

Configuring Virtual Machine Multi-Queue

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Configuring Virtual Machine Multi-Queue (VMMQ) in Cisco Intersight

Before you begin

- Create or identify the server profile that will deploy the VMMQ configuration.
- Determine the number of virtual ports and calculate the required queue and interrupt resources.
- Confirm that the combined resources for all interfaces do not exceed the VIC limits.
- If you are configuring VMMQ with RoCEv2, complete the RoCEv2 Mode 1 configuration first.

Procedure

Step 1 In the navigation pane, choose **Configure** > **Policies**, and then select **Create Policy**.

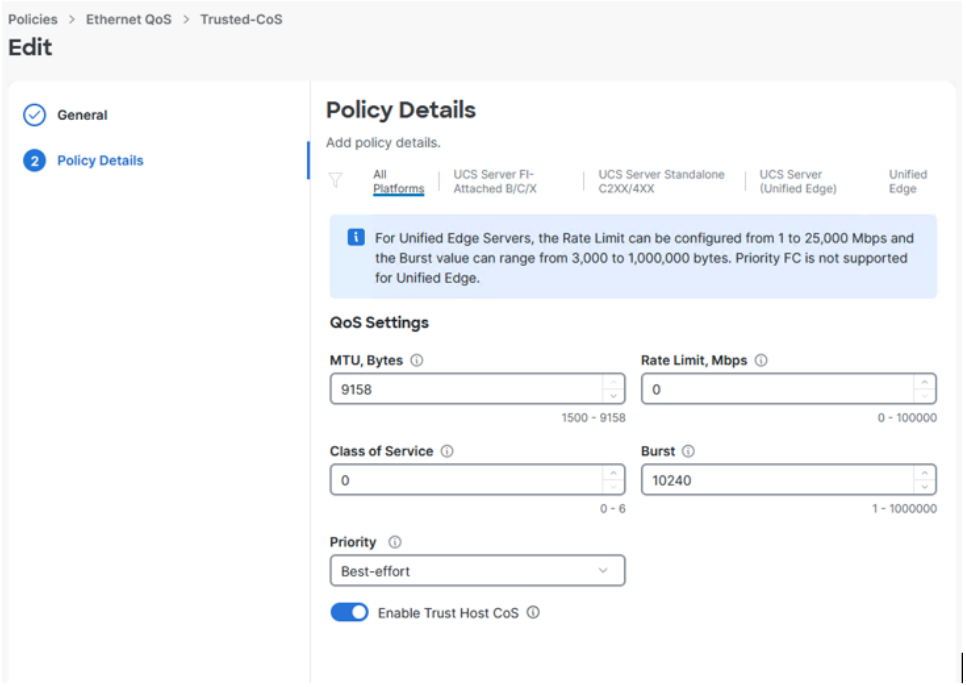
Step 2 Select **UCS Server** as the platform type, select **LAN Connectivity**, and select **Start**.

Step 3 On the **General** page, enter a policy name, select the target platform, and select **Next**.

Step 4 On the **Policy Details** page, select **Add vNIC**.

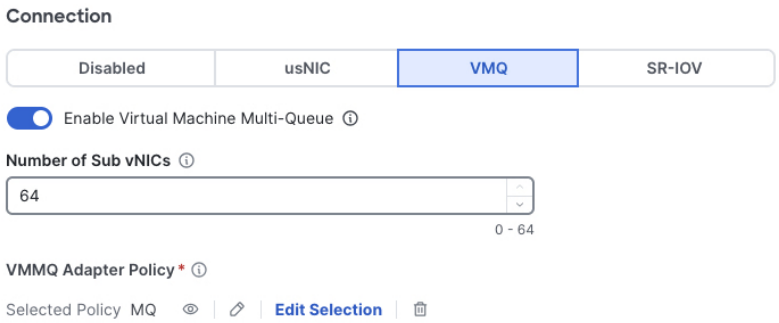
Step 5 In the **General** section, enter a name for the vNIC and configure the placement settings for your environment.

Step 6 Under **Ethernet QoS**, select or create an Ethernet QoS Policy. Enable **Trust Host CoS**. Configure the remaining settings for your network.



Step 7 Under **Ethernet Adapter**, select or create an Ethernet Adapter Policy. For VMMQ without RDMA, select the Cisco-provided **Win-HPN** configuration. For VMMQ with RoCEv2, select **Win-HPN-SMBd** and configure the required RoCEv2 properties.

Step 8 In the **Connection** section, select **VMQ** and enable **Virtual Machine Multi-Queue**.



Step 9 In **Number of Interrupts**, enter the number of interrupt resources to allocate. This setting overrides the Interrupts value in the selected Ethernet Adapter Policy.

Step 10 In **Number of Virtual Machine Queues**, enter the number of hardware VMQs to allocate. Configure at least one more VMQ than the maximum number of VM NICs.

Step 11 Under **VMMQ Adapter Policy**, select or create a policy. Select the Cisco-provided **MQ** configuration for VMMQ without RDMA or **MQ-SMBd** for VMMQ with RoCEv2.

Step 12 Select **Add** to save the vNIC.

Step 13 Select **Create** to create the LAN Connectivity Policy.

Step 14 Associate the LAN Connectivity Policy with the server profile, and then deploy the server profile.

What to do next

After the Server Profile deploys successfully, reboot the server if required to apply the adapter configuration. Then enable VMMQ on the Windows host and each applicable virtual port.

Enabling or disabling VMMQ in Device Manager

Procedure

Step 1 Open **Device Manager**.

Step 2 Expand Network adapters, right-click the Cisco VIC Ethernet interface, and select **Properties**.

Step 3 On the **Advanced** tab, select **Virtual Switch RSS**.

Step 4 Select **Enabled** to enable VMMQ or Disabled to disable it, and then click **OK**.

Enabling or disabling VMMQ with Windows PowerShell

Use the following commands to enable, disable, or display the VMMQ state on a host interface:

Procedure

Step 1 Enable VMMQ on a host interface:

```
Set-NetAdapterAdvancedProperty -Name <InterfaceName> -DisplayName "Virtual Switch RSS" -DisplayValue
 Enabled
```

Step 2 Disable VMMQ on a host interface:

```
Set-NetAdapterAdvancedProperty -Name <InterfaceName> -DisplayName "Virtual Switch RSS" -DisplayValue
 Disabled
```

Step 3 Display the VMMQ state of a host interface:

```
Get-NetAdapterAdvancedProperty -Name <InterfaceName> -DisplayName "Virtual Switch RSS"
```

Enabling or disabling VMMQ on a virtual port

Use the following commands to enable, disable, or display the VMMQ state on a virtual port:

Procedure

Step 1 Enable VMMQ on a virtual port:

```
Set-VMNetworkAdapter -Name <VirtualAdapterName> -VMName <VMName> -VmmqEnabled $true -VrssEnabled
$true
```

Step 2 Disable VMMQ on a virtual port:

```
Set-VMNetworkAdapter -Name <VirtualAdapterName> -VMName <VMName> -VmmqEnabled $false
```

Step 3 Display the VMMQ state of a virtual port:

```
Get-VMNetworkAdapter -Name <VirtualAdapterName> -VMName <VMName> | Format-Table Name, VMName,
SwitchName, VMMQ
```



Note VMMQ is disabled by default for virtual ports on Windows Server 2016. On Windows Server 2019 andlater, VMMQ is enabled by default for virtual ports.

Verifying VMMQ

Before you begin

- Confirm that the Server Profile deployment completed without a resource error

Procedure

Step 1 Run `Get-NetAdapterAdvancedProperty` and confirm that Virtual Switch RSS is enabled on the hostinterface.

Step 2 Run `Get-VMNetworkAdapter` and confirm that VMMQ is enabled for the applicable virtual ports.

Step 3 Generate network traffic for the virtual machine and confirm that traffic is distributed across the assigned processor cores.