



Configuring a Service Profile with VM-FEX

This chapter includes the following sections:

- [Configuring Dynamic vNIC Connection Policies, page 1](#)
- [Viewing Dynamic vNIC Properties in a VM, page 4](#)

Configuring Dynamic vNIC Connection Policies

Dynamic vNIC Connection Policy



Note

In an SR-IOV topology, such as a Hyper-V or KVM cluster, a Virtual Function (VF) takes the place of the dynamic vNIC. The VF is essentially a restricted version of the dynamic vNIC, in which all system communication and configuration of the VF is performed through the associated physical function (PF).

The dynamic vNIC connection policy determines how the connectivity between VMs and dynamic vNICs is configured. This policy is required for Cisco UCS domains that include servers with VIC adapters on which you have installed VMs and configured dynamic vNICs.

Ethernet Adapter Policy

Each dynamic vNIC connection policy includes an Ethernet adapter policy and designates the number of vNICs that can be configured for any server associated with a service profile that includes the policy.

For KVM, use the predefined Ethernet adapter policy named Linux.

Static vNICs



Note

In a VM-FEX deployment, a VM will attach to a dynamic vNIC only if the VIC adapter has two static vNICs, one for each fabric. If a server contains more than one VIC adapter, each adapter must have two static vNICs configured.

Server Migration



Note

If you migrate a server that is configured with dynamic vNICs, the dynamic interface used by the vNICs fails and notifies you of that failure.

When the server comes back up, assigns new dynamic vNICs to the server. If you are monitoring traffic on the dynamic vNIC, you must reconfigure the monitoring source.

Creating a Dynamic vNIC Connection Policy

Procedure

	Command or Action	Purpose
Step 1	UCS-A# scope org <i>org-name</i>	Enters organization mode for the specified organization. To enter the root organization mode, enter / as the <i>org-name</i> .
Step 2	UCS-A /org # create dynamic-vnic-conn-policy <i>policy-name</i>	<p>Creates the specified vNIC connection policy and enters organization vNIC connection policy mode.</p> <p>This name can be between 1 and 32 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and you cannot change this name after the object has been saved.</p> <p>Note Do not specify "default" as the value for the dynamic vNIC connection policy name. Cisco UCS Manager automatically resolves any empty policy references to "default". Any service profiles or service profile templates with only static vNICs defined will automatically reference the policy "default" when it is present. If you specify "default" for the dynamic vNIC connection policy name, then unexpected dynamic vNICs might be created on those service profiles or service profile templates.</p>
Step 3	UCS-A /org/dynamic-vnic-conn-policy # set desc <i>description</i>	<p>(Optional)</p> <p>Provides a description for the policy.</p> <p>Enter up to 256 characters. You can use any characters or spaces except ` (accent mark), \ (backslash), ^ (carat), " (double quote), = (equal sign), > (greater than), < (less than), or ' (single quote).</p> <p>If your description includes spaces or nonalphanumeric characters, you must begin and end your description with double quotation marks. The quotation marks do not appear in the description field of any show command output.</p>
Step 4	UCS-A /org/dynamic-vnic-conn-policy # set adapter-policy <i>policy-name</i>	Specifies the Ethernet adapter policy to use for this policy. The adapter policy must already exist.

	Command or Action	Purpose
Step 5	UCS-A /org/dynamic-vnic-conn-policy # set dynamic-eth { <i>dynamic-eth-num</i> off }	Specifies the number of dynamic vNICs to use for this policy.
Step 6	UCS-A /org/dynamic-vnic-conn-policy # set protection { protected protected-pref-a protected-pref-b }	Dynamic vNICs are always protected in Cisco UCS, but this command allows you to select a preferred fabric, if any. You can choose one of the following options: <ul style="list-style-type: none"> • protected—Cisco UCS uses whichever fabric is available. • protected-pref-a—Cisco UCS attempts to use fabric A, but fails over to fabric B if necessary. • protected-pref-b—Cisco UCS attempts to use fabric B, but fails over to fabric A if necessary.
Step 7	UCS-A /org/dynamic-vnic-conn-policy # commit-buffer	Commits the transaction.

The following example shows how to create a dynamic vNIC connection policy named MyDynVnicConnPolicy that uses the system-provided Linux Ethernet adapter policy for 12 dynamic vNICs and commit the transaction:

```
UCS-A# scope org /
UCS-A /org # create dynamic-vnic-conn-policy MyDynVnicConnPolicy
UCS-A /org/dynamic-vnic-conn-policy* # set adapter-policy Linux
UCS-A /org/dynamic-vnic-conn-policy* # set desc "Dynamic vNIC for Eth policy"
UCS-A /org/dynamic-vnic-conn-policy* # set dynamic-eth 12
UCS-A /org/dynamic-vnic-conn-policy* # commit-buffer
UCS-A /org/dynamic-vnic-conn-policy #
```

Deleting a Dynamic vNIC Connection Policy

Procedure

	Command or Action	Purpose
Step 1	UCS-A# scope org <i>org-name</i>	Enters organization mode for the specified organization. To enter the root organization mode, enter / as the <i>org-name</i> .
Step 2	UCS-A /org # delete dynamic-vnic-conn-policy <i>policy-name</i>	Deletes the specified vNIC connection policy.
Step 3	UCS-A /org # commit-buffer	Commits the transaction.

The following example shows how to delete the dynamic vNIC connection policy named MyDynVnicConnPolicy and commit the transaction:

```
UCS-A# scope org /
UCS-A /org # delete dynamic-vnic-conn-policy MyDynVnicConnPolicy
UCS-A /org* # commit-buffer
UCS-A /org #
```

Viewing Dynamic vNIC Properties in a VM

Before You Begin

The VM must be running.

Procedure

	Command or Action	Purpose
Step 1	UCS-A# scope system	Enters system mode.
Step 2	UCS-A /system # scope vm-mgmt	Enters VM management mode.
Step 3	UCS-A /system/vm-mgmt # show virtual-machine	(Optional) Displays the running virtual machines.
Step 4	UCS-A /system/vm-mgmt # scope virtual-machine uuid	Enters command mode for the virtual machine that contains the dynamic vNIC.
Step 5	UCS-A /system/vm-mgmt/virtual-machine # show vnic [detail]	Displays the vNIC properties.

The following example shows how to display the properties of a dynamic vNIC in a VM:

```
UCS-A# scope system
UCS-A /system # scope vm-mgmt

UCS-A /system/vm-mgmt # show virtual-machine
Virtual Machine:
  UUID: 420a00c8-934b-4ae3-6af5-2ce9b8bd0f44
  Service Profile: org-root/ls-PTS-ch6-7
  Server: sys/chassis-6/blade-7
  Status: Online
.
.
.
UCS-A /system/vm-mgmt # scope virtual-machine 420a08b0-cda7-9e0a-424f-01ec8653eea0
UCS-A /system/vm-mgmt/virtual-machine # show vnic detail

vNIC:
  Name: 4479
  Status: Online
  MAC Address: 00:50:56:8A:07:B5
  Profile Name: VM-mgmt
  Virtual Adapter: sys/chassis-1/blade-1/adaptor-1/host-eth-9
  Vnic Dn: org-root/ls-PTS-ch1-1/ether-dynamic-prot-009
  Current Task:

UCS-A /system/vm-mgmt/virtual-machine #
```