oVirt

SDN with Neutron and Skydive

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10/2019

SDN deployment with OVN, Neutron and Skydive

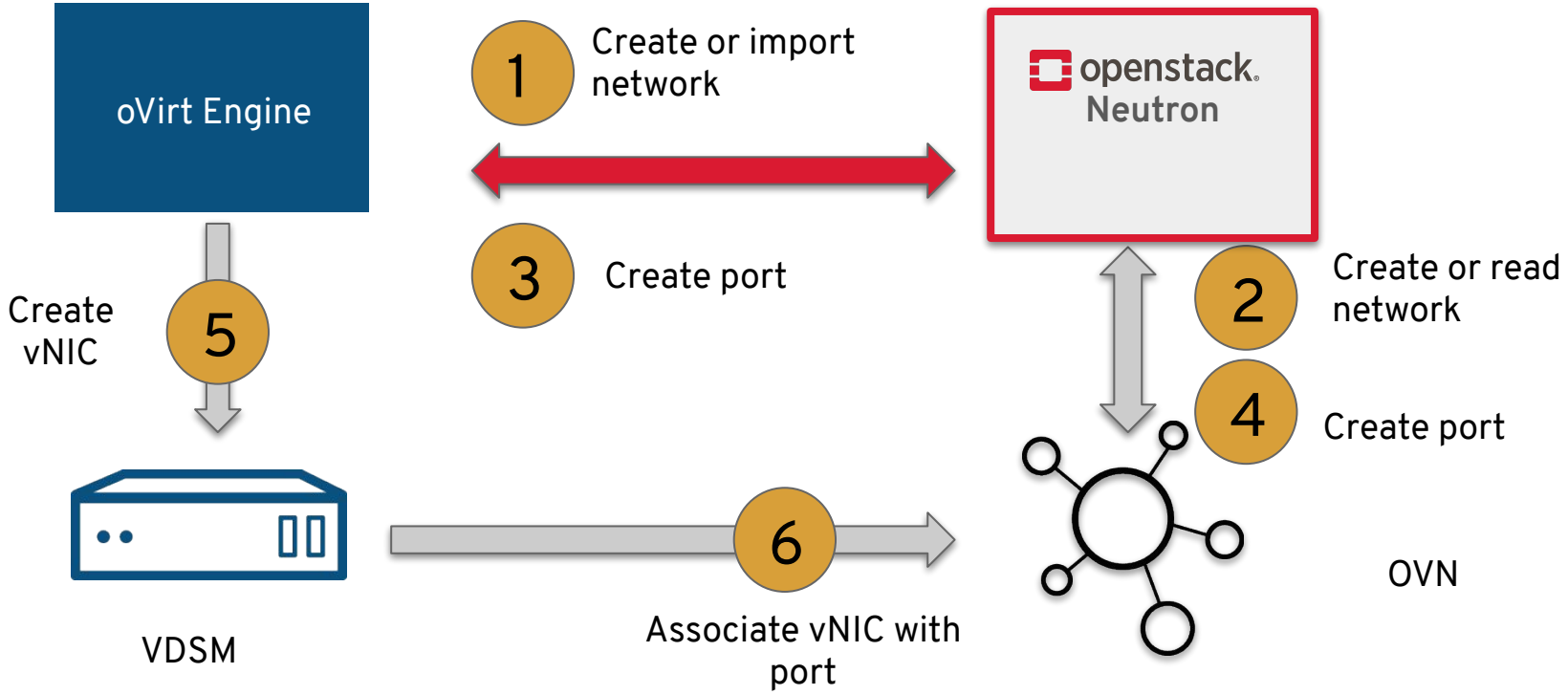
- Neutron Integration
- Skydive Integration

Neutron Integration

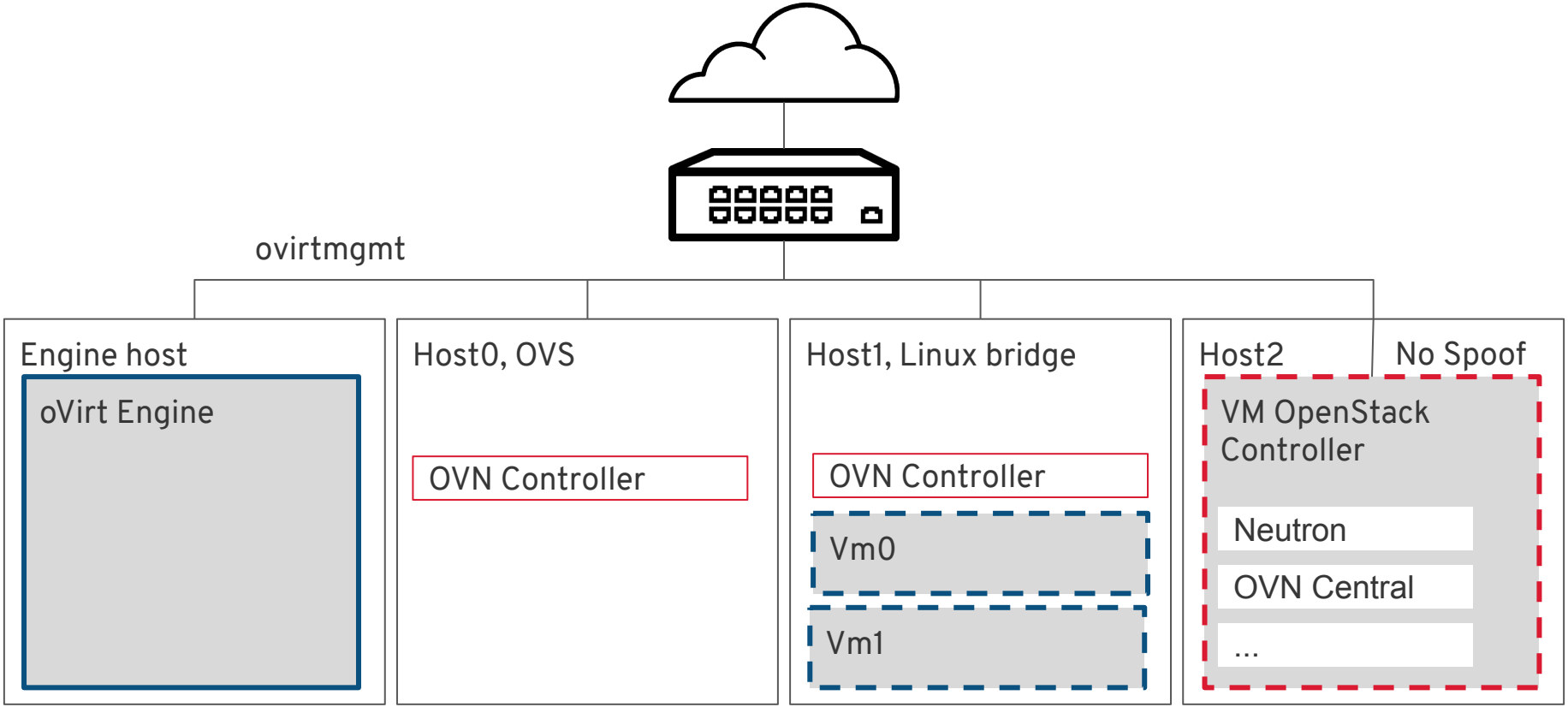
Networking in oVirt

- Linux bridge based networking
  - VLAN for interhost communication
  - Basic filtering, QoS
- SR-IOV based networking
  - VLAN for interhost communication
- NIC PCI passthrough
- External:
  - 3rd-party
  - Open vSwitch based networking
    - oVirt internal OVN for tunneled interhost communication
    - OpenStack Neutron OVN/ODL

Neutron Integration in oVirt



Example

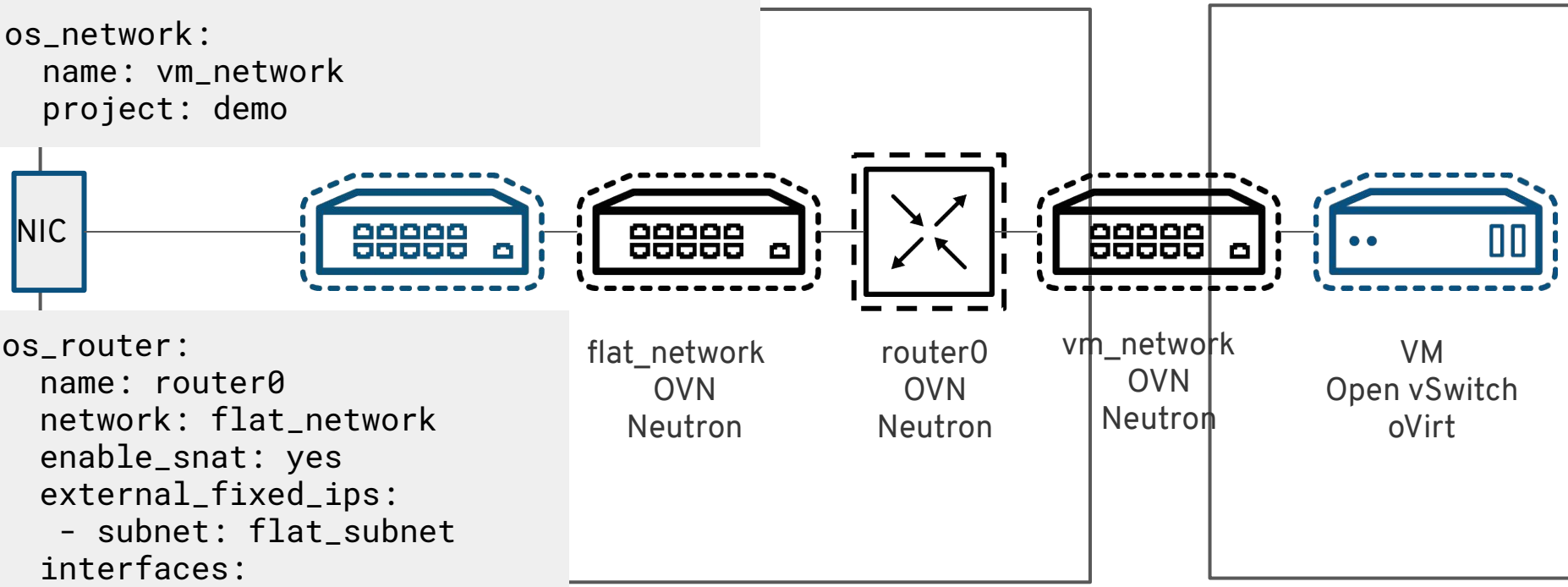

ovirtmgmt
Engine host
oVirt Engine
Host0, OVS
OVN Controller
Host1, Linux bridge
OVN Controller
Vm0
Vm1
Host2
No Spoof
VM OpenStack Controller
Neutron
OVN Central
...

Deployment

```
yum install -y centos-release-openstack-stein && \
yum install -y openstack-packstack && \
packstack --os-glance-install=y --os-cinder-install=y \
  --os-manila-install=n --os-nova-install=y --os-horizon-install=y \
  --os-swift-install=n --os-ceilometer-install=n --os-aodh-install=n \
  --os-panko-install=n --os-sahara-install=n  --os-heat-install=n \
  --os-magnum-install=n --os-trove-install=n --os-ironic-install=n \
  --os-client-install=y --os-neutron-install=y \
  --default-password=123456 \
  --provision-demo=y \
  --install-hosts=$controller_host \
  --os-network-hosts=$controller_host,$network_host0,$network_host1
# add $network_host0,$network_host1 to oVirt Engine
```

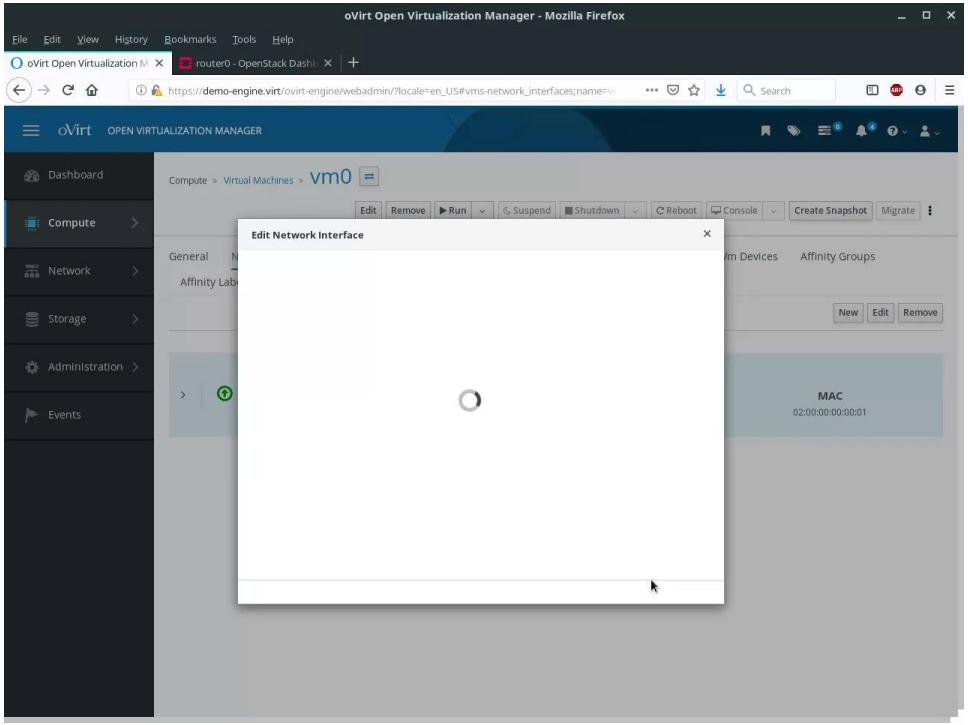
```
- os_network:
    name: flat_network
    external: yes
    provider_network_type: flat
    provider_physical_network: ovirtmgmt

- os_network:
    name: vm_network
    project: demo
```

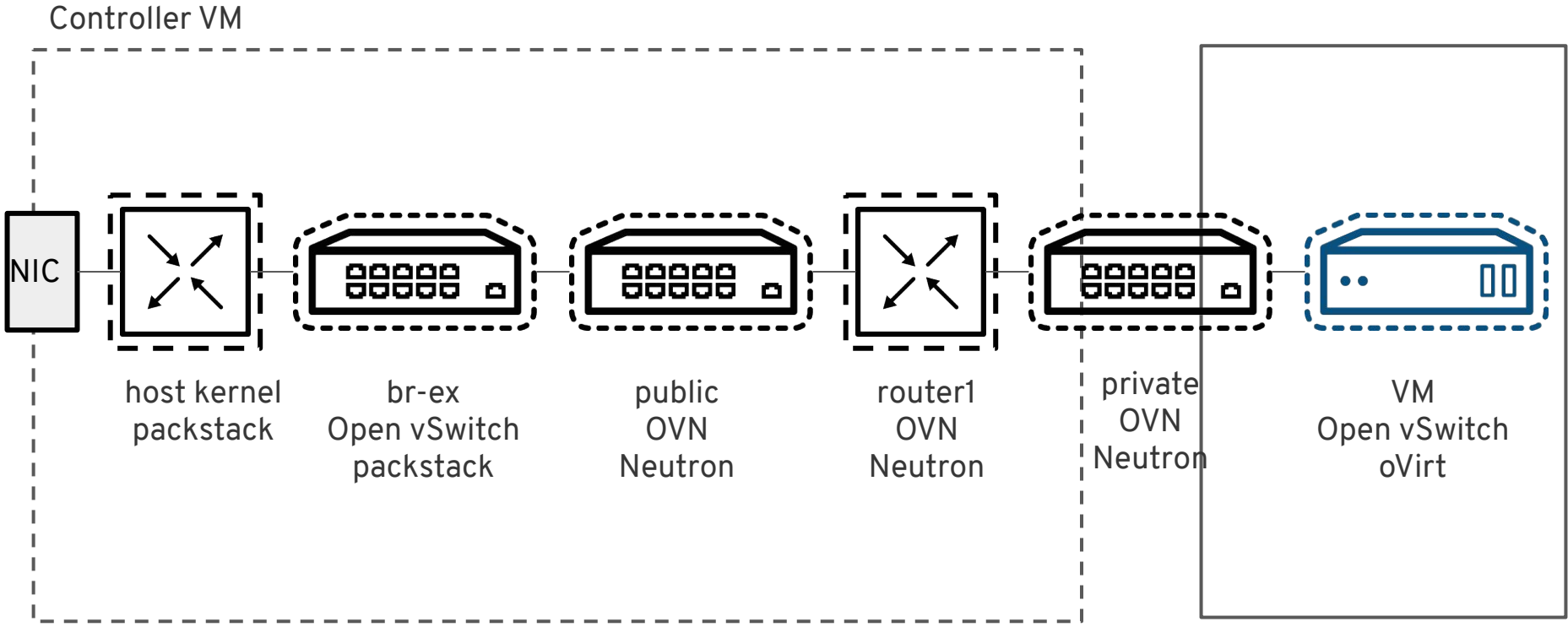



```
- os_router:
    name: router0
    network: flat_network
    enable_snat: yes
    external_fixed_ips:
     - subnet: flat_subnet
    interfaces:
      - vm_subnet
```

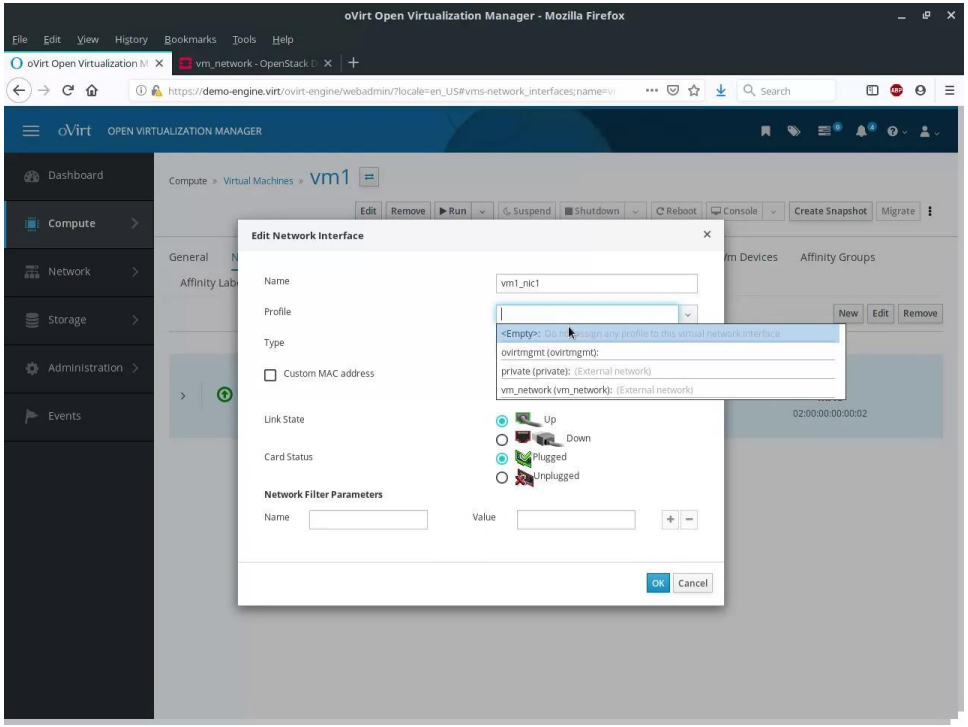
Scenario 1: Demo



Scenario 2: packstack default

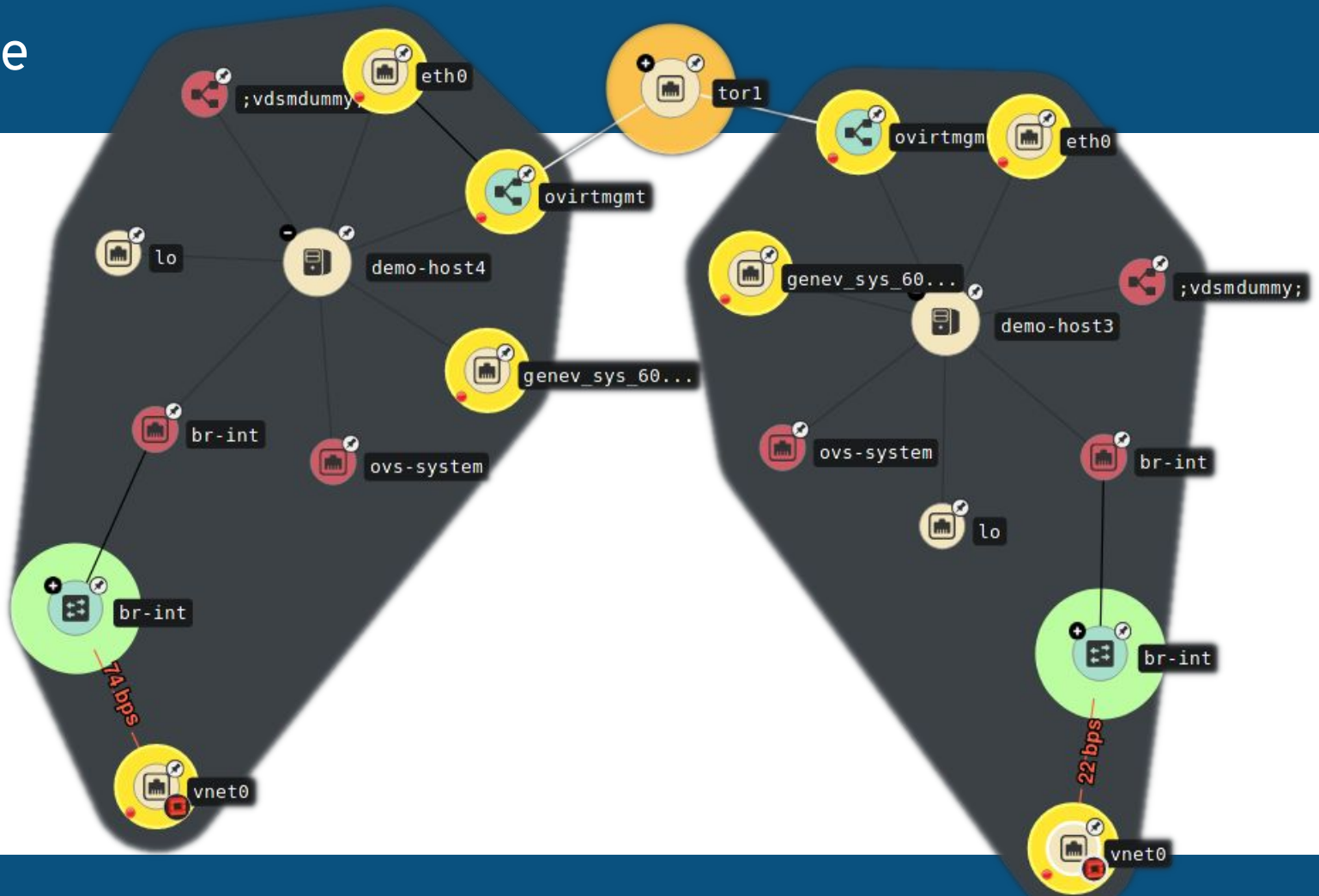


Scenario 2: Demo

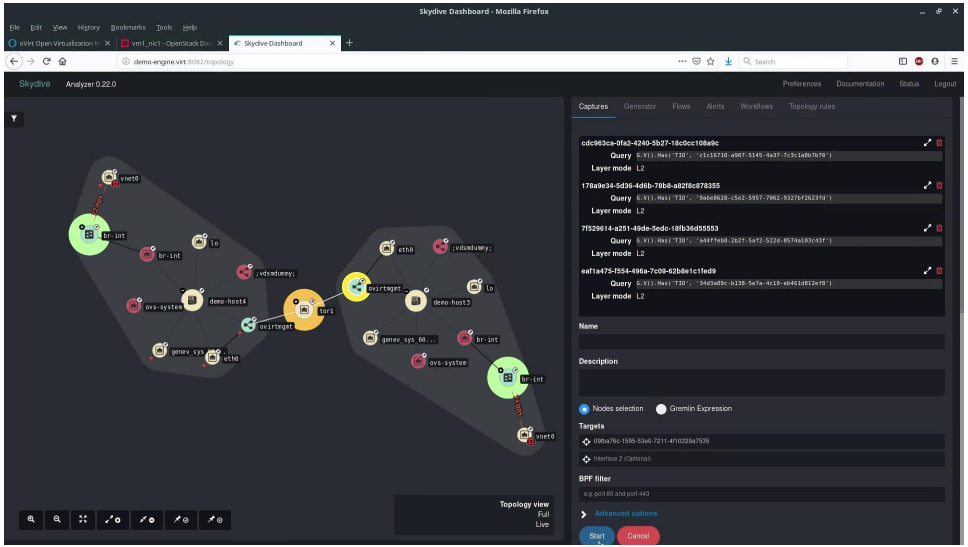


Skydive Integration

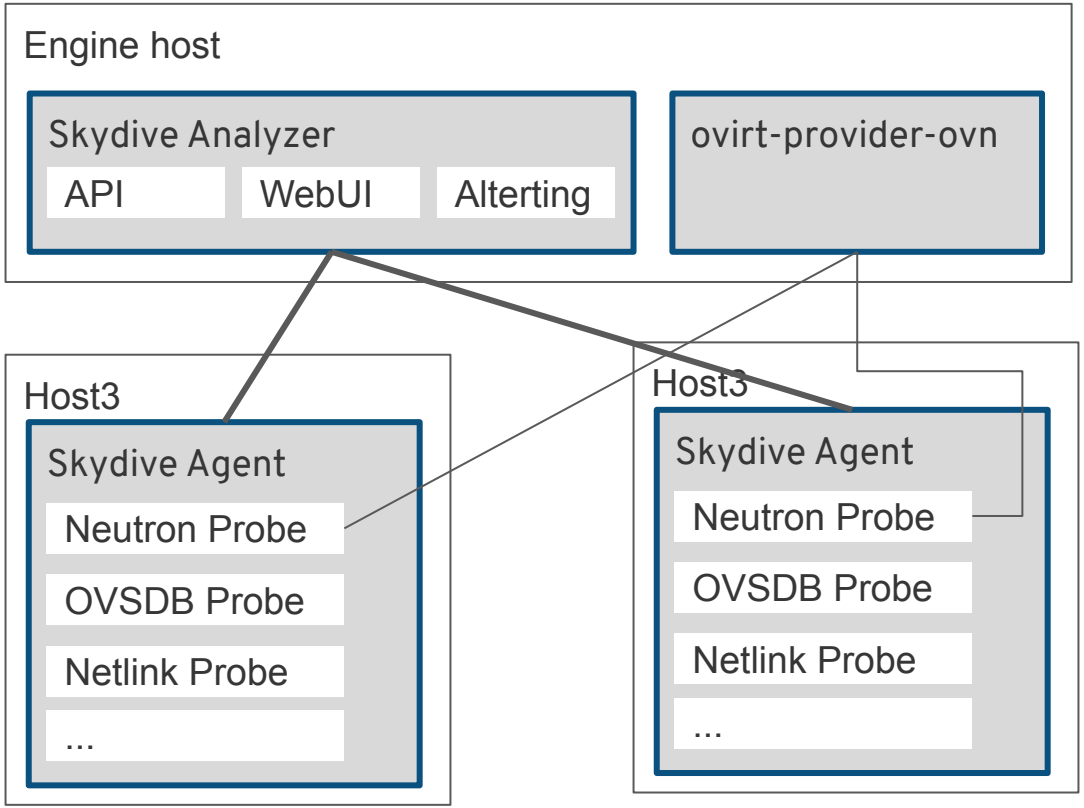
Usage


;vdsmdummy;
eth0
tor1
ovirtmgm
eth0
ovirtmgmt
lo
demo-host4
genev_sys_60...
;vdsmdummy;
demo-host3
genev_sys_60...
br-int
ovs-system
ovs-system
br-int
lo
br-int
74 bps
br-int
22 bps
vnet0
vnet0

Demo


Skydive Dashboard - Mozilla Firefox
Skydive
Analyzer 0.22.0
Preferences
Documentation
Status
Logout
Captures
Generator
Flows
Alerts
Workflows
Topology rules
Query
Layer mode
Name
Description
Nodes selection
Gremlin Expression
Targets
BPF filter
Advanced options
Start
Cancel
Topology view
Full
Live

Architecture



Deployment

```
yum install centos-release-openstack-rocky
yum install skydive-ansible
cp -r /usr/share/ovirt-engine/playbooks/install-skydive.inventory.sample .
mv install-skydive.inventory.sample inventory

# /usr/share/ovirt-engine-metrics/bin/ovirt-engine-hosts-ansible-inventory \
  | python -m json.tool

# [agents:children] ovirt_cluster_Default
vi inventory/01_hosts

ansible-playbook -i inventory \
  /usr/share/ovirt-engine/playbooks/install-skydive.yml \
  /usr/share/skydive-ansible/playbook.yml.sample
```

Questions

- Neutron Integration
- Skydive Integration
- Example environment available to answer questions

oVirt

Thank you!

https://ovirt.org/

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@ovirt