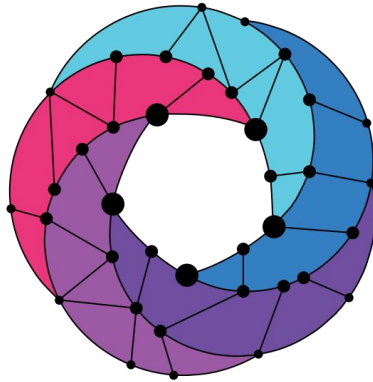


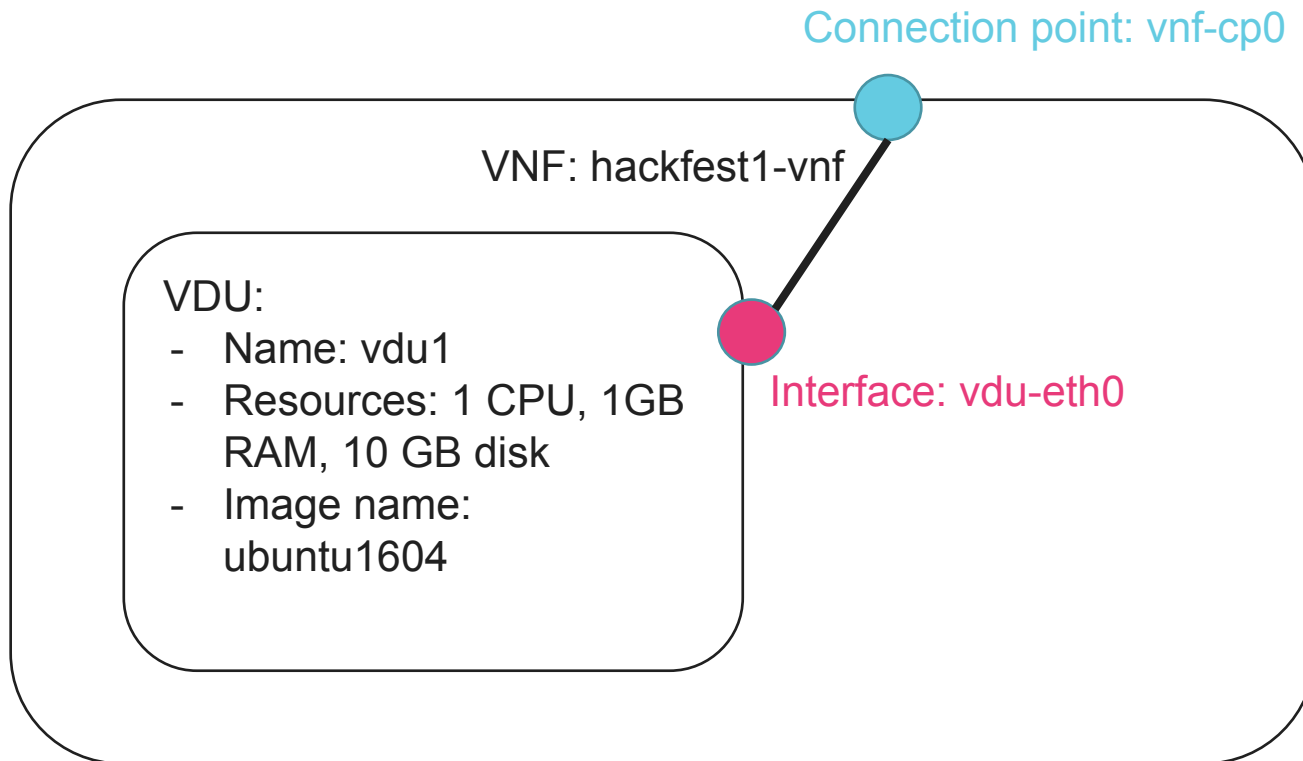


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OSM Hackfest – Session 2 Creating a basic VNF and NS

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VNF diagram



Creating the VNF with the client

- git clone <https://osm.etsi.org/gerrit/osm/devops.git> devops
- Generate skeleton folder (VNF with only 1 VDU)
 - `devops/descriptor-packages/tools/generate_descriptor_pkg.sh -t vnfd --image ubuntu1604 -c hackfest1`
- Go to `hackfest1_vnfd` folder and edit the descriptor:
 - Use the IM tree representation of VNFD as a reference:
 - <http://osm-download.etsi.org/ftp/osm-doc/vnfd.html>
 - Descriptor language is YAML:
 - Indentation is part of the markup
 - Use always the same indentation characters (TAB, 4 spaces, 2 spaces)
 - Recommendation: 2 spaces is the preferred indentation

Editing the VNF descriptor

```
vnfd:
-   id: hackfest1-vnf
    name: hackfest1-vnf
    ...
    mgmt-interface:
        cp: vnf-cp0
    vdu:
-   id: hackfest1_vnfd-VM
    name: hackfest1_vnfd-VM
    vm-flavor:
        vcpu-count: 1
        memory-mb: 1024
        storage-gb: 10
    image: ubuntu1604
    cloud-init-file: cloud-init-1
    interface:
-   name: vdu-eth0
        virtual-interface:
            type: VIRTIO
        ...
        external-connection-point-ref: vnf-cp0
    connection-point:
-   name: vnf-cp0
    ...
```

- In the VNFD package create cloud_init/cloud-init-1:

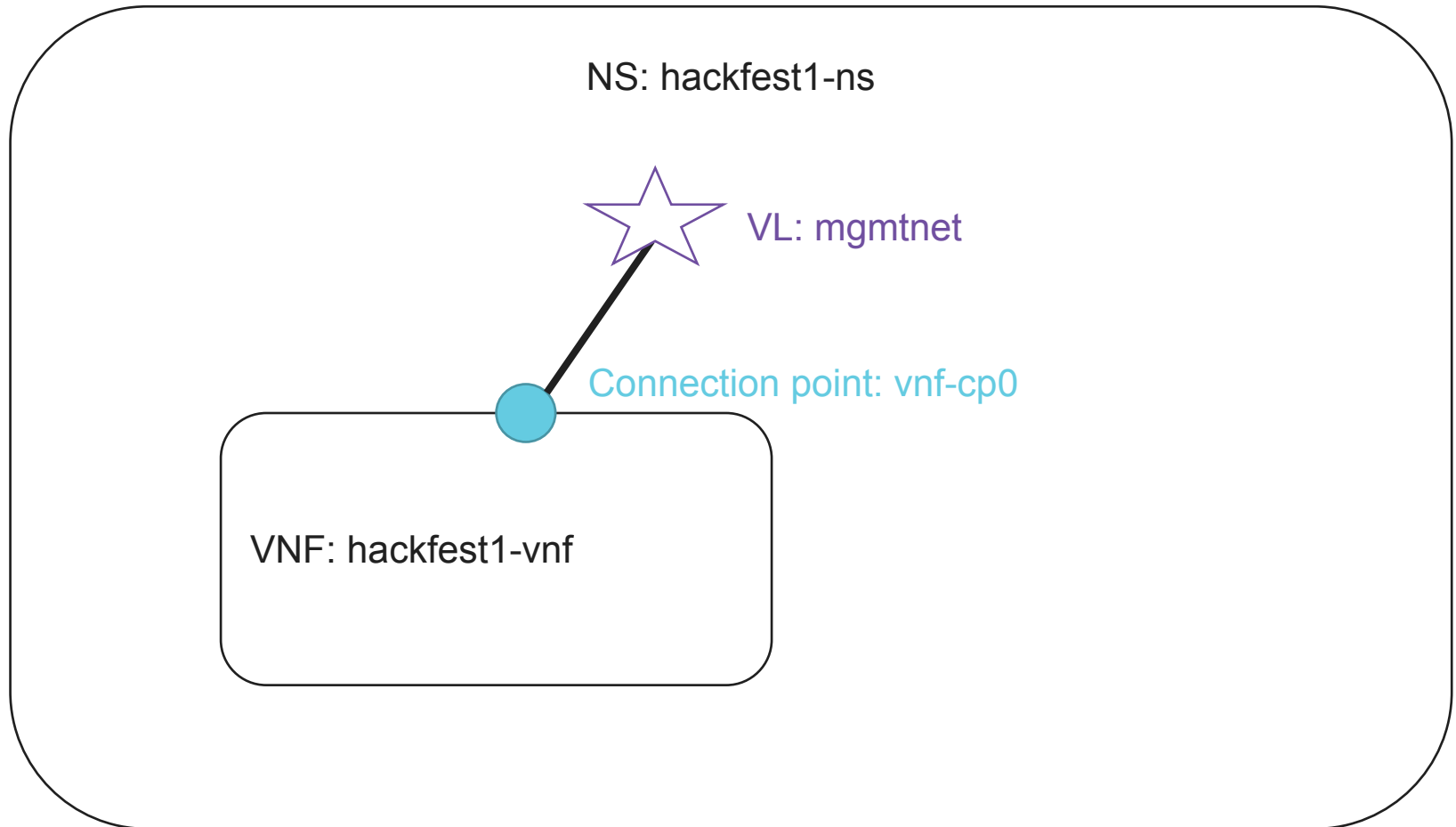
```
#cloud-config
password: osm2018
chpasswd: { expire: False }
ssh_pwauth: True
```

Validate the VNF descriptor and generate VNF package



- https://osm.etsi.org/wikipub/index.php/Creating_your_own_VNF_package#Validate_descriptors
- Validate VNF descriptor
 - `/usr/share/osm-devops/descriptor-packages/tools/validate_descriptor.py`
`<DESCRIPTOR_FILE>`
- Generate VNF package (from parent folder)
 - `/usr/share/osm-devops/descriptor-packages/tools/generate_descriptor_pkg.sh -t vnfd -N <VNFD_FOLDER>`

NS diagram



Creating the NS with the client

- Generate skeleton folder (NS with only 1 VNF)
 - `/usr/share/osm-devops/descriptor-packages/tools/generate_descriptor_pkg.sh -t nsd -c hackfest1`
- Go to hackfest1_nsd folder and edit the descriptor:
 - Use the IM tree representation of NSD as a reference:
 - <http://osm-download.etsi.org/ftp/osm-doc/nsd.html>
 - Descriptor language is YAML:
 - Indentation is part of the markup
 - Use always the same indentation characters (TAB, 4 spaces, 2 spaces)
 - Recommendation: spaces preferred over tab

Editing the NS descriptor

```
nsd:
-   id: hackfest1-ns
    name: hackfest1-ns
    ...
    constituent-vnfd:
-     member-vnf-index: 1
      vnfd-id-ref: hackfest1-vnf
vld:
-   id: mgmtnet
    name: mgmtnet
    type: ELAN
    mgmt-network: true
    vnfd-connection-point-ref:
-     member-vnf-index-ref: 1
      vnfd-connection-point-ref: vnf-cp0
      vnfd-id-ref: hackfest1-vnf
```

Validate the NS descriptor and generate NS package



- https://osm.etsi.org/wikipub/index.php/Creating_your_own_VNF_package#Validate_descriptors
- Validate NS descriptor
 - `/usr/share/osm-devops/descriptor-packages/tools/validate_descriptor.py`
`<DESCRIPTOR_FILE>`
- Generate NS package (from parent folder)
 - `/usr/share/osm-devops/descriptor-packages/tools/generate_descriptor_pkg.sh -t nsd -N <NSD_FOLDER>`

Before the deployment

Adding VNF and NS packages

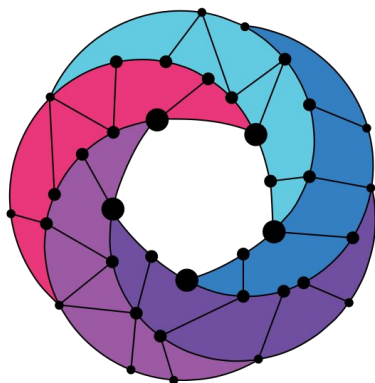
- VNF package:
 - `osm vnfd-list`
 - `osm vnfd-create hackfest1_vnfd.tar.gz`
 - `osm vnfd-show hackfest1-vnf`
 - `osm vnfd-delete ...`
- NS package:
 - `osm nsd-list`
 - `osm nsd-create hackfest1_nsd.tar.gz`
 - `osm nsd-show hackfest1-ns`
 - `osm nsd-delete ...`

Deploying NS with the client

- `osm ns-list`
- `osm ns-create --ns_name hf1 --nsd_name hackfest1-ns \`
`--vim_account <VIM_ACCOUNT_NAME>|<VIM_ACCOUNT_ID> \`
`--config '{vld: [ {name: management, vim-network-name: PUBLIC} ] }'`
- `osm ns-show hf1`
- `osm ns-delete ...`
- Check VNF instances to see the instance and get the mgmt IP address of the VNF
 - `osm vnf-list`
 - `osm vnf-show ...`
- Connect to the VNF:
 - `ssh ubuntu@<IP>`

Deploying NS with the UI

- Go to NS packages. In hackfest1-ns, click in “Actions: Instantiate NS”
- Complete the form
 - Add a name to the NS instance
 - Select the Datacenter where the NS will be deployed
 - Specify in the config section a default VIM network name to map “mgmtnet”:
 - `{vld: [ {name: mgmtnet, vim-network-name: PUBLIC} ] }`
 - Paste your SSH key
- Go to VNF instances to see the instance and get the mgmt IP address of the VNF, then connect to the VNF:
 - `ssh -i <priv_key> ubuntu@<IP>`



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