

Day 1:
- NF initial configuration
- NF instantiation

Day 2:
- Deployment upgrade (switch to blue)
- Container image v1.0.1
- Deployment upgrade
- (add green, switch to green)
- Deployment upgrade (remove green)

Day <n>:
- Uninstall

LCM and CM DEMO : DEPLOYMENT NF2
OSM GUI (NetNumber lab)

 Instantiate and activate the blue rollout

 Instantiate and activate the green rollout

 Add and activate the green rollout

 Switch back to the blue rollout

 Remove the green rollout

 Terminate the deployment

 Blue Pod "MnS" container image v1.0.0

 Green Pod "MnS" container image v1.0.1
Findings

• Great event! Great support from the instructors! Big THANK YOU!

• OSM capabilities ok. Useful add-ons (e.g. setting the Helm release name) slotted for OSM TEN.
  • Closer alignment with ETSI GS NFV-SOL 004 and 007 recommended (package structure and security)
  • *ETSI GS NFV-SOL 002 VNF Configuration and Indicator APIs still to be researched by NetNumber*

• Helm-chart based LCM needs additional work. Examples:
  • Custom execution environments to be exposed, configured and invoked from the GUI
  • Helm values templating to be supported in conjunction with the configurable attributes

• Rainy day scenarios may need further work.
  • Errors in the artifacts or params make the NS instance fail, but the termination also fails when the KDU was not created ("Terminating KDU 'nti-nf': kdu_instance chartmuseum-osm-nf-0043872352 not found"). "Force delete" of the NS instance is (often) needed till the setup is right.
  • "Something went wrong. Please try again." message not really helpful (expired session, connectivity issue, timeout?)