

Open Source
MANO

OSM Hackfest – Session 4

Adding day-0 configuration to VNFs

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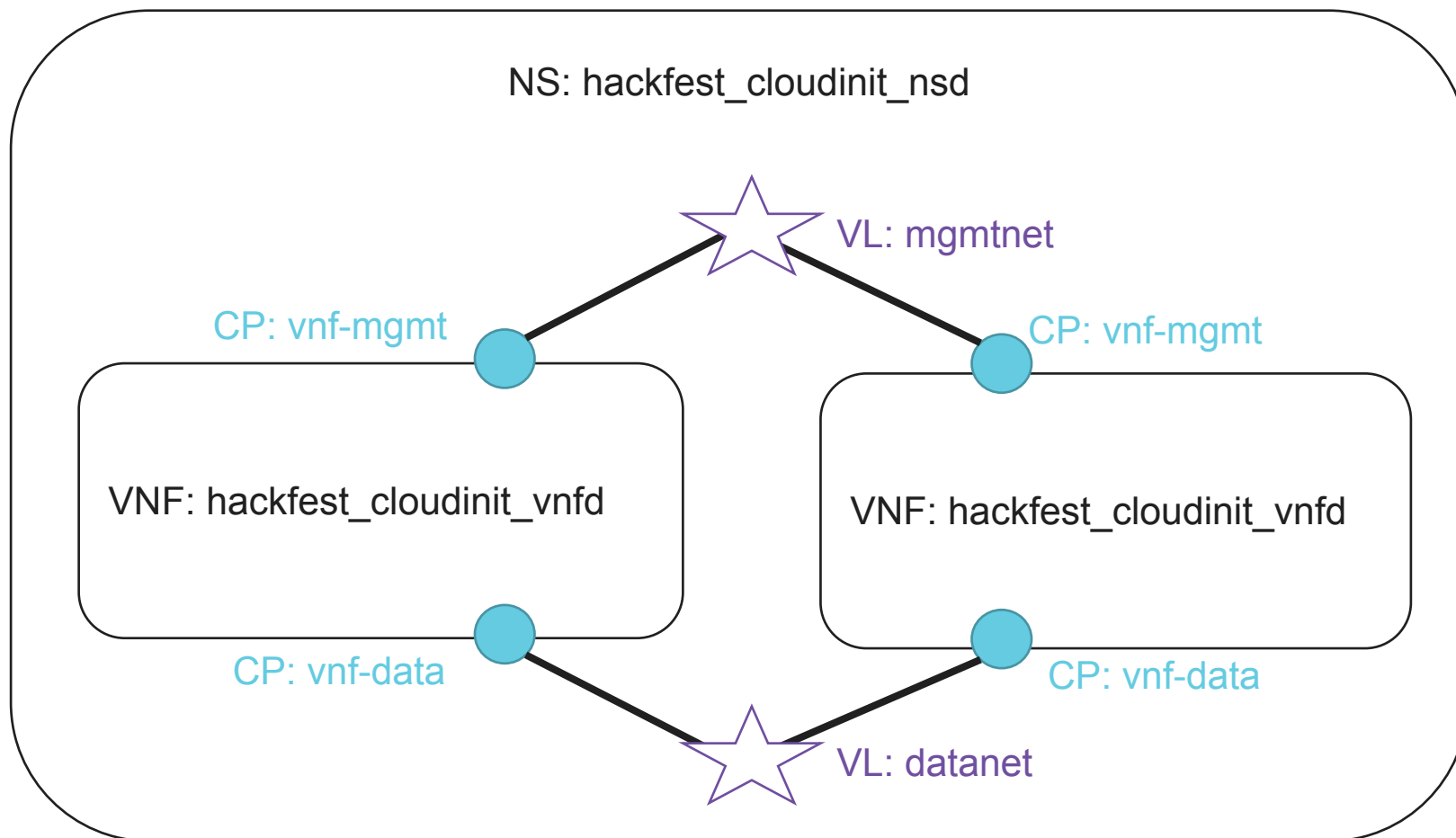
What is cloud-init and what can it be used for?

- It is a Linux package used to automate initial configuration of a VM
- VM requirements:
 - Cloud-init package
 - Cloud-init configuration (data source) via `/etc/cloud/cloud.cfg`
 - Config drive
 - Openstack metadata server
 - ...
- What can be done?
 - Setting a default locale
 - Setting an instance hostname
 - Generating instance SSH private keys
 - Adding SSH keys to a user's `.ssh/authorized_keys` so they can log in
 - Setting up ephemeral mount points
 - Configuring network devices
 - Adding users and groups
 - Adding files
- Docs: <http://cloudinit.readthedocs.io/en/latest/>

Cloud-init support in OSM

- Cloud-init is available in Linux VMs and might be supported in other OS
- Not all VIMs support cloud-init via a metadata server
- While cloud-init is supported in OSM, it is not a silver bullet

NS diagram

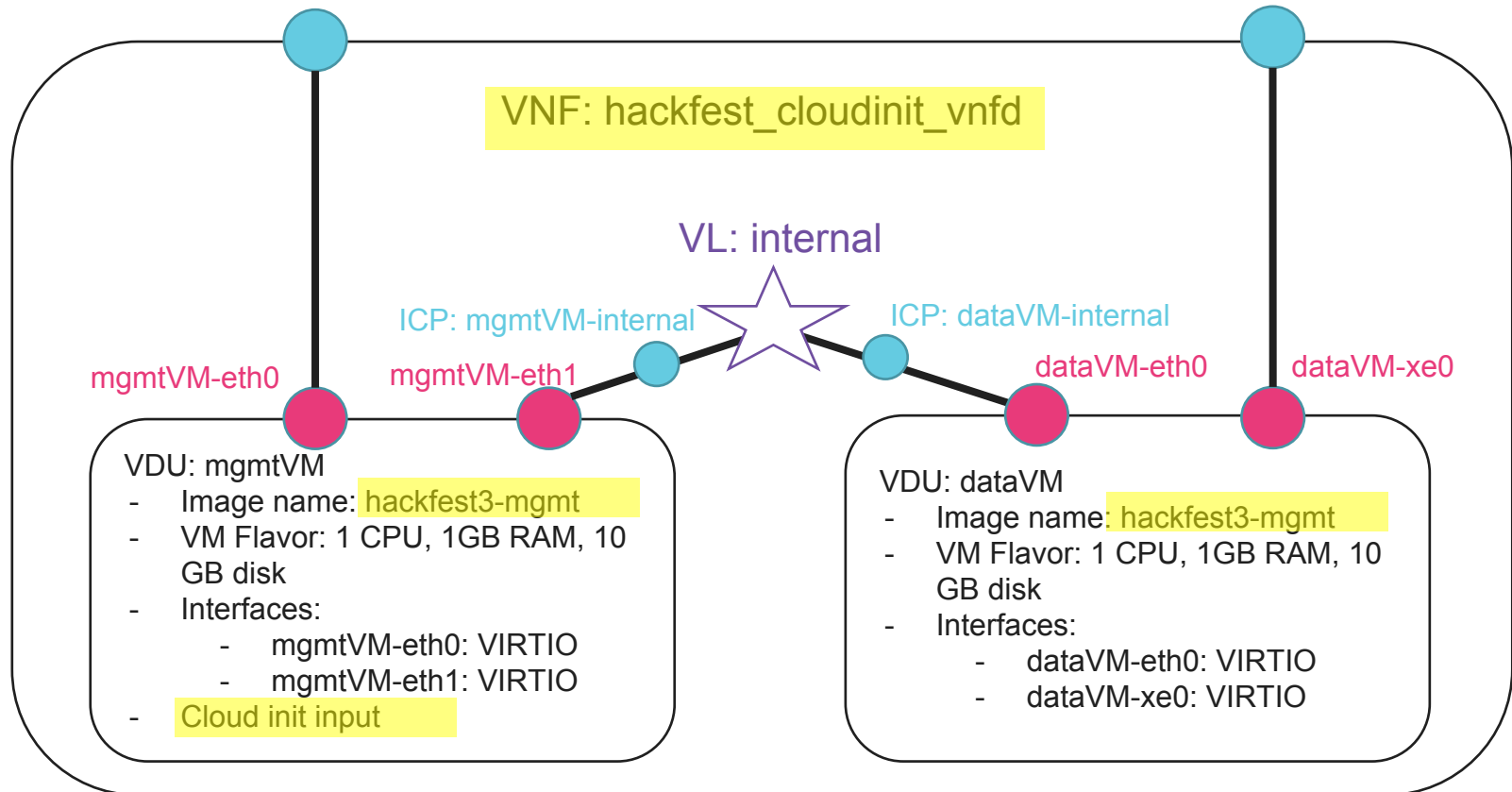


VNF diagram

Changes highlighted in yellow

External Connection point: vnf-mgmt

External Connection point: vnf-data



Creating the VNF (1/2)

- Go to the command line
- Copy & rename `hackfest_multivdu_vnfd` to `hackfest_cloudinit_vnfd`
- Modify the new VNF
 - Name: `hackfest_cloudinit_vnfd`
 - VIM trick: `:g/text to substitute/s//new text/g`
- Modify VDU mgmtVM:
 - Image name: `hackfest3-mgmt`
 - Cloud init input:
 - Filename
 - Cloud init file: `cloud-config.txt`
 - Inside the 'vdu' list at the VNFD, put a line referring to the file inside the "cloud_init" folder of the package:
`cloud-init-file: cloud-config.txt`

Creating the VNF (2/2)

- Modify VDU dataVM:
 - Image name: hackfest3-mgmt
- Add a new asset:
 - CLOUD_INIT:
 - Upload file: cloud-config.txt
 - It can be downloaded from: <https://osm-download.etsi.org/ftp/osm-5.0-five/5th-hackfest/other/cloud-config.txt>
- Onboard your new VNFD to the system.

Let's explore the Cloud-init file

- Download it from here:

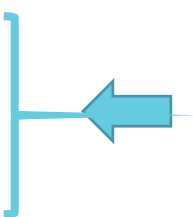
- <https://osm-download.etsi.org/ftp/osm-5.0-five/5th-hackfest/other/cloud-config.txt>

- Content:

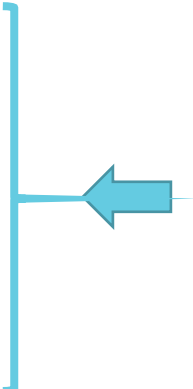
```
#cloud-config
password: osm4u
chpasswd: { expire: False }
ssh_pwauth: True

write_files:
- content: |
    # My new helloworld file

  owner: root:root
  permissions: '0644'
  path: /root/helloworld.txt
```



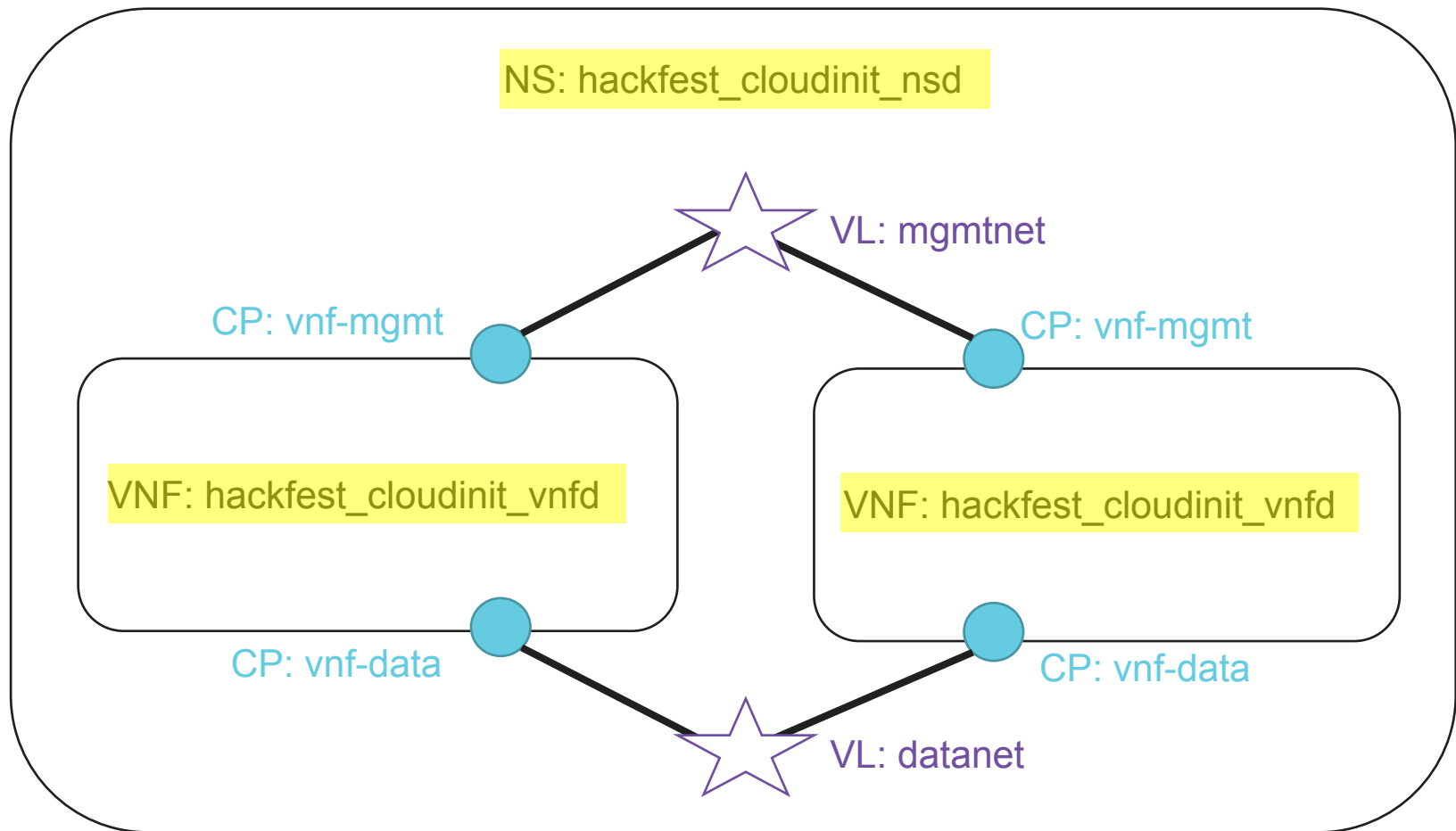
A password is added for the default user ('ubuntu'). This will be used by the charm in Hackfest session 7.



A new file '/root/helloworld.txt' will be created at VM creation to illustrate the way this feature works.

NS diagram

Changes highlighted in yellow



Creating the NS (1/2)

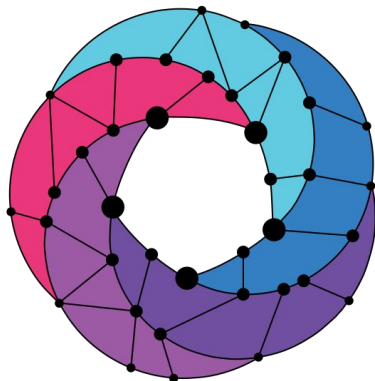
- Add NSD
 - Name: hackfest_cloudinit_nsd
 - Add 2 VNFs (hackfest_cloudinit_vnfd)
 - Add a first VLD:
 - VLD1:
 - name (optional): mgmtnet
 - TYPE: ELAN
 - MGMT NETWORK: True
 - VIM NETWORK NAME
 - vim-network-name: **PUBLIC**
change accordingly
- <- This is to have a default mapped VIM network

Creating the NS (2/2)

- Add a second VLD:
 - VLD2:
 - name (optional): datanet
 - TYPE:ELAN
 - MGMT NETWORK: False (default)
- Connect VNF Connection Points to the VLs:
 - vnf-mgmt to VLD:mgmtnet
 - vnf-data to VLD:datanet
- Onboard your NSD

Deploying NS in the UI

- Select `hackfest_cloudinit_nsd` and instantiate it
- Complete the form
 - Add a name to the NS
 - Select the Datacenter where the NS will be deployed
 - Add SSH key
- Go to the dashboard to see the instance and get the mgmt IP address of the VNF
- Connect to each VNF:
 - `ssh ubuntu@<IP>`
- Check that the cloud-config file was executed



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