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**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

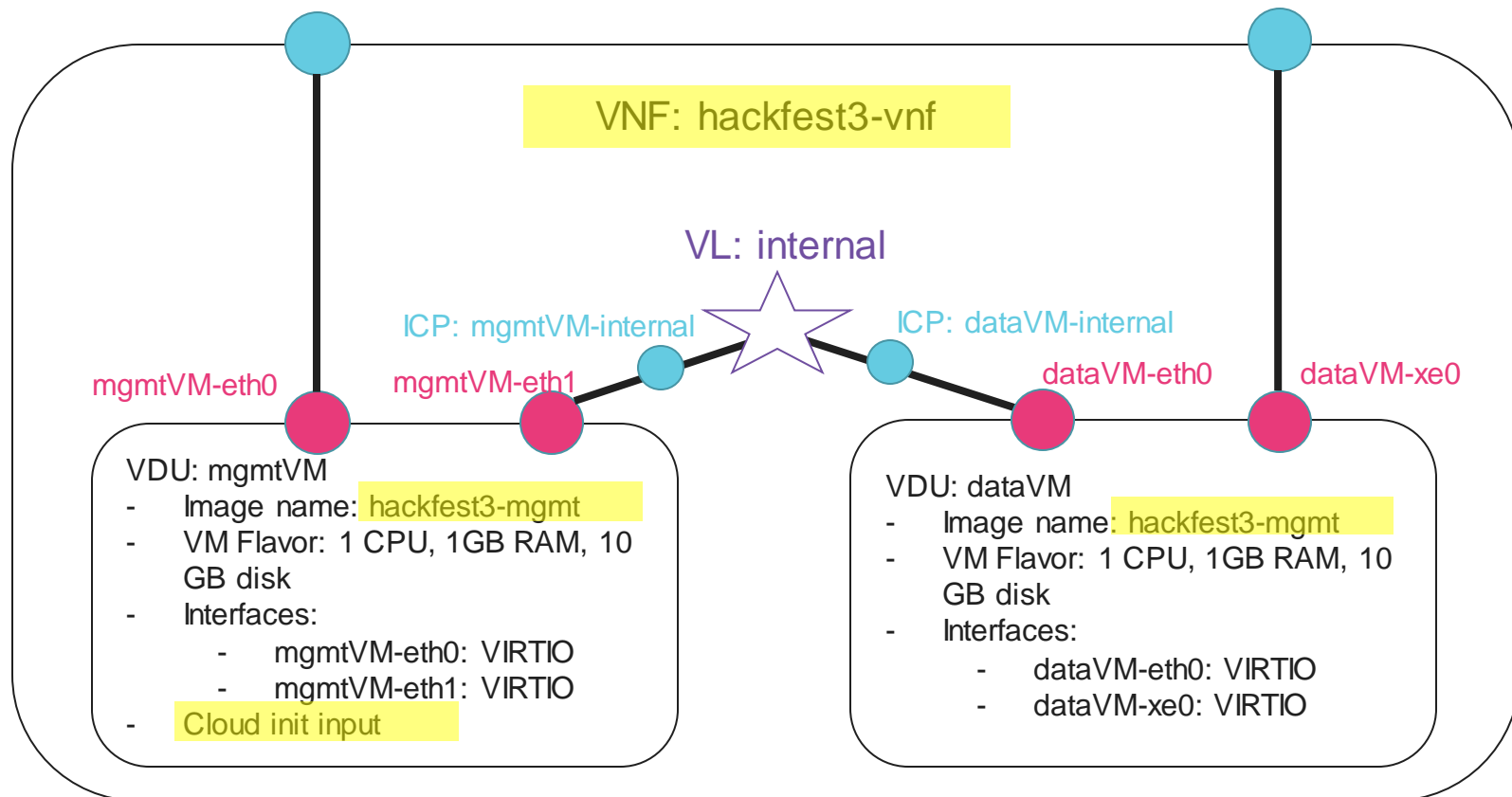
- Cloud-init is only available in Linux VMs
- Not all VIMs support cloud-init via a metadata server
- While cloud-init is supported in OSM, the recommendation is to use charms and initial-config-primitive

# 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 VNF hackfest2 folder and rename it to hackfest3
- Modify the new VNF
  - Name: hackfest3-vnf
- Modify VDU mgmtVM:
  - Image name: hackfest3-mgmt
  - Cloud init input:
    - Filename
      - 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-4.0-four/3rd-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-4.0-four/3rd-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
```



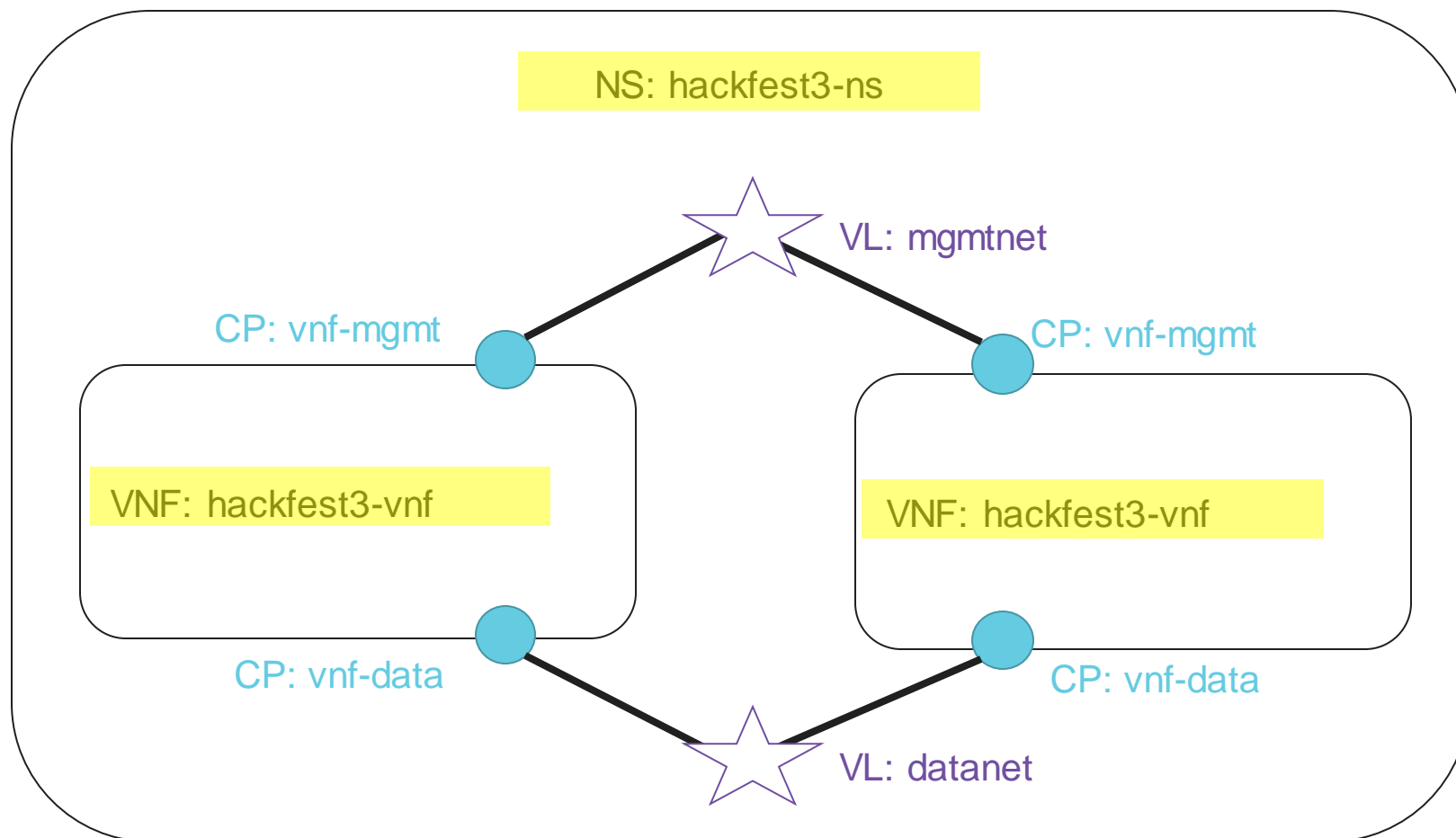
A password is added for the default user ('ubuntu'). This will be used by the charm in Hackfest session 7.



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: hackfest3-ns
- Add 2 VNFs (hackfest3-vnf)
- Add a first VLD:
  - VLD1:
    - name (optional): mgmtnet
    - TYPE: ELAN
    - MGMT NETWORK: True
    - INIT PARAMS
      - vim-network-ref
        - VIM NETWORK NAME: mgmt

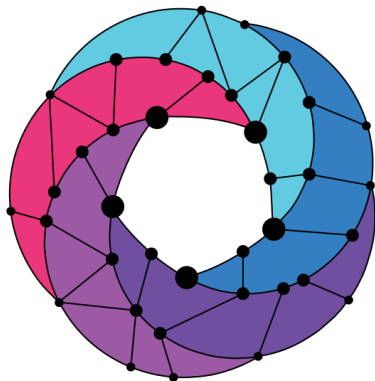
<- In order to have a default mapped VIM network name

# 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 hackfest3-ns 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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