

# Open Source MANO

OSM#9 Hackfest

## Day 2 PNF Operations

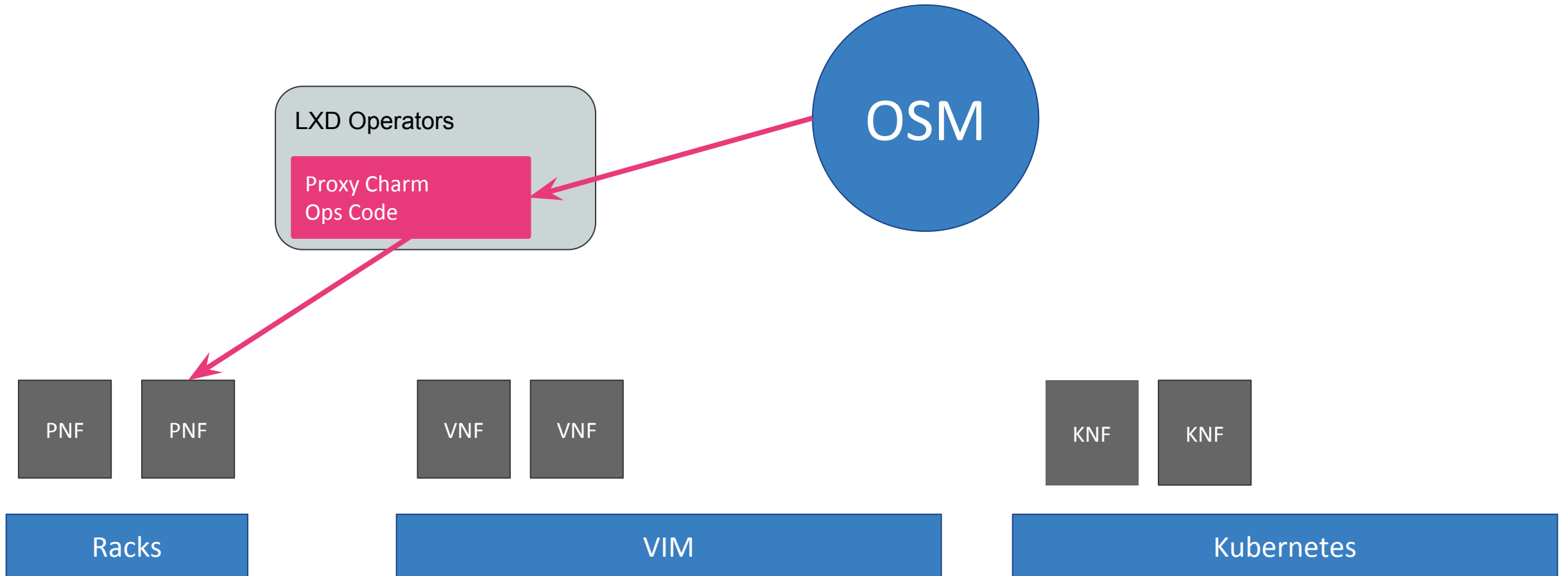
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# Go to the workspace

- Change directory

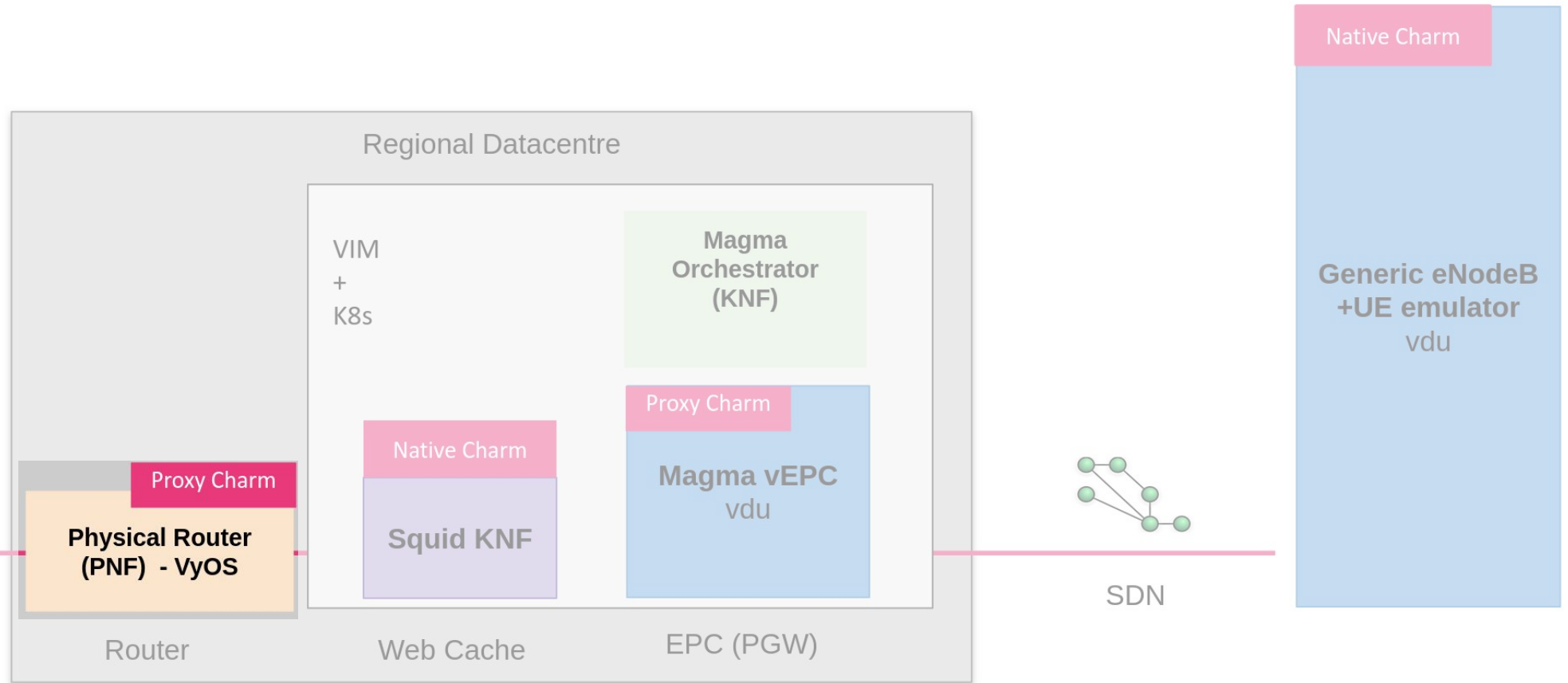
```
$ cp -a /home/ubuntu/examples/hd3 ~/
$ cd ~/hd3/
```

# Physical Network Function





OSM



- Charm:
  - Name: vyos-config
  - Type: proxy charm
  - Actions:
    - Configure remote: Allow traffic from a specific IP (magma vEPC)

# VNFD: VyOS Config

- VNF Configuration: Configure and operate your VNF.
  - Initial config primitive: Only the config primitive
  - Config primitive:
    - Configure remote: Set the magma IP to forward the traffic there.

```
vnf-configuration:
  juju:
    charm: vyos-config
  initial-config-primitive:
    - name: config
      seq: '1'
      parameter:
        - name: ssh-username
          value: osm
        - name: ssh-password
          value: osm2020
        - name: ssh-hostname
          value: <rw_mgmt_ip>
  config-primitive:
    - name: configure-remote
      parameter:
        - name: magmaIP
          data-type: STRING
          default-value: '0.0.0.0'
```



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# Diving into the Charm vyos-config

# Deployment parameters

- params.yaml

```
additionalParamsForVnf:  
- member-vnf-index: 'MagmaAGW+srsLTE'  
  additionalParams:  
    agw_id: 'agw_02'  
    agw_name: 'AGW2'  
    orch_ip: '172.21.251.x' ## change this to your assigned address  
    orch_net: 'osmnet'
```



# Build and instantiate packages

- Build:

```
osm nfpkg-create hackfest_gateway_vnfd  
osm nfpkg-create hackfest_magma-agw-enb_vnfd  
osm nspkg-create hackfest_magma-agw-enb_nsd
```

- Instantiate:

```
osm ns-create --ns_name magmaAGW_X --nsd_name hackfest_magma-agw-enb_nsd  
--vim_account etsi-openstack --config_file params.yaml
```

# Wait until is deployed

- See network services:

```
osm ns-list
```

- Show how charms progress:

```
juju switch <ns_id>  
watch -c juju status --color
```

# Check day-1 actions

- Show actions

```
juju show-action-status
```

# Execute day-2 actions: EnodeB + UE

- Initiate radio:

```
osm ns-action magmaAGW_X --vnf_name "MagmaAGW+srsLTE" --vdu_id srsLTE-vdu  
--action_name register --para Done with relations 68.100.254", gtp-bind-addr:  
"192.168.100.10", sfc-bind-addr: "192.168.100.10"}
```

- Attach UE Emulator:

```
osm ns-action magmaAGW_X --vnf_name "MagmaAGW+srsLTE" --vdu_id srsLTE-vdu  
--action_name attach-ue --params '{usim-imsi: "7220700000000008", usim-k:  
"c8eba87c1074edd06885cb0486718341", usim-opc:  
"17b6c0157895bcaa1efc1cef55033f5f"}
```

# Execute day-2 actions: PNF

- Get Magma IP

<input type="checkbox"/>	<code>magmaAGW_56-MagmaAGW+srsL TE-magma-agw-vdu-1</code>	<code>magma101_ hf9</code>	<code>sgi 192.168.239.37 magmaAGW_56- internalS1 192.168.100.254 osm-ext 172.21.248.72</code>
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- Attach UE Emulator:

```
osm ns-action magmaAGW_X --vnf_name "VYOS-PNF" --action_name configure-remote  
--params '{magmaIP: "IP_Magma"}
```

# Checks

- Check MME logs

```
osm vnf-list  
ssh magma@<ip> # passwd=magma  
tail -f /var/log/mme.log
```

- Magma Orch UI: admin@magma.test/password1234

```
VNFID=`osm vnf-list | grep orc8r | awk '{ print $2 }'`  
osm vnf-show $VNFID --kdu orc8r > vnf-show.txt  
MAGMAIP=`cat vnf-show.txt | grep nginx-proxy | grep "LoadBalancer" | awk '{  
print $4 }'`  
echo Magma web interface is https://$MAGMAIP
```

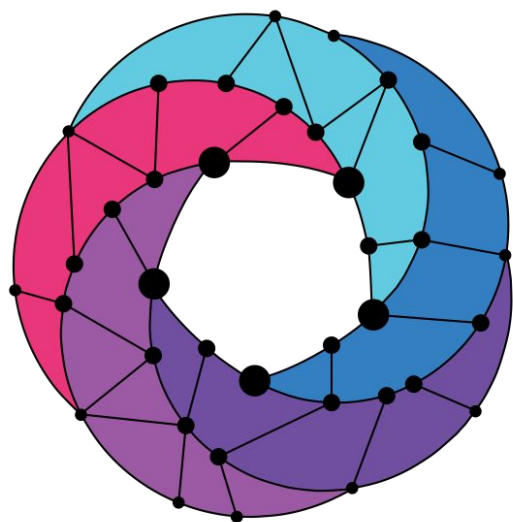
# Clean up

- Detach and unregister:

```
osm ns-action magmaAGW_X --vnf_name "MagmaAGW+srsLTE" --vdu_id srsLTE-vdu
--action_name detach-ue
osm ns-action magmaAGW_X --vnf_name "MagmaAGW+srsLTE" --vdu_id srsLTE-vdu
--action_name unregister
```

- Remove NS and packages:

```
osm ns-delete magmaAGW_X
osm nsd-delete hackfest_magma-agw-enb_nsd
osm vnfd-delete hackfest_magma-agw-enb_vnfd
```



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