

# Installing MCMS PON Controller on a NFX250-S2 Network Services Platform

Published  
2021-12-27

RELEASE

# Table of Contents

**Install Juniper Unified PON Controller on NFX250-S2**

**Install Ubuntu KVM Image for the PON Controller Software**

**Example: Configure NFX250-S2 as a Compute Server to Support Virtual Network Functions**

**Overview | 11**

**Configuration | 12**

# Install Juniper Unified PON Controller on NFX250-S2

## IN THIS SECTION

- [Overview | 1](#)
- [Deployment Model | 1](#)
- [Requirements | 4](#)

## Overview

This installation example can be used to install an Ubuntu KVM qcow2 image for the MicroClimate Management System (MCMS ) passive optical network (PON) Controller software to run as a Virtual Network Function (VNF) on the NFX250-S2 Network Services Platform and provision the NFX250-S2 for the VNF.

**NOTE:** The steps to create the Ubuntu KVM qcow2 image for the MCMS PON Controller software is beyond the scope of this document.

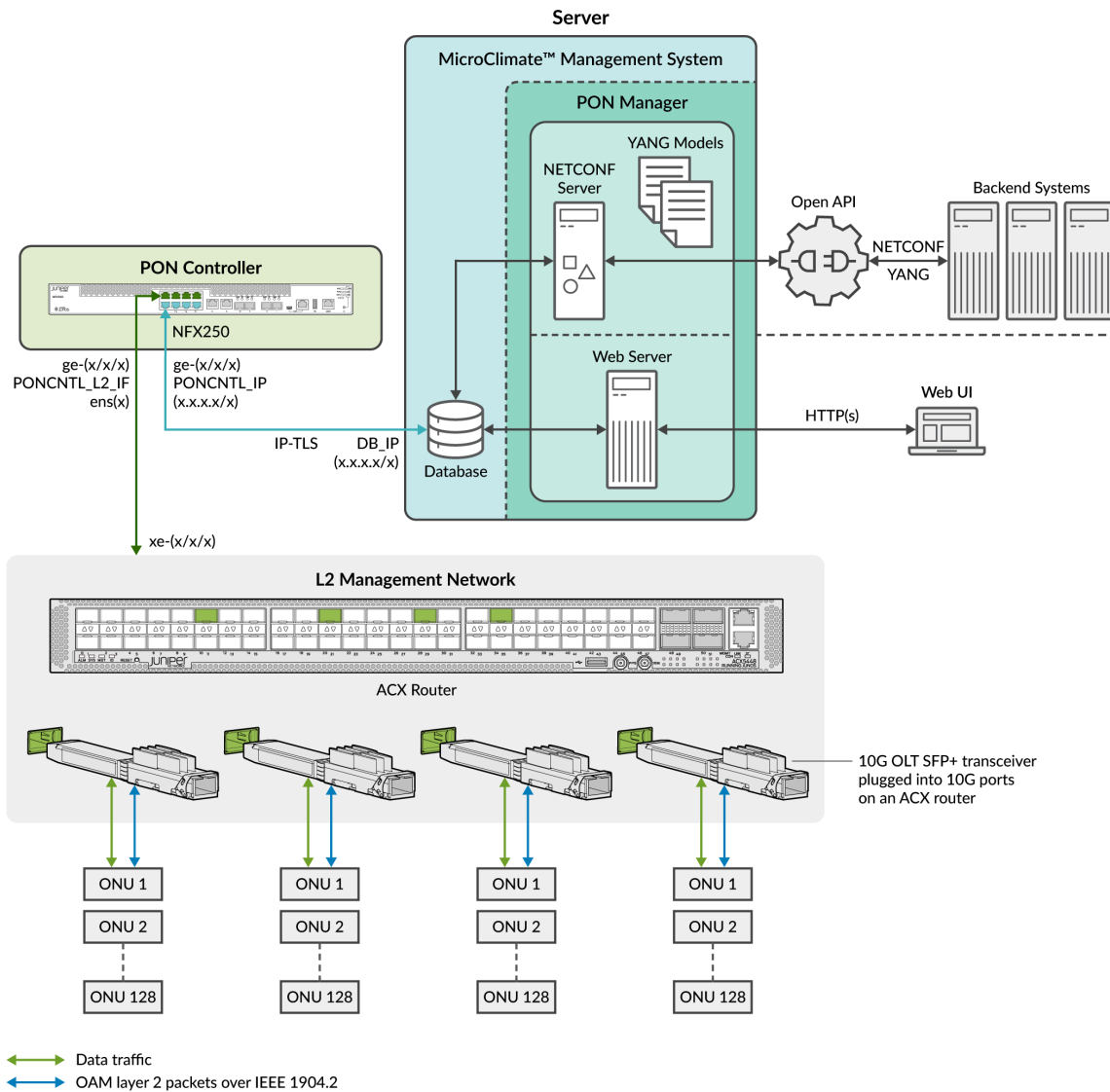
## Deployment Model

The PON Controller software runs as a VNF (as an Ubuntu VM) on the NFX250-S2 device and utilizes the NFX250's external faceplate Gigabit Ethernet switch ports. The NFX250-S2 switch ports provide the Layer 2 and Layer 3 connection points to the ACX router and MCMS PON Manager Database, respectfully.

[Figure on page 2](#) depicts the field deployment model for this installation example.

**NOTE:** The ACX line of routers supported in this deployment model is the ACX5448 Universal Metro Router.

**Figure 1: PON Controller Deployment Model**



The Layer 2 control plane connections to the ACX router can use any of the NFX250-S2 device's top four Ethernet switch ports. For example, ge-0/0/0, ge-0/0/2, ge-0/0/4, or ge-0/0/6.

The Layer 3 control plane connection to the MCMS database can use any one of the NFX250-S2 device's bottom four Ethernet switch ports. For example, ge-0/0/1, ge-0/0/3, ge-0/0/5, or ge-0/0/7.

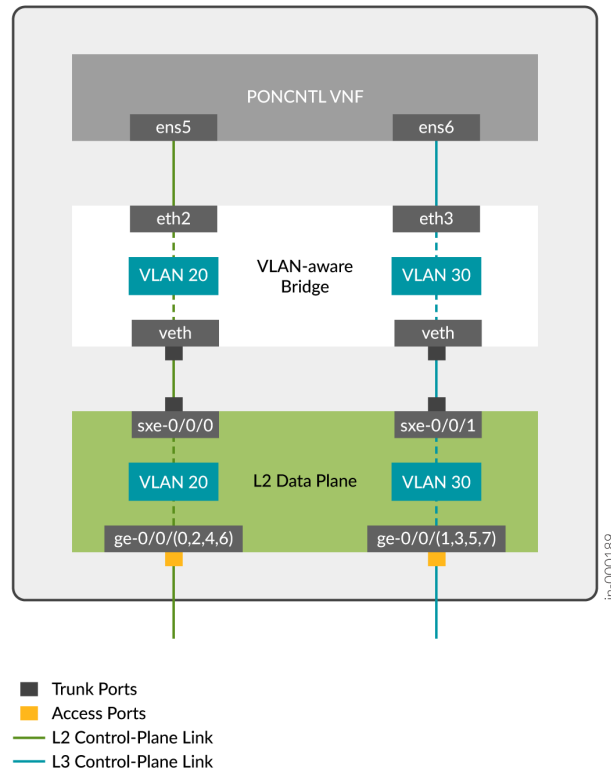
**NOTE:** Other ports on the NFX250-S2 device and port configurations may be valid but are beyond the scope of this document.

[Figure on page 4](#) depicts an example of the internal service connection mapping on the NFX250-S2 device for this PON Controller VNF.

The PON Controller VNF's two Ethernet control plane connections are mapped from the PON Controller VNF through the NFX250's OVS bridge structure to the external Gigabit Ethernet faceplate switch ports using internal VLANs. For Junos VLAN configuration, see ["Example: Configure NFX250-S2 as a Compute Server to Support Virtual Network Functions" on page 11](#).

**NOTE:** Other possible VLAN configurations are beyond the scope of this document.

**Figure 2: NFX250-S2 Device's Internal Service Connection Mapping**



## Requirements

- Juniper NFX250-S2 Network Services Platform
  - Junos OS Release 20.2R2 NextGen Software or later.
  - Root user access.
  - Dedicated for PON Controller use.
- Ubuntu KVM qcow2 image for the MCMS PON Controller software

- For MCMS PON Controller Ubuntu OS requirements, see the [MicroClimate™ Management System \[MCMS\] Installation Guide](#).

**NOTE:** The creation of an Ubuntu KVM qcow2 image is beyond the scope of this document.

## Install Ubuntu KVM Image for the PON Controller Software

The following are the high-level steps required to complete the installation process:

- Verify and upgrade NFX250-S2 device software to the recommended release.
- Factory default (zeroize) the configuration for the NFX250-S2 device.
- Transfer Ubuntu KVM qcow2 VM image file for the PON Controller software to the NFX250-S2 device.
- Provision the NFX250-S2 device.
- Verify the status of the PON Controller VNF.
- Login to the PON Controller VNF locally.
- Install the PON Controller software on the VNF.
- Verify or change the PON Controller configuration.
- Configure the control plane connections on the ACX router for NFX250-S2 PON Controller VNF connectivity.
- Verify the PON Controller software operation.

The following steps describe how to install the Ubuntu KVM qcow2 image for the MCMS PON Controller software on the NFX250-S2 device.

**NOTE:** Before proceeding with the installation process, it is recommended to zeroize the NFX250-S2 device's configuration. See the [Junos OS Software Installation and Upgrade Guide](#) to understand the procedure to zeroize the system.

1. Configure the NFX250-S2 device to operate in compute mode. Compute mode provides maximum resources for third-party VNFs. The NFX250-S2 device reboots after setting the device in compute mode.

```
user@host> request vmhost mode compute
```

2. Transfer the Ubuntu KVM qcow2 VM image (nfx250-poncnt1.qcow2) for the PON Controller software to the NFX250-S2 device. Use scp command to transfer the Ubuntu KVM qcow2 image file to the NFX250-S2 device's **/var/lshare/public** directory. Make sure to use the correct credentials if you want to copy the files to the NFX250-S2 device. For example, root user's credentials are used here to copy the files to the NFX250-S2 device.

```
user@host$ scp nfx250-poncnt1.qcow2 root@x.x.x.x:/var/lshare/public/
```

3. Provision the NFX250-S2 device, including the virtual-network-functions settings, for the PON Controller VNF. Make sure the following appropriate configuration options are set by referring to ["Example: Configure NFX250-S2 as a Compute Server to Support Virtual Network Functions" on page 11](#).

- system memory hugepages
- vlans
- interfaces
- vmhost vlans
- virtual-network-functions

The NFX250-S2 device's virtual-network-function configuration creates four Ethernet ports for the VNF.

- The first two ports are the default VNF ports and include the NFX250-S2 to VNF communication network port and a OOB port (disabled later within the Ubuntu VNF).
- The second two ports are the Ethernet ports designed for use with the PON Controller software.
  - One port for Layer 2 Control Plane communications with the 10G PON OLT devices.
  - One port for Layer 3 IP communications with the PON Manager database.

**NOTE:** For more information, see ["Example: Configure NFX250-S2 as a Compute Server to Support Virtual Network Functions" on page 11](#).



4. Verify the status of the PON Controller VNF in the NFX250-S2 device. From operational mode, enter the `show virtual-network-functions vnfname` command. You should see the PON Controller VNF State as **Running** and the Liveliness as **alive**.

```
user@host> show virtual-network-functions poncntl
```

ID	Name	State	Liveliness
2	poncntl	Running	alive

5. Login to the PON Controller VNF. From operational mode, enter the `request virtual-network-functions vnfname ssh user-name user` command to create a ssh connection to the PON Controller VNF.

```
user@host> request virtual-network-functions vnfname ssh user-name user
```

**NOTE:** The PON Controller VNF username and password is created during the Ubuntu KVM qcow2 image creation. The steps to create username and passwords are beyond the scope of this document.

6. Provision the Ethernet interfaces for PON Controller access. Determine the Ethernet interface names in the Ubuntu VNF. From the Ubuntu VNF CLI, enter the `ip address` command.

```
user@host:~$ ip address
```

```
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: ens3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default
    qlen 1000
    link/ether f0:7c:c7:48:f4:31 brd ff:ff:ff:ff:ff:ff
    inet 192.0.2.100/24 brd 192.0.2.255 scope global dynamic ens3
        valid_lft 2364sec preferred_lft 2364sec
3: ens4: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default
    qlen 1000
    link/ether f0:7c:c7:48:f4:32 brd ff:ff:ff:ff:ff:ff
4: ens5: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default
    qlen 1000
```

```

    link/ether f0:7c:c7:48:f4:2d brd ff:ff:ff:ff:ff:ff
5: ens6: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default
qlen 1000
    link/ether f0:7c:c7:48:f4:2e brd ff:ff:ff:ff:ff:ff
    inet 10.0.0.164/24 brd 10.0.0.255 scope global ens6
        valid_lft forever preferred_lft forever

```

Interfaces 2 and 3 (ens3 and ens4) are the default NFX250-S2 VNF Ethernet ports. The interface names may change based on your installation.

Interfaces 4 and 5 (ens5 and ens6) are the two Ethernet ports used for the PON Controller VNF. Interface ens5 is the Layer 2 control-plane interface between PON Controller and the ACX5448 router with the 10GbE OLT transceivers installed.

Interface ens6 is the Layer 3 IP interface for connection between the PON Controller and the PON Manager database server.

7. Provision the Ethernet ports using Ubuntu netplan and the network manager yaml configuration file.
  - a. Create a backup copy of the existing yaml configuration file in the `/etc/netplan/` directory. From the Ubuntu VNF CLI, enter the following CLI command:

```
sudo cp /etc/netplan/nameOfYamlFile.yaml nameOfYamlFile.yaml.bak
```

- b. Use a text editor such as vi or nano and edit the existing netplan configuration yaml file in the `/etc/netplan/` directory with the following information and save the configuration:

**NOTE:** It is important to follow the indentation format as show below in a .yaml file. Replace the IP addresses with appropriate IP addresses for your installation.

```

# This file describes the network interfaces available on your system
# For more information, see netplan(5).
network:
  version: 2
  renderer: networkd
  ethernets:
    # ens3 is the default NFX250-S2 internal management port.
    ens3:
      link-local: []
      dhcp4: true

```

```

    dhcp4-overrides:
        use-routes: false
    # ens4 is the default OOB port on VNF. Unused for PON Controller
    ens4:
        dhcp4: no
        dhcp6: no
    # ens5 is L2 control-plane port for PON Controller to OLT communications
    ens5:
        dhcp4: no
        dhcp6: no
    # ens6 is L3 control-plane port for PON Controller to PON Manager/Database server
    communications
    ens6:
        link-local: []
        dhcp4: no
        addresses: [10.0.0.164/24]
        gateway4: 10.0.0.1
        nameservers:
            addresses: [192.168.1.254,192.168.1.253]

```

8. Test the netplan configuration by entering the `sudo netplan try` command at the Ubuntu VNF CLI. You notice that the changes are temporarily applied and that the countdown timer starts.

When you see the countdown timer starts counting down towards zero, press enter to save the changes.

```

Press ENTER before the timeout to accept the new configuration
Changes will revert in 119 seconds
Configuration accepted.

```

9. Verify the changes to the IP address of the Ethernet interfaces to ensure they match your requirements.
10. Reboot the VNF by entering the `sudo reboot -h now` command.
11. After the VNF has restarted, verify that the State and Liveliness information are correct for the VNF by running the `show virtual-network-functions vnfname` command.

```

user@host> show virtual-network-functions poncntl

```

ID	Name	State	Liveliness
6	poncntl	Running	alive

12. Ping the PON Controller Ubuntu VNF interface from a device on the same network to verify the connectivity.
  - Connect a network cable into ge-0/0/1 of the NFX250-S2 device and your network.
  - From a computer that is connected to the network verify if you can ping the IP address of the Layer 3 control plane of the PON Controller VNF (ens6).
13. To complete the PON Controller software installation, open a ssh session from the computer that is connected to the network to the PON Controller Ubuntu VNF Layer 3 control plane port (ens6). See the [MicroClimate™ Management System \[MCMS\] Installation Guide](#) to install the MCMS PON Controller software and complete its provisioning.
14. Configure the Layer 2 control plane connection for the NFX250-S2 PON Controller VNF and the VLAN bridge domain in the ACX router.
  - a. On the ACX router, configure the Layer 2 interface and enable VLAN tagging for the connection to the NFX250-S2 device.

```

user@host#set interfaces xe-0/0/1 description "PON Controller L2 Control Plane"
user@host#set interfaces xe-0/0/1 native-vlan-id 4090
user@host#set interfaces xe-0/0/1 flexible-vlan-tagging
user@host#set interfaces xe-0/0/1 encapsulation flexible-ethernet-services
user@host#set interfaces xe-0/0/1 unit 4090 encapsulation vlan-bridge
user@host#set interfaces xe-0/0/1 unit 4090 vlan-id 4090

```

- b. On the ACX router, configure VLAN bridge domain.

```

user@host#set vlans poncntl description BD_PONCNTL
user@host#set vlans poncntl interface xe-0/0/1.4090
user@host#set vlans poncntl interface xe-0/0/2.4090

```

**NOTE:** The Layer 2 control plane connection for the PON Controller VNF communicates to the 10G PON SFP+ OLT transceivers hosted in the ACX router.

The ACX port configuration for the OLT transceivers would also need the VLAN configuration for VLAN 4090 and they need to be added to the VLAN bridge domain to complete the communications path between the PON Controller VNF and the OLT transceivers.

15. Verify PON Controller software operation. To validate the PON Controller software operation, see the validation steps in the PON Controller Installation section of the [MicroClimate™ Management System \[MCMS\] Installation Guide](#).

## Example: Configure NFX250-S2 as a Compute Server to Support Virtual Network Functions

### IN THIS SECTION

- [Overview | 11](#)
- [Configuration | 12](#)

## Overview

This example configuration provisions the NFX250-S2 device as a compute server to support Virtual Network Functions (VNFs) as its main functionality.

The configuration provisions the basic NFX250-S2 requirements and provisions a single VNF for the PON Controller KVM image to be installed.

Modification to the IP addresses should be made that is appropriate for your individual deployment.

This example configuration provisions four of the Gigabit Ethernet copper interface ports to support the Layer 2 PON management control plane connections to external ACX routers with installed 10GbE PON OLT transceivers. It also provisions the four other Gigabit Ethernet copper interface ports to support the Layer 3 PON management control plane connection to the MicroClimate™ Management System database.

**NOTE:** The configuration excerpt does not show the necessary user credential configuration information for a working system. The deployed system should have the configuration parameters set correctly.

The deployment configuration sets the NFX250-S2 device in compute mode and disables most NFX250-S2 Junos functionality, so that the system can be used as a VM host server.

## Configuration

### IN THIS SECTION

- [CLI Quick Configuration | 12](#)
- [Results | 14](#)

### CLI Quick Configuration

To quickly configure this example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, and then copy and paste the commands into the CLI at the [edit] hierarchy level.

```
user@host# set system services ssh root-login allow
user@host# set system memory hugepages page-size 1024 page-count 21
user@host# set interfaces ge-0/0/0 description "L2 Only Control Plan PON Controller Port"
user@host# set interfaces ge-0/0/0 ether-options auto-negotiation
user@host# set interfaces ge-0/0/0 unit 0 family ethernet-switching vlan members VLAN-PONCNTL-L2
user@host# set interfaces ge-0/0/0 unit 0 family ethernet-switching storm-control default
user@host# set interfaces sxe-0/0/0 description "Internal Trunk Port to OVS Bridge - #1"
user@host# set interfaces sxe-0/0/0 mtu 9192
user@host# set interfaces sxe-0/0/0 ether-options flow-control
user@host# set interfaces sxe-0/0/0 unit 0 family ethernet-switching interface-mode trunk
user@host# set interfaces sxe-0/0/0 unit 0 family ethernet-switching vlan members VLAN-PONCNTL-L2
user@host# set interfaces ge-0/0/1 description "L3 Only Control Plan PON Controller Port"
user@host# set interfaces ge-0/0/1 ether-options auto-negotiation
user@host# set interfaces ge-0/0/1 unit 0 family ethernet-switching vlan members VLAN-PONCNTL-L3
user@host# set interfaces ge-0/0/1 unit 0 family ethernet-switching storm-control default
user@host# set interfaces sxe-0/0/1 description "Internal Trunk Port to OVS Bridge - #2"
user@host# set interfaces sxe-0/0/1 mtu 9192
user@host# set interfaces sxe-0/0/1 ether-options flow-control
user@host# set interfaces sxe-0/0/1 unit 0 family ethernet-switching interface-mode trunk
user@host# set interfaces sxe-0/0/1 unit 0 family ethernet-switching vlan members VLAN-PONCNTL-L3
user@host# set interfaces ge-0/0/2 description "L2 Only Control Plan PON Controller Port"
user@host# set interfaces ge-0/0/2 ether-options auto-negotiation
user@host# set interfaces ge-0/0/2 unit 0 family ethernet-switching vlan members VLAN-PONCNTL-L2
```

```

user@host# set interfaces ge-0/0/2 unit 0 family ethernet-switching storm-control default
user@host# set interfaces ge-0/0/3 description "L3 Only Control Plan PON Controller Port"
user@host# set interfaces ge-0/0/3 ether-options auto-negotiation
user@host# set interfaces ge-0/0/3 unit 0 family ethernet-switching vlan members VLAN-PONCNTL-L3
user@host# set interfaces ge-0/0/3 unit 0 family ethernet-switching storm-control default
user@host# set interfaces ge-0/0/4 description "L2 Only Control Plan PON Controller Port"
user@host# set interfaces ge-0/0/4 ether-options auto-negotiation
user@host# set interfaces ge-0/0/4 unit 0 family ethernet-switching vlan members VLAN-PONCNTL-L2
user@host# set interfaces ge-0/0/4 unit 0 family ethernet-switching storm-control default
user@host# set interfaces ge-0/0/5 description "L3 Only Control Plan PON Controller Port"
user@host# set interfaces ge-0/0/5 ether-options auto-negotiation
user@host# set interfaces ge-0/0/5 unit 0 family ethernet-switching vlan members VLAN-PONCNTL-L3
user@host# set interfaces ge-0/0/5 unit 0 family ethernet-switching storm-control default
user@host# set interfaces ge-0/0/6 description "L2 Only Control Plan PON Controller Port"
user@host# set interfaces ge-0/0/6 ether-options auto-negotiation
user@host# set interfaces ge-0/0/6 unit 0 family ethernet-switching vlan members VLAN-PONCNTL-L2
user@host# set interfaces ge-0/0/6 unit 0 family ethernet-switching storm-control default
user@host# set interfaces ge-0/0/7 description "L3 Only Control Plan PON Controller Port"
user@host# set interfaces ge-0/0/7 ether-options auto-negotiation
user@host# set interfaces ge-0/0/7 unit 0 family ethernet-switching vlan members VLAN-PONCNTL-L3
user@host# set interfaces ge-0/0/7 unit 0 family ethernet-switching storm-control default
user@host# set vlans VLAN-PONCNTL-L2 description "Internal Layer 2 VLAN for PON Controller
Control Plane to OLTs"
user@host# set vlans VLAN-PONCNTL-L2 vlan-id 20
user@host# set vlans VLAN-PONCNTL-L3 description "Internal Layer 3 VLAN for PON Controller
Control-plane to PON Manager"
user@host# set vlans VLAN-PONCNTL-L3 vlan-id 30
user@host# set vmhost vlans vlan-poncctl-l2 description "VNF VLAN for PON Controller L2 Control
Plane"
user@host# set vmhost vlans vlan-poncctl-l2 vlan-id 20
user@host# set vmhost vlans vlan-poncctl-l3 description "VNF VLAN for PON Controller L3 Control
Plane"
user@host# set vmhost vlans vlan-poncctl-l3 vlan-id 30
user@host# set virtual-network-functions poncctl-1 type virtual-machine
user@host# set virtual-network-functions poncctl-1 image /var/public/poncctl.qcow2
user@host# set virtual-network-functions poncctl-1 image image-type qcow2
user@host# set virtual-network-functions poncctl-1 virtual-cpu 0 physical-cpu 10
user@host# set virtual-network-functions poncctl-1 virtual-cpu count 1
user@host# set virtual-network-functions poncctl-1 virtual-cpu features hardware-virtualization
user@host# set virtual-network-functions poncctl-1 interfaces eth2 description "L2 ONLY Control-
plane PON Controller PORT (ens5)"
user@host# set virtual-network-functions poncctl-1 interfaces eth2 mapping vlan members vlan-
poncctl-l2

```

```

user@host# set virtual-network-functions poncntl-1 interfaces eth3 description "L3 ONLY Control-
plane PON Controller PORT (ens6)"
user@host# set virtual-network-functions poncntl-1 interfaces eth3 mapping vlan members vlan-
poncntl-l3
user@host# set virtual-network-functions poncntl-1 memory size 4000000
user@host# set virtual-network-functions poncntl-1 memory features hugepages page-size 1024

```

## Results

Check the results of the configuration:

```

system {
  services {
    ssh {
      root-login allow;
    }
  }
  memory {
    hugepages {
      page-size 1024 {
        page-count 21;
      }
    }
  }
}
interfaces {
  ge-0/0/0 {
    description "L2 Only Control Plan PON Controller Port";
    ether-options {
      auto-negotiation;
    }
    unit 0 {
      family ethernet-switching {
        vlan {
          members VLAN-PONCNTL-L2;
        }
        storm-control default;
      }
    }
  }
  sxe-0/0/0 {

```



```

description "Internal Trunk Port to OVS Bridge - #1";
mtu 9192;
ether-options {
    flow-control;
}
unit 0 {
    family ethernet-switching {
        interface-mode trunk;
        vlan {
            members VLAN-PONCNTL-L2;
        }
    }
}
}
ge-0/0/1 {
    description "L3 Only Control Plan PON Controller Port";
    ether-options {
        auto-negotiation;
    }
    unit 0 {
        family ethernet-switching {
            vlan {
                members VLAN-PONCNTL-L3;
            }
            storm-control default;
        }
    }
}
sxe-0/0/1 {
    description "Internal Trunk Port to OVS Bridge - #2";
    mtu 9192;
    ether-options {
        flow-control;
    }
    unit 0 {
        family ethernet-switching {
            interface-mode trunk;
            vlan {
                members VLAN-PONCNTL-L3;
            }
        }
    }
}
}

```

```

ge-0/0/2 {
    description "L2 Only Control Plan PON Controller Port";
    ether-options {
        auto-negotiation;
    }
    unit 0 {
        family ethernet-switching {
            vlan {
                members VLAN-PONCNTL-L2;
            }
            storm-control default;
        }
    }
}
ge-0/0/3 {
    description "L3 Only Control Plan PON Controller Port";
    ether-options {
        auto-negotiation;
    }
    unit 0 {
        family ethernet-switching {
            vlan {
                members VLAN-PONCNTL-L3;
            }
            storm-control default;
        }
    }
}
ge-0/0/4 {
    description "L2 Only Control Plan PON Controller Port";
    ether-options {
        auto-negotiation;
    }
    unit 0 {
        family ethernet-switching {
            vlan {
                members VLAN-PONCNTL-L2;
            }
            storm-control default;
        }
    }
}
ge-0/0/5 {

```

```

description "L3 Only Control Plan PON Controller Port";
ether-options {
    auto-negotiation;
}
unit 0 {
    family ethernet-switching {
        vlan {
            members VLAN-PONCNTL-L3;
        }
        storm-control default;
    }
}
}
ge-0/0/6 {
    description "L2 Only Control Plan PON Controller Port";
    ether-options {
        auto-negotiation;
    }
    unit 0 {
        family ethernet-switching {
            vlan {
                members VLAN-PONCNTL-L2;
            }
            storm-control default;
        }
    }
}
ge-0/0/7 {
    description "L3 Only Control Plan PON Controller Port";
    ether-options {
        auto-negotiation;
    }
    unit 0 {
        family ethernet-switching {
            vlan {
                members VLAN-PONCNTL-L3;
            }
            storm-control default;
        }
    }
}
}
vlangs {
    VLAN-PONCNTL-L2 {

```

```

        description "Internal Layer 2 VLAN for PON Controller Control Plane to OLTs";
        vlan-id 20;
    }
    VLAN-PONCNTL-L3 {
        description "Internal Layer 3 VLAN for PON Controller Control-plane to PON Manager";
        vlan-id 30;
    }
    default {
        vlan-id 1;
    }
}
vmhost {
    vlans {
        vlan-poncntl-l2 {
            description "VNF VLAN for PON Controller L2 Control Plane";
            vlan-id 20;
        }
        vlan-poncntl-l3 {
            description "VNF VLAN for PON Controller L3 Control Plane";
            vlan-id 30;
        }
    }
}
virtual-network-functions poncntl-1 {
    type {
        virtual-machine;
    }
    image {
        /var/public/poncntl.qcow2;
        image-type qcow2;
    }
    virtual-cpu {
        0 {
            physical-cpu 10;
        }
        count 1;
        features {
            hardware-virtualization;
        }
    }
}
interfaces eth2 {
    description "L2 ONLY Control-plane PON Controller PORT (ens5)";
    mapping {

```

```

        vlan {
            members vlan-poncntl-12;
        }
    }
}
interfaces eth3 {
    description "L3 ONLY Control-plane PON Controller PORT (ens6)";
    mapping {
        vlan {
            members vlan-poncntl-13;
        }
    }
}
memory {
    size 4000000;
    features {
        hugepages {
            page-size 1024;
        }
    }
}
}
}

```