



## Port Profiles

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This chapter describes how to identify and resolve problems with port profiles.

### Information About Port Profiles

Port profiles are used to configure interfaces. A port profile can be assigned to multiple interfaces which gives them all the same configuration. Changes to the port profile are propagated automatically to the configuration of any interface that is assigned to it.

In the KVM Server, a port profile is represented as a port group. The vEthernet or Ethernet interfaces are assigned in the KVM server to a port profile to do the following:

- Define the port configuration by policy.
- Apply a single policy across a large number of ports.
- Support both vEthernet and Ethernet ports.

Port profiles can be assigned by the server administrator to physical ports (a VMNIC or a PNIC). Port profiles that are configured as vEthernet can be assigned only to a vNIC port while port profiles that are configured as Ethernet can be assigned only to physical adapters.



#### Note

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While a manual interface configuration overrides that of the port profile, it is not recommended. A manual interface configuration is used only, for example, to quickly test a change or allow a port to be disabled without having to change the inherited port profile.

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For more information about assigning port profiles to physical or virtual ports, see *Cisco Nexus 1000V for KVM Port Profile Configuration Guide, Release 5.x*.

To verify that the profiles are assigned as expected to physical or virtual ports, use these **show** commands:

- **show port-profile virtual usage**
- **show running-config interface *interface-id***



#### Note

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You cannot change or remove inherited port profiles from an interface using the Cisco Nexus 1000V CLI. You must use NOVA CLI to detach the interface from the VM and reattach it by creating a new port with new policy profile using the Neutron CLI.

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**Note**

When the ports are attached on the hosts, the Cisco Nexus 1000V automatically configures the them with the inherited port profiles. If changes are made to active port profiles, the changes are applied dynamically to each port using the port profile. For detailed information about port profiles, see the *Cisco Nexus 1000V for KVM Interface Configuration Guide, Release 5.x*.

## Problems with Port Profiles

The following are symptoms, possible causes, and solutions for problems with port profiles.

Symptom	Possible Causes	Solution
You do not see the port profile/uplink network/network segment on the OpenStack server.	The connection to the OpenStack server is down.	<ol style="list-style-type: none"> <li>1. Ping the VSM IP.</li> <li>2. If there is connectivity issue between Neutron and the VSM, fix the network issue.</li> </ol>
	The OpenStack server has not pulled the new configuration from the VSM.	<p>Restart the Neutron to ensure that the Neutron configuration is refreshed.</p> <p>Automatic configuration synchronization occurs after the default poll duration (5 minutes by default).</p>
	The port profile is configured incorrectly.	<ol style="list-style-type: none"> <li>1. To verify that publish port profile is configured for the port profile/Network segment/uplink network, enter this command: <b>show running-config port-profile</b></li> <li>2. Fix the port profile using the procedures in the <i>Cisco Nexus 1000V for KVM Port Profile Configuration Guide, Release 5.x</i>.</li> </ol>
<p>A module and all associated interfaces are offline.</p> <p>A system message similar to the following is logged:</p> <pre>2011 Mar 2 22:28:50 n1000v %VEM_MGR-2-VEM_MGR_REMOVE_NO_HB: Removing VEM 3 (heartbeats lost) 2011 Mar 2 22:29:00 n1000v %VEM_MGR-2-MOD_OFFLINE: Module 3 is offline</pre>	The connectivity to the module was lost or the VEM node was powered down.	<ul style="list-style-type: none"> <li>• Troubleshoot the connectivity to the node hosting the VEM</li> <li>• Power the VEM node if it has shut down.</li> </ul>
The interface is in the NoPortProfile state.	The port profile or uplink networks have been deleted from the VSM but are still on the VEM. If the port profiles are used to attach Ethernet and vEthernet interfaces, the interface will go into the NoPortProfile state.	<ol style="list-style-type: none"> <li>1. Use the saved backup to restore the configuration.</li> <li>2. Synchronize the Neutron.</li> <li>3. Copy the running configuration to startup configuration using the <b>copy run start</b> command.</li> <li>4. Reload to apply the configuration to the ports.</li> </ol>

## Port Profile Logs

To enable and collect detailed logs for port profiles, enter these commands:

- **debug port-profile trace**
- **debug port-profile error**
- **debug port-profile all**
- **debug msp all**
- **debug nsmgr trace**

After enabling the debug log, the results of any subsequent port profile configuration are captured in the log file.

## Port Profile Troubleshooting Commands

You can use the commands in this section to troubleshoot problems related to port profiles.

Command	Purpose
<b>show port-profile</b>	Displays the port profile configuration. See <a href="#">Example 6-1 on page 6-4</a> .
<b>show port-profile name</b> <i>name</i>	Displays the configuration for a named port profile. See <a href="#">Example 6-1 on page 6-4</a> .
<b>show port-profile brief</b>	Displays a tabular view of all configured port profiles. See <a href="#">Example 6-2 on page 6-4</a> .
<b>show port-profile expand-interface</b> <i>name name</i>	Displays a named port profile expanded to include the interfaces assigned to it. See <a href="#">Example 6-3 on page 6-5</a> .
<b>show running-config port-profile</b> [ <i>profile-name</i> ]	Displays the port profile configuration. See <a href="#">Example 6-4 on page 6-5</a> .
<b>show port-profile virtual usage</b> [ <i>name profile-name</i> ]	Displays the port profile usage by interface. See <a href="#">Example 6-5 on page 6-6</a> .
<b>show msp internal info</b>	Displays port profile mappings on the KVM server and configured roles. See <a href="#">Example 6-6 on page 6-6</a> .
<b>show system internal port-profile profile-fsm</b>	Displays port profile activity on the Cisco Nexus 1000V, including transitions such as inherits and configurations. If the following appears, all inherits are processed:  Curr state: [PPM_PROFILE_ST_SIDLE] See <a href="#">Example 6-7 on page 6-7</a> .
<b>show system internal port-profile event-history</b> <b>msgs</b>	Displays the messages logged about port profile events within the Cisco Nexus 1000V. See <a href="#">Example 6-8 on page 6-8</a> .

For detailed information about **show** command output, see the *Cisco Nexus 1000V for KVM Command Reference*.

## Examples

### Example 6-1 show port-profile name command

```
switch# show port-profile name vEthProfile3
port-profile vEthProfile3
  description:
  type: vethernet
  status: disabled
  capability l3control: no
  pinning control-vlan: -
  pinning packet-vlan: -
  system vlans: none
  port-group:
  max ports: 32
  inherit:
  config attributes:
    channel-group auto mode on sub-group manual
  evaluated config attributes:
    channel-group auto mode on sub-group manual
  assigned interfaces:
switch#
```

### Example 6-2 show port-profile brief command

```
switch# show port-profile brief
-----
Port Profile Profile Conf Eval Assigned Child
Profile Type State Items Items Intfs Profs
-----
LACP Ethernet 1 2 2 0 2
LACP_PIN Ethernet 1 4 5 4 0
MAC Ethernet 1 2 2 0 1
MAC_PIN Ethernet 1 4 5 7 0
MAC_PIN_343 Ethernet 1 2 4 1 0
NSM_template_segmentation Vethernet 1 1 1 0 0
NSM_template_vlan Vethernet 1 1 1 0 0
basic Vethernet 1 1 1 0 0
default Vethernet 1 1 1 0 0
dynpp_a7ab47ce-07c3-4fc8-ae74-321a10818199_76604d2a-f62e-40a4-85d1-0ccad8d1c9c0
Vethernet 1 2 3 0 0
dynpp_a7ab47ce-07c3-4fc8-ae74-321a10818199_aa914386-bf85-48e6-98ca-541a764e7580
Vethernet 1 2 3 2 0
dynpp_a7ab47ce-07c3-4fc8-ae74-321a10818199_b4490e62-57c2-4c3d-81f9-99ca0b6a6a82
Vethernet 1 2 3 8 0
new Vethernet 1 1 1 0 3
system Vethernet 1 1 1 0 0
uplink_network_default_policy Ethernet 1 1 1 0 0
-----
Profile Assigned Total Sys Parent Child UsedBy
Type Intfs Prfls Prfls Prfls Prfls Prfls
-----
Vethernet 10 9 1 8 3 2
Ethernet 12 6 0 4 3 3
switch#
```

**Example 6-3 show port-profile expand-interface name UplinkProfile1 command**

```
switch# show port-profile expand-interface name UplinkProfile1
port-profile EthProfile1
Ethernet2/2
    switchport mode trunk
    switchport trunk allowed vlan 110-119
    no shutdown
switch#
```

**Example 6-4 show running-config port-profile command**

```
switch# show running-config port-profile
!Command: show running-config port-profile
!Time: Sun Mar 17 13:17:03 2013

version 5.2(1)SK1(1.1)
port-profile default max-ports 32
port-profile type vethernet NSM_template_vlan
no shutdown
guid 100b8834-85a7-4a9f-a942-83b8218b4fc1
description NSM default port-profile for VLAN networks. Do not delete.
state enabled
port-profile type vethernet NSM_template_segmentation
no shutdown
guid aee2046c-eb9d-4018-bae7-e1000f5b2d54
description NSM default port-profile for VXLAN networks. Do not delete.
state enabled
port-profile type ethernet MAC
channel-group auto mode on mac-pinning
no shutdown
guid 51217cb4-280d-4cbe-a73d-18299cc347c2
max-ports 512
state enabled
port-profile type ethernet LACP
channel-group auto mode active
no shutdown
guid 28a414ca-7c10-4c0d-a73e-a1af409bdb5f
max-ports 512
state enabled
port-profile type vethernet basic
no shutdown
guid bbf3ec9f-9ca3-445a-9376-630180c35250
publish port-profile basic-non-system
state enabled
port-profile type vethernet system
no shutdown
guid 2e21ff4a-e966-4432-95ae-6600e0cbe50f
publish port-profile basic-system
system port-profile
state enabled
port-profile type ethernet uplink_network_default_policy
no shutdown
guid 4cc1067c-7104-4aa1-8556-cel8ada165e8
max-ports 512
description NSM created profile. Do not delete.
state enabled
port-profile type vethernet default
no shutdown
guid 622e109d-6465-4abd-882f-d026938b830d
state enabled
port-profile type vethernet new
no shutdown
```

```

guid a7ab47ce-07c3-4fc8-ae74-321a10818199
publish port-profile
state enabled
switch#

```

### Example 6-5 show port-profile virtual usage command

```
switch# show port-profile virtual usage
```

```
-----
Port Profile Port Adapter Owner
-----
```

```

MAC_PIN Po2
Po6
Eth3/4 vmnic3 WIN-35
Eth3/5 vmnic4 WIN-35
Eth3/6 vmnic5 WIN-35
Eth4/1 vmnic0 WIN-37
Eth4/3 vmnic2 WIN-37
LACP_PIN Po1
Po3
Eth5/1 vmnic0 WIN-39
Eth5/2 vmnic1 WIN-39
dynpp_a7ab47ce-07c3-4fc8-a
e74-321a10818199_b4490e62-
57c2-4c3d-81f9-99ca0b6a6a8
2 Veth1 Net Adapter Win2008-2-1
Veth2 Net Adapter Win2008-1-1
Veth3 Net Adapter Win2008-3-1
Veth4 Net Adapter Win2008-4-1
Veth5 Net Adapter Win2008-2-2
Veth6 Net Adapter Win2008-1-2
Veth7 Net Adapter Win2008-3-2
Veth8 Net Adapter Win2008-4-2
MAC_PIN_343 Po4
dynpp_a7ab47ce-07c3-4fc8-a
e74-321a10818199_aa914386-
bf85-48e6-98ca-541a764e758
0 Veth9 Net Adapter WIN-Legacy
Veth10 Net Adapter WIN-SPAN-3
switch#

```

### Example 6-6 show msp internal info command

```

switch# show msp internal info
port-profile NSM_template_segmentation
  id: 2
  capability: 0x0
  state: 0x1
  type: 0x0
  system vlan mode: -
  system vlans:
  port-binding: static
  bind_opts: 0
  max ports: 32
  min ports: 1
  active used ports count: 0
  intf inherit count: 0
  Hyper-V config information
    pg name: NSM_template_segmentation
    dvs: (ignore)
    reserved ports: 32
  port-profile role:

```

```

alias information:
  pg id: 8eebad90-fe9a-4460-b44e-9f71b8ebc88d
  dvs uuid:
  type: 11
port-profile NSM_template_vlan
  id: 1
  capability: 0x0
  state: 0x1
  type: 0x0
  system vlan mode: -
  system vlans:
  port-binding: static
  bind_opts: 0
  max ports: 32
  min ports: 1
  active used ports count: 0
  intf inherit count: 0
  Hyper-V config information
    pg name: NSM_template_vlan
    dvs: (ignore)
    reserved ports: 32
  port-profile role:
  alias information:
    pg id: 83e41305-c443-4d30-a142-f1260183d974
    dvs uuid:
    type: 11
pending binds:
PPM restore_complete:TRUE
  opq_data_info.ppm_sdb_restored:1
NSMGR restore_complete:TRUE
  opq_data_info.nsm_sdb_restored:1

```

### Example 6-7 show system internal port-profile profile-fsm command

```

switch# show system internal port-profile profile-fsm
>>>FSM: <PROFILE_FSM:1> has 4 logged transitions<<<<<

1) FSM:<PROFILE_FSM:1> Transition at 856903 usecs after Tue Mar  8 19:11:47 2011
  Previous state: [PPM_PROFILE_ST_SIDLE]
  Triggered event: [PPM_PROFILE_EV_EIF_STATUS_CHANGE]
  Next state: [PPM_PROFILE_ST_SIDLE]

2) FSM:<PROFILE_FSM:1> Transition at 858442 usecs after Tue Mar  8 19:11:47 2011
  Previous state: [PPM_PROFILE_ST_SIDLE]
  Triggered event: [PPM_PROFILE_EV_ELEARN]
  Next state: [PPM_PROFILE_ST_SIF_CREATE]

3) FSM:<PROFILE_FSM:1> Transition at 842710 usecs after Tue Mar  8 19:12:04 2011
  Previous state: [PPM_PROFILE_ST_SIF_CREATE]
  Triggered event: [PPM_PROFILE_EV_EACKNOWLEDGE]
  Next state: [FSM_ST_NO_CHANGE]

4) FSM:<PROFILE_FSM:1> Transition at 873872 usecs after Tue Mar  8 19:12:04 2011
  Previous state: [PPM_PROFILE_ST_SIF_CREATE]
  Triggered event: [PPM_PROFILE_EV_ESUCCESS]
  Next state: [PPM_PROFILE_ST_SIDLE]

  Curr state: [PPM_PROFILE_ST_SIDLE]
switch#

```

**Example 6-8 show system internal port-profile event-history msgs command**

```

switch# show system internal port-profile event-history msgs
1) Event:E_MTS_RX, length:60, at 538337 usecs after Tue Mar  8 19:13:02 2011
   [NOT] Opc:MTS_OPC_IM_IF_CREATED(62467), Id:0X0000B814, Ret:SUCCESS
   Src:0x00000101/175, Dst:0x00000101/0, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x00000000, Sync:UNKNOWN, Payloadsize:120
   Payload:
   0x0000:  00 00 00 02 00 00 00 02 00 00 00 0c 00 00 00 29

2) Event:E_MTS_RX, length:60, at 515030 usecs after Tue Mar  8 19:13:02 2011
   [NOT] Opc:MTS_OPC_LC_ONLINE(1084), Id:0X0000B7E8, Ret:SUCCESS
   Src:0x00000101/744, Dst:0x00000101/0, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x00000000, Sync:UNKNOWN, Payloadsize:234
   Payload:
   0x0000:  02 00 00 03 00 00 00 00 00 00 03 02 03 02 00 00

3) Event:E_MTS_RX, length:60, at 624319 usecs after Tue Mar  8 19:12:05 2011
   [NOT] Opc:MTS_OPC_PPM_INTERFACE_UPDATE(152601), Id:0X00003908, Ret:SUCCESS
   Src:0x00000101/489, Dst:0x00000101/0, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x00000000, Sync:UNKNOWN, Payloadsize:107
   Payload:
   0x0000:  00 00 00 02 00 00 00 02 00 00 00 0c 00 00 00 26

4) Event:E_MTS_RX, length:60, at 624180 usecs after Tue Mar  8 19:12:05 2011
   [NOT] Opc:MTS_OPC_PPM_INTERFACE_UPDATE(152601), Id:0X00003905, Ret:SUCCESS
   Src:0x00000101/489, Dst:0x00000101/0, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x00000000, Sync:UNKNOWN, Payloadsize:107
   Payload:
   0x0000:  00 00 00 02 00 00 00 02 00 00 00 0c 00 00 00 26

5) Event:E_MTS_RX, length:60, at 624041 usecs after Tue Mar  8 19:12:05 2011
   [NOT] Opc:MTS_OPC_PPM_INTERFACE_UPDATE(152601), Id:0X00003903, Ret:SUCCESS
   Src:0x00000101/489, Dst:0x00000101/0, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x00000000, Sync:UNKNOWN, Payloadsize:107
   Payload:
   0x0000:  00 00 00 02 00 00 00 02 00 00 00 0c 00 00 00 26

...

```