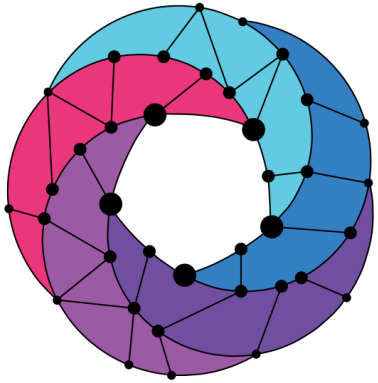


Open Source
MANO

OSM Hackfest – Installation and first use

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OSM installation

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Before installing OSM

- Instructions
  - https://osm.etsi.org/wikipub/index.php/LXD_configuration_for_OSM_Release_THREE
- Steps:
  - Install lxd. Exec following commands as a non-root user:
    - sudo apt-get update
    - sudo apt-get install -y lxd
    - newgrp lxd
  - Init LXD. Exec following command as a non-root user:
    - sudo lxd init
  - Configure MTU of the default profile:
    - sudo lxc profile device set default eth0 mtu <MTU>
  - Test LXD as a non-root user:
    - lxc launch ubuntu:16.04 test
    - lxc exec test bash
    - root@test:~# apt-get update

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Installing OSM

- OSM installation from binaries:
  - wget https://osm-download.etsi.org/ftp/osm-3.0-three/install_osm.sh
  - chmod +x install_osm.sh
  - ./install_osm.sh

- Other available options to install from:
  - --lxdimages
  - --source

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After installing OSM

- Update RO to use the latest testing version

- Test OSM client
  - Add env variables to your .bashrc to use OSM client locally
  - Try ‘osm’

- Test UI:
  - Google Chrome is the recommended browser
  - Access UI: https:<IP_OSM>:8443

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Update RO to use the latest testing version

- ***NOTE: this is ONLY required for this Hackfest to have the latest working code in the RO***
- Instructions:
  - dpkg -l |grep osm
  - Modify /etc/apt/sources.list
    - #deb http://osm-download.etsi.org/repository/osm/debian/ReleaseTHREE stable SO UI RO IM osmclient openvim
    - deb http://osm-download.etsi.org/repository/osm/debian/ReleaseTHREE-daily testing SO UI RO IM osmclient openvim
  - apt-get update
  - apt-cache show python-osm-ro
  - service osm-ro stop
  - apt-get install -y python-osm-ro
  - service osm-ro start
  - service osm-ro status

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For people using your own OSM
Test OSM client



- Add some env variables to your .bashrc:
  - export OSM_HOSTNAME=<SO-ub_container_IP>
  - export OSM_RO_HOSTNAME=<RO_container_IP>

- Try ‘osm’:

```
Usage: osm [OPTIONS] COMMAND [ARGS]...
Options:
 --hostname TEXT     hostname of server.  Also can set OSM_HOSTNAME in
                     environment
 --so-port INTEGER   hostname of server.  Also can set OSM_SO_PORT in
                     environment
...
```

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For people using your own OSM Test UI

- Google Chrome installation (linux)
  - wget -c https://dl.google.com/linux/direct/google-chrome-stable_current_amd64.deb
  - sudo apt-get update && sudo apt-get install libappindicator1
  - sudo dpkg -i google-chrome-stable_current_amd64.deb
- Configure OSM to allow access to the GUI from local web browser:
  - ***NOTE: this is ONLY required for this Hackfest (will be part of new version of installer)***
  - sudo sysctl -w net.ipv4.conf.all.route_localnet=1
  - sudo iptables -t nat -A OUTPUT -p tcp -o lo --dport 8009 -j DNAT --to [IP LXC SO]:8009
  - sudo iptables -t nat -A POSTROUTING -s [IP HOST]/32 -d [IP LXC SO] -p tcp --dport 8009 -j MASQUERADE
  - sudo iptables -t nat -A OUTPUT -p tcp -o lo --dport 8443 -j DNAT --to [IP LXC SO]:8443
  - sudo iptables -t nat -A POSTROUTING -s [IP HOST]/32 -d [IP LXC SO] -p tcp --dport 8443 -j MASQUERADE
  - Finally, add those NAT rules to /etc/iptables/rules.v4 to make them persistent
- Test UI:
  - Open web browser: https:<IP_OSM>://8443

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Local OSM instances @ETSI

- osm-demo: 172.21.1.3
- osm-plugtest1: 172.21.1.4
- osm-plugtest2: 172.21.1.5
- osm-hackfest1: 172.21.1.9
- osm-hackfest2: 172.21.1.10

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For people using ETSI OSM servers Install OSM client

- Instructions in the main page for Rel THREE:
  - https://osm.etsi.org/wikipub/index.php/OSM_Release_THREE#Install_OSM_client
- Steps:
  - curl http://osm-download.etsi.org/repository/osm/debian/ReleaseTHREE/OSM%20ETSI%20Release%20Key.gpg | sudo apt-key add -
  - sudo add-apt-repository -y "deb [arch=amd64] http://osm-download.etsi.org/repository/osm/debian/ReleaseTHREE stable osmclient"
  - sudo apt-get update
  - sudo apt-get install -y python-osmclient

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For people using ETSI OSM servers
Test OSM client



- Add some env variables to your .bashrc:
  - export OSM_HOSTNAME=<OSM_IP>
  - export OSM_RO_HOSTNAME=<OSM_IP>

- Try ‘osm’:

```
Usage: osm [OPTIONS] COMMAND [ARGS]...

Options:
 --hostname TEXT     hostname of server.  Also can set OSM_HOSTNAME in
                     environment
 --so-port INTEGER   hostname of server.  Also can set OSM_SO_PORT in
                     environment
...
```

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For people using ETSI OSM servers
Test UI

- Google Chrome installation (linux)
  - wget -c https://dl.google.com/linux/direct/google-chrome-stable_current_amd64.deb
  - sudo apt-get update && sudo apt-get install libappindicator1
  - sudo dpkg -i google-chrome-stable_current_amd64.deb

- Access UI:
  - https://<IP_OSM>:8443

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Adding VIM accounts

- VIMs:

Name	Type	AUTH URL	tenant	user	Password	SDN controller
openstack1	openstack	http://172.21.2.20:5000/v2.0	xxx	xxx	xxx	N/A
openstack2-epa	openstack	http://172.21.2.22:5000/v2.0	xxx	xxx	xxx	N/A

- Test VIMs:
  - ping <IP>
  - curl http://<IP>:5000/v2.0
  - Install python-openstackclient
    - sudo apt-get install python-openstackclient

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Adding VIM accounts

- Load Openstack credentials and run some commands for testing:
  - export OS_AUTH_URL=xxx
  - export OS_USERNAME=xxx
  - export OS_TENANT_NAME=xxx
  - export OS_PASSWORD=xxx
  - openstack image list
  - openstack network list
  - openstack flavor list
  - openstack server list

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Adding VIM accounts

- Add your first VIM ‘openstack1’ with the OSM client:
  - osm vim-create --name openstack1 --account_type openstack \
    --auth_url http://172.21.2.20:5000/v2.0 \
    --user xxx --password xxx --tenant xxx \
    --description "ETSI openstack site 1, with tenant xxx“
  - osm vim-list

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Adding images to the VIM

- Image management is not implemented in OSM today. It has to be done independently on each VIM.

- **IMAGES HAVE BEEN ALREADY ADDED TO THE REMOTE VIMS IN THE HACKFEST**

- Example for Openstack:
  - openstack image create --file="./cirros-0.3.4-x86_64-disk.img" --container-format=bare --disk-format=qcow2 --public cirros034

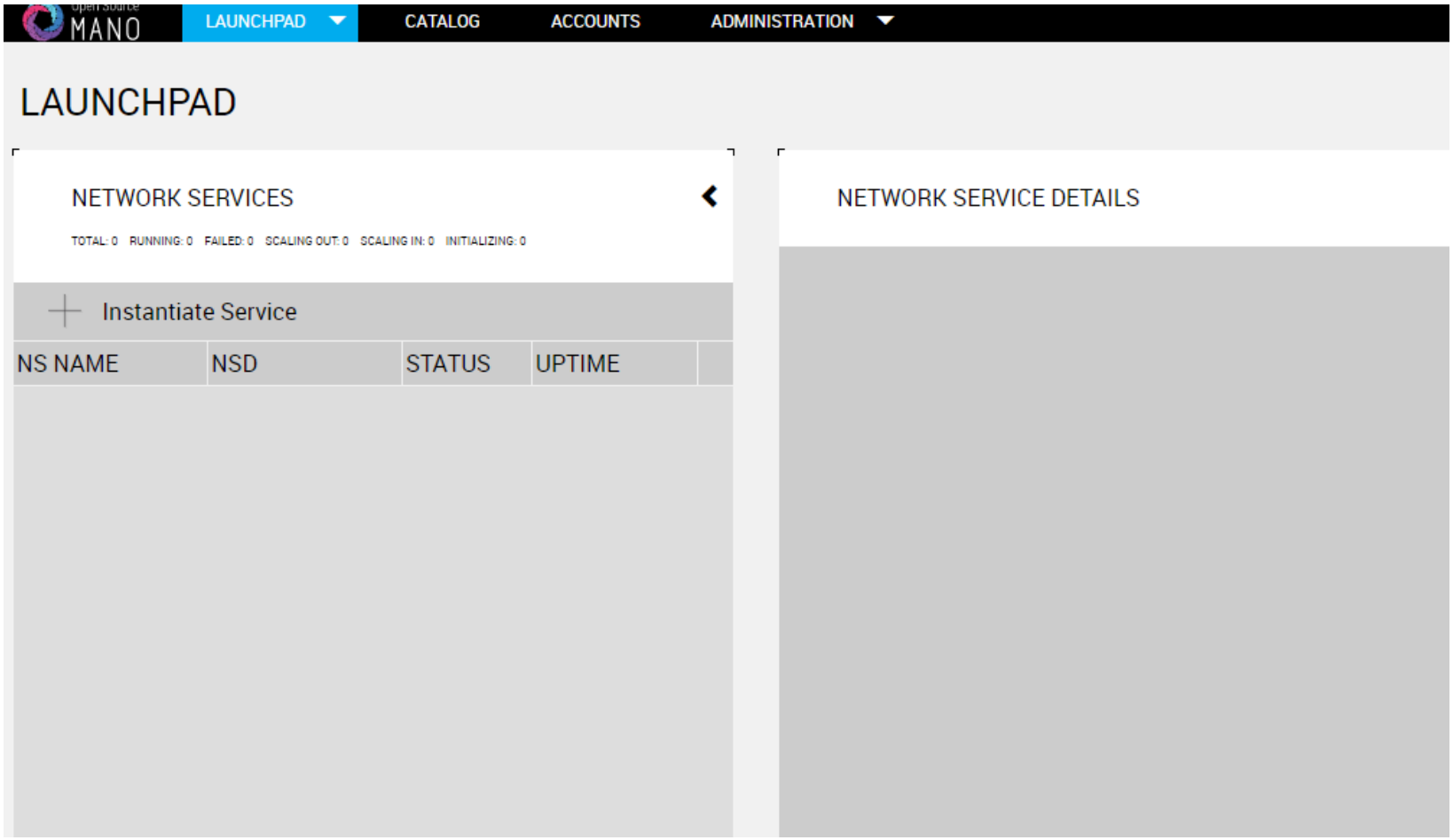
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Adding images to the VIM

Image name in descriptors	Filename
ubuntu1604	xenial-server-cloudimg-amd64-disk1.img (you can get it from https://cloud-images.ubuntu.com/xenial/current/)
US1604	US1604.qcow2
hackfest3-mgmt	hackfest3-mgmt-qcow2
hackfest-pktgen	hackfest-pktgen-qcow2
cirros034	cirros-0.3.4-x86_64-disk.img

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Deploying our first NS with OSM UI



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Deploying our first NS with the UI



- Add VNF package
- Add NS package
- Instantiate
- Get VNF record and obtain mgmt IP address
- Access to the VNF via SSH
- Delete NS instance
- Delete NS
- Delete VNF

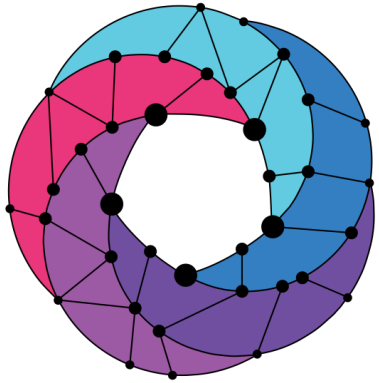
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Deploying our first NS with OSM client



- Add VNF and NS package
  - osm upload-package cirros_vnf.tar.gz
  - osm vnfd-list
  - osm upload-package cirros_2vnf_ns.tar.gz
  - osm nsd-list
- Instantiate
  - osm ns-create --nsd_name cirros_2vnf_ns --ns_name <ns-instance-name> --vim_account <data-center-name>
  - osm ns-list
- Delete NS instance
  - osm ns-delete <ns-instance-name>
  - osm ns-list
- Delete VNF and NS package
  - osm nsd-delete cirros_2vnf_ns
  - osm nsd-list
  - osm vnfd-delete cirros_vnfd
  - osm vnfd-list

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