



# OpenStack Configuration for SR-IOV Support

You need to follow RedHat OpenStack documentation for detailed instructions for SR-IOV configuration. The details given below may be referred to in addition to this.

## On Controller Node

### 1 In /etc/neutron/plugins/ml2/ml2\_conf.ini file

```
[ml2]

tenant_network_types = vxlan, vlan

# Add support for vlan, vxlan and flat type drivers

type_drivers = vlan, vxlan, flat

# Add support for sriov and vts mechanism drivers, in the following sequence

mechanism_drivers = sriovnicswitch, cisco_vts
```

### 2 In /etc/neutron/plugins/ml2/ml2\_conf.ini file

```
[ml2_type_vlan]

# Add all the physnet names that will be used on your compute hosts along with the VLAN
ranges

# reserved for the provider networks for those physnets

network_vlan_ranges = physnet1:2000:2100, physnet2:2500:2600

# Note: network vlan range should be in between the range specified in VTS.

ml2_type_flat]

# List of physical_network names with which flat networks can be created.

# Use default '*' to allow flat networks with arbitrary physical_network names.

flat_networks = *
```

### 3 If your deployment has a /etc/neutron/plugins/ml2/ml2\_conf\_sriov.ini file, include the following section in your ml2\_conf\_sriov.ini file.

```
[ml2_sriov]

# The default supported_pci_vendor_devs value for the installation may have the value
only for the PFs

# in your compute. Use lspci --nn | grep Ethernet to find the ids for the Virtual
functions and add that

# as well in this.
```

```
supported_pci_vendor_devs = 8086:10fb,8086:10ed

agent_required = True
Update ExecStart section in the file /usr/lib/systemd/system/neutron-server.service to include
ml2_conf_sriov.ini config file
ExecStart=/usr/bin/neutron-server --config-file /usr/share/neutron/neutron-dist.conf
--config-dir /usr/share/neutron/server --config-file /etc/neutron/neutron.conf
--config-file /etc/neutron/plugin.ini --config-file
/etc/neutron/plugins/ml2/ml2_conf_sriov.ini --config-dir /etc/neutron/conf.d/common
--config-dir /etc/neutron/conf.d/neutron-server --log-file /var/log/neutron/server.lo
```

4 If the ml2\_conf\_sriov.inif file is not present, then add the ml2\_sriov section to /etc/neutron/plugins/ml2/ml2\_conf.ini file.

5 Restart neutron service using "systemctl restart neutron-server.service"

**On each compute hosts' /etc/nova/nova.conf file, define pci\_passthroughs\_whitelist.**

```
pci_passthrough_whitelist = [ {"devname": "eth4", "physical_network":"physnet1"}, {"devname":
"eth5", "physical_network":"physnet2"}]
```

For multiple SR-IOV nics , there should be a mapping entry per physnet/NIC card

### Enable the OpenStack Networking SR-IOV agent

If not present already as part of the OSPD/Packstack installation (check the neutron agent-list on your director/controller node), then you will need to install "openstack-neutron-sriov-nic-agent" on your compute hosts and start that agent/service. After you have installed, follow RedHat documentation. It is important to have the "physical\_device\_mappings section" in the /etc/neutron/plugins/ml2/sriov\_agent.ini file. You can leave the exclude\_devices section blank.

Then proceed to create the SR-IOV port instances.



#### Note

- SR-IOV support is present only for network types vlan and flat.
- While creating a provider network, when choosing vlan network type, choose a segmentation ID (vlan) from within the physnet range.
- While creating a provider network of type flat, segmentation id can be any value or null. VTS will provide native vlan for flat networks.
- While creating a port, as described in RedHat OpenStack documentation, choosing binding:vnic\_type = direct is a must for SR-IOV.
- Cirros image is not supported for creating instances using SR-IOV ports.