Configuring VN-Link Related Policies

This chapter includes the following sections:

Configuring Dynamic vNIC Connection Policies

Dynamic vNIC Connection Policy

This policy determines how the VN-link connectivity between VMs and dynamic vNICs is configured. This policy is required for Cisco UCS instances that include servers with virtual interface card adapters on which you have installed VMs and configured dynamic vNICs.

Note If you Vmotion a server that is configured with dynamic vNICs, the dynamic interface used by the vNICs fails and Cisco UCS Manager raises a fault to notify you of that failure.

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

Each Dynamic vNIC connection policy must include an adapter policy and designate the number of vNICs that can be configured for any server associated with a service profile that includes the policy.

Configuring a Dynamic vNIC Connection Policy

Procedure

	Command or Action	Purpose
Step 1	UCS-A# **scope org** *org-name*	Enters organization mode for the specified organization. To enter the root organization mode, type / as the *org-name* .
Step 2	UCS-A /org # **create dynamic-vnic-conn-policy** *policy-name*	Creates the specified vNIC connection policy and enters organization vNIC connection policy mode.
Step 3	UCS-A /org/dynamic-vnic-conn-policy # **set desc** *description*	(Optional) Provides a description for the policy.
Step 4	UCS-A /org/dynamic-vnic-conn-policy # **set adapter-policy** *policy-name*	Specifies the Ethernet adapter policy to use for this policy.
Step 5	UCS-A /org/dynamic-vnic-conn-policy # **set dynamic-eth** *dynamic-eth-num* **off**	Specifies the number of dynamic vNICs to use for this policy.
Step 6	UCS-A /org/dynamic-vnic-conn-policy # **commit-buffer**	Commits the transaction.

The following example creates a dynamic vNIC connection policy named MyDynVnicConnPolicy that uses the Ethernet adapter policy named EthPolicy19 for 12 dynamic vNICs and commits 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 EthPolicy19
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** *org-name*	Enters organization mode for the specified organization. To enter the root organization mode, type / as the *org-name* .
Step 2	UCS-A /org # **delete dynamic-vnic-conn-policy** *policy-name*	Deletes the specified vNIC connection policy.

	Command or Action	Purpose
Step 3	UCS-A /org # **commit-buffer**	Commits the transaction.

The following example deletes the dynamic vNIC connection policy named MyDynVnicConnPolicy and commits the transaction:

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

Configuring the VM Lifecycle Policy

VM Lifecycle Policy

The VM lifecycle policy determines how long Cisco UCS Manager retains offline VMs and offline dynamic vNICs in its database. If a VM or dynamic vNIC remains offline after that period, Cisco UCS Manager deletes the object from its database.

All virtual machines (VMs) on Cisco UCS servers are managed by vCenter. Cisco UCS Manager cannot determine whether an inactive VM is temporarily shutdown, has been deleted, or is in some other state that renders it inaccessible. Therefore, Cisco UCS Manager considers all inactive VMs to be in an offline state.

Cisco UCS Manager considers a dynamic vNIC to be offline when the associated VM is shutdown, or the link between the fabric interconnect and the I/O module fails. On rare occasions, an internal error can also cause Cisco UCS Manager to consider a dynamic vNIC to be offline.

The default VM and dynamic vNIC retention period is 15 minutes. You can set that for any period of time between 1 minute and 7200 minutes (or 5 days).

Note The VMs that Cisco UCS Manager displays are for information and monitoring only. You cannot manage VMs through Cisco UCS Manager. Therefore, when you delete a VM from the Cisco UCS Manager database, you do not delete the VM from the server or from vCenter.

Configuring the VM Lifecycle Policy

Procedure

	Command or Action	Purpose
Step 1	Switch-A# **scope system**	Enters system mode.
Step 2	Switch-A /system # **scope vm-mgmt**	Enters VM management mode.

	Command or Action	Purpose
Step 3	Switch-A /system/vm-mgmt # **scope vm-life-cycle-policy**	Enters VM lifecycle policy mode.
Step 4	Switch-A /system/vm-mgmt/vm-life-cycle-policy # **set vmretention** {*minutes* | **1-day** | **1-hour** | **5-days**}	Specifies the period of time, in minutes, that an offline VM is retained in the database. If a VM remains offline after that period, it is deleted from the database. The *minutes* variable can be from 1 to 7200. The default is 15 minutes.
Step 5	Switch-A /system/vm-mgmt/vm-life-cycle-policy # **set vnicretention** {*minutes* | **1-day** | **1-hour** | **5-days**}	Specifies the period of time, in minutes, that an offline dynamic vNIC is retained in the database. If a dynamic vNIC remains offline after that period, it is deleted from the database. The *minutes* variable can be from 1 to 7200. The default is 15 minutes.
Step 6	Switch-A /system/vm-mgmt/vm-life-cycle-policy # **commit-buffer**	Commits the transaction to the system configuration.

The following example configures a one day VM retention period and a one hour vNIC retention period and commits the transaction:

```
Switch-A# scope system
Switch-A /system # scope vm-mgmt
Switch-A /system/vm-mgmt # scope vm-life-cycle-policy
Switch-A /system/vm-mgmt/vm-mgmt/vm-life-cycle-policy # set vmretention 1-day
Switch-A /system/vm-mgmt/vm-mgmt/vm-life-cycle-policy* # set vnicretention 1-hour
Switch-A /system/vm-mgmt/vm-mgmt/vm-life-cycle-policy* # commit-buffer
Switch-A /system/vm-mgmt/vm-mgmt/vm-life-cycle-policy #
```

Viewing Dynamic vNIC Properties in a VM

Before You Begin

The VM must be running.

Procedure

	Command or Action	Purpose
Step 1	Switch-A# **scope system**	Enters system mode.
Step 2	Switch-A /system # **scope vm-mgmt**	Enters VM management mode.
Step 3	Switch-A /system/vm-mgmt # **scope vmware**	Enters VMware mode.
Step 4	Switch-A /system/vm-mgmt/vmware # **show virtual-machine**	(Optional) Displays the running virtual machines.

	Command or Action	Purpose
Step 5	Switch-A /system/vm-mgmt/vmware # **scope virtual-machine** *uuid*	Enters command mode for the virtual machine that contains the dynamic vNIC.
Step 6	Switch-A /system/vm-mgmt/vmware/virtual-machine # **show vnic [detail]**	Displays the vNIC properties.

The following example displays the properties of a dynamic vNIC in a VM:

```
Switch-A# scope system
Switch-A /system # scope vm-mgmt
Switch-A /system/vm-mgmt # scope vmware
Switch-A /system/vm-mgmt/vmware # 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
.
.
.
Switch-A /system/vm-mgmt/vmware # scope virtual-machine 420a08b0-cda7-9e0a-424f-01ec8653eea0
Switch-A /system/vm-mgmt/vmware/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/adapter-1/host-eth-9
    Vnic Dn: org-root/ls-PTS-ch1-1/ether-dynamic-prot-009   <--- add this vnic as source
of SPAN session
    Current Task:

Switch-A /system/vm-mgmt/vmware/virtual-machine #
```