C H A P T E R 2

Creating VDCs with the VDC Setup Wizard

This chapter describes how to create virtual device contexts (VDCs) on Cisco NX-OS devices.

This chapter describes how to create virtual device contexts (VDCs) on Cisco Data Center Network Manager (DCNM).

This chapter includes the following sections:

Information About Creating VDCs

In Cisco NX-OS, only a user with the network-admin role can create VDCs. You can create up to three VDCs.

Beginning with the Cisco NX-OS Release 5.2(1), you can run FCoE on the Cisco Nexus 7000 Series devices. You must create a storage VDC to run FCoE. The storage VDC cannot be the default VDC and you can have one storage VDC on the device. See the *Cisco NX-OS FCoE Configuration Guide for Cisco Nexus 7000 and Cisco MDS 9500* for information on configuring FCoE.

This section includes the following topics:

VDC Resource Templates

VDC resource templates describe the minimum and maximum resources that the VDC can use. If you do not specify a VDC resource template when you create a VDC, the Cisco NX-OS software uses the default template, vdc-default. Table 2-1 lists the resource limits for the default VDC template for nondefault VDCs.

Table 2-1   Default VDC Template Resource Limits for Nondefault VDCs

Resource	Minimum	Maximum
Port channels	0	768
SPAN sessions	0	2
IPv4 multicast route memory[1]	8	8
IPv6 multicast route memory[1]	2	2
IPv4 unicast route memory[1]	8	8
IPv6 unicast route memory[1]	4	4
VLANs	16	4096
VRFs[2]	16	8192

1. Route memory is in megabytes.

2. VRFs = virtual routing and forwarding instances

Table 2-2 lists the resource limits for the global VDC template used for the default VDC.

Note   All resources not listed for the global VDC resource template default to the limits in the default VDC template listed in Table 2-1.

Table 2-2   Global VDC Template Resource Limits for the Default VDC

Resource	Minimum	Maximum
IPv4 multicast route memory[1]	48	48
IPv6 multicast route memory[1]	8	8
IPv4 unicast route memory[1]	16	16
IPv6 unicast route memory[1]	32	32

1. Route memory is in megabytes.

Note   You can have a maximum of two SPAN monitoring sessions on your physical device.

For information about configuring VDC resource templates, see Configuring VDC Resource Templates, page 4-87

You can change the individual resource limits after you create the VDC as follows:

- Change an individual resource limit for a single VDC.
- Change the resource limits in a nondefault VDC resource template and apply the template to the VDC.

For information on managing VDC resource limits after you create a VDC, see Managing VDCs, page 3-47

Storage VDCs

Beginning with Cisco NX-OS Release 5.2(1), you can run FCoE on the Cisco Nexus 7000 Series devices. You must create a separate storage VDC when you run FCoE on the device. Only one of the VDCs can be a storage VDC, and the default VDC cannot be configured as a storage VDC.

See the *Cisco NX-OS FCoE Configuration Guide for Cisco Nexus 7000 and Cisco MDS 9500* for information on configuring FCoE. You allocate specified FCoE VLANs to the storage VDC as well as specified interfaces.

You can configure shared interfaces that carry both Ethernet and Fibre Channel traffic. In this specific case, the same interface belongs to more than one VDC. The shared interface is allocated to both an Ethernet and a storage VDC.

High-Availability Policies

The high-availability (HA) policies for a VDC defines the action that the Cisco NX-OS software takes when an unrecoverable VDC fault occurs.

You can specify the HA policies for single supervisor module and dual supervisor module configurations when you create the VDC. The HA policy options are as follows:

- Single supervisor module configuration:
  - Bringdown—Puts the VDC in the failed state. To recover from the failed state, you must reload the physical device.
  - Reload— Reloads the supervisor module.
  - Restart—Takes down the VDC processes and interfaces and restarts it using the startup configuration.
- Dual supervisor module configuration:
  - Bringdown—Puts the VDC in the failed state. To recover from the failed state, you must reload the physical device.
  - Restart—Takes down the VDC processes and interfaces and restarts it using the startup configuration.
  - Switchover— Initiates a supervisor module switchover.

The default HA policies for a nondefault VDC that you create is restart for a single supervisor module configuration and switchover for a dual supervisor module configuration. The default HA policy for the default VDC is reload for a single supervisor module configuration and switchover for a dual supervisor module configuration.

For information on changing the HA policies after you create a VDC, see Managing VDCs, page 3-47

Allocating Interfaces

The only physical resources that you can allocate to a VDC are the physical interfaces. You can assign an interface to only one VDC, except in the specific case of shared interfaces that carry both Fibre Channel and Ethernet traffic. You allocate a shared interface to both an Ethernet VDC and to the storage VDC. When you move an interface from one VDC to another VDC, the interface loses its configuration.

When you first create a VDC, you can specifically allocate interfaces to it. All interfaces initially reside in the default VDC (VDC 1). After you allocate the interfaces to a VDC, you can only view and configure them from that specific VDC. You can also remove interfaces from a VDC by moving them back to the default VDC.

> ⚠️ **Caution** When you move an interface, all configuration on the interface is lost and the interfaces are in the down state.

> ✎ **Note** Beginning with Cisco Release 5.2(1) for Nexus 7000 Series devices, all members of a port group are automatically allocated to the VDC when you allocate an interface.

You must be aware of the hardware architecture of your platform when allocating interfaces to a VDC. For example, the Cisco Nexus 7000 Series 32-port, 10-Gbps Ethernet module (N7K-M132XP-12) requires that you assign all four interfaces in a port group to the same VDC.

The Cisco Nexus 7000 Series 32-port, 10-Gbps Ethernet module (N7K-F132XP-15) requires that you assign the specified two interfaces in a port group to the same VDC.You can allocate the interfaces on your physical device in any combination, except for the interfaces on the Cisco Nexus 7000 Series 32-port, 10-Gbps Ethernet module (N7K-M132XP-12). This module has eight port groups that consist of four interfaces each. You must assign all four interfaces in a port group to the same VDC. Table 2-3 shows the port numbering for the port groups.

Table 2-3   Port Numbers for Port Groups on the Cisco Nexus 7000 Series 32-Port, 10-Gbps Ethernet Module (N7K-M132XP-12)

Port Group	Port Numbers
Group 1	1, 3, 5, 7
Group 2	2, 4, 6, 8
Group 3	9, 11, 13, 15
Group 4	10, 12, 14, 16
Group 5	17, 19, 21, 23
Group 6	18, 20, 22, 24
Group 7	25, 27, 29, 31
Group 8	26, 28, 30, 32

You must allocate the interfaces on your physical device in the specified combination on the Cisco Nexus 7000 Series 32-port 10-Gbps Ethernet module (N7K-F132XP-15). This module has 16 port groups that consist of 2 ports each. You must assign the specified port pairs in the same VDC. Table 2-4 shows the port numbering for the port groups.

Table 2-4   Port Numbers for Port Groups on the Cisco Nexus 7000 Series 32-Port, 10-Gbps Ethernet Module (N7K-F132XP-15)

Port Group	Port Number
Group 1	1 and 2
Group 2	3 and 4
Group 3	5 and 6
Group 4	7 and 8
Group 5	9 and 10
Group 6	11 and 12
Group 7	13 and 14
Group 8	15 and 16
Group 9	17 and 18
Group 10	19 and 20
Group 11	21 and 22
Group 12	23 and 24
Group 13	25 and 26
Group 14	27 and 28
Group 15	29 and 30
Group 16	31 and 32

For more information on port groups on the Cisco Nexus 7000 Series 32-port, 10-Gbps Ethernet module, see the *Cisco Nexus 7000 Series Hardware Installation and Reference Guide*.

For information about changing the interface allocation after you create a VDC, see Managing VDCs, page 3-47

VDC Management Connections

The Cisco NX-OS software provides a virtual management (mgmt 0) interface for out-of-band management of each VDC. You can configure this interface with a separate IP address that is accessed through the physical mgmt 0 interface. You also use one of the Ethernet interfaces on the physical device for in-band management. For more information on management connections, see the VDC Management Connections, page 1-19.

Initializing a New VDC

A new VDC is similar to a new physical device. You must set the VDC admin user account password and perform the basic configuration to establish connectivity to the VDC.

Licensing Requirements for VDCs

The following table shows the licensing requirements for this feature:

Product	License Requirement
Cisco DCNM	Creating nondefault VDCs requires an Advanced Services license. For an explanation of the Cisco DCNM licensing scheme, see the *Cisco DCNM Installation and Licensing Guide, Release 5.x*.
Cisco NX-OS	Creating nondefault VDCs requires an Advanced Services license. For an explanation of the Cisco NX-OS licensing scheme for your platform, see the licensing guide for your platform.

Note   The Cisco DCNM and Cisco NX-OS software allow a grace period to create and use nondefault VDCs without an Advanced Services license. If the grace period expires before you obtain a license, all VDC configuration is removed from the physical device.

Platform Support

The following platform supports this feature. For platform-specific information, including guidelines and limitations, system defaults, and configuration limits, see the corresponding documentation.

| Platform	Documentation
Cisco Nexus 7000 Series Switches	Cisco Nexus 7000 Series Switches Documentation

Creating a VDC with the VDC Setup Wizard

Users with the network administrator (network-admin) role can create virtual device contexts (VDCs). VDC resource templates limit the amount of physical device resources available to the VDC. The Cisco NX-OS software provides a default resource template, or you can create resource templates.

BEFORE YOU BEGIN

Ensure that you have discovered the physical device using a username that has the network-admin role.

Obtain an IPv4 or IPv6 address for the management interface (mgmt 0) if you want to use out-of-band management for the VDC.

DETAILED STEPS

Step 1   From the Feature Selector pane, choose **Virtual Devices**.

Step 2   From the Summary pane, click a physical device.

Step 3   From the menu bar, choose **File > New > Create VDC...** to bring up the VDC Setup Wizard and display the VDC General Parameters dialog box (see Figure 2-1).

Figure 2-1   ***VDC General Parameters Dialog Box***
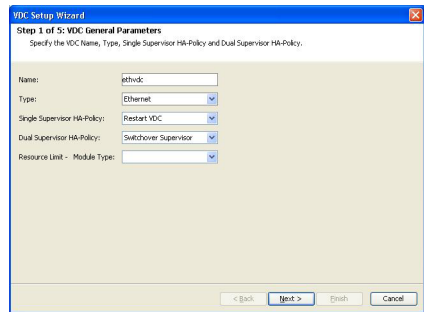
Step 4   In the Name field, enter the VDC name.

Step 5   (Optional) In the Single Supervisor HA-Policy field, click the down arrow and choose the HA policy for the VDC when the physical device has a single supervisor module.

Step 6   (Optional) In the Dual Supervisor HA-Policy field, click the down arrow and choose the HA policy for the VDC when the physical device has dual supervisor modules.

Step 7   (Optional) In the Resource Limit Module-Type field, click the down arrow and choose the module-type for the VDC. You can choose M1, F1, M1XL, or F2 as the module-type.
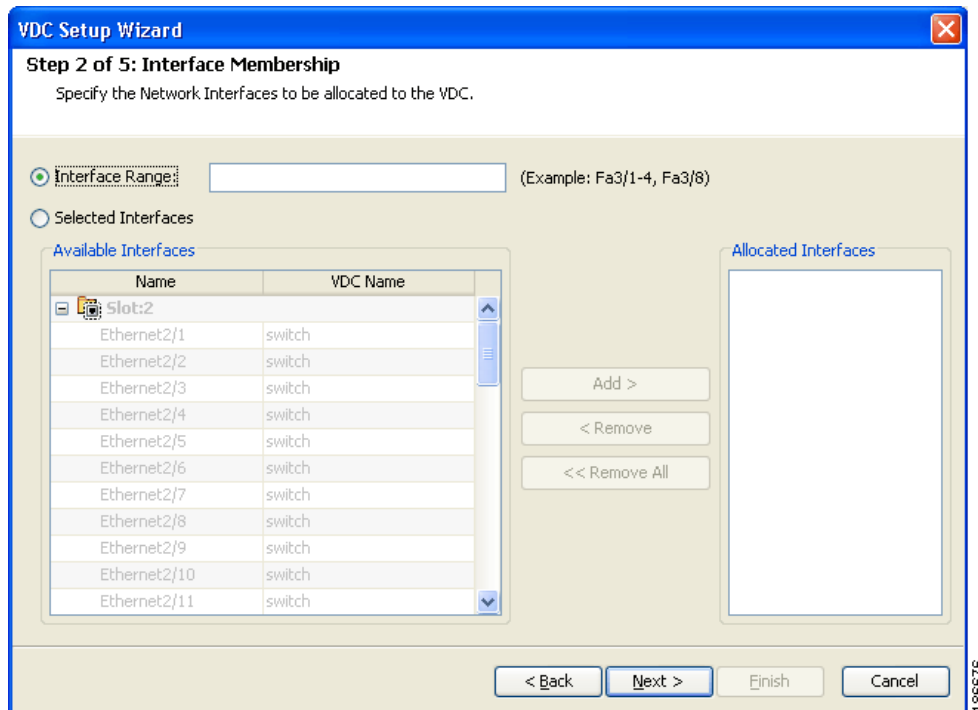
Note   F2 module-type cannot be combined or selected with any other module-types.

Step 8   Click **Next**.

The Interface Membership dialog box appears (see Figure 2-2).

Figure 2-2   *Interface Membership Dialog Box*

Step 9   Choose the interfaces that you want to allocate to the VDC.

> ✎
>
> **Note**   When you allocate an interface to a VDC, the interface configuration is lost. You cannot assign a port to a VDC if the port type is not supported for the module-type of a VDC. For example, if module-type for the VDC is F2, then only F2 card ports can be allocated.
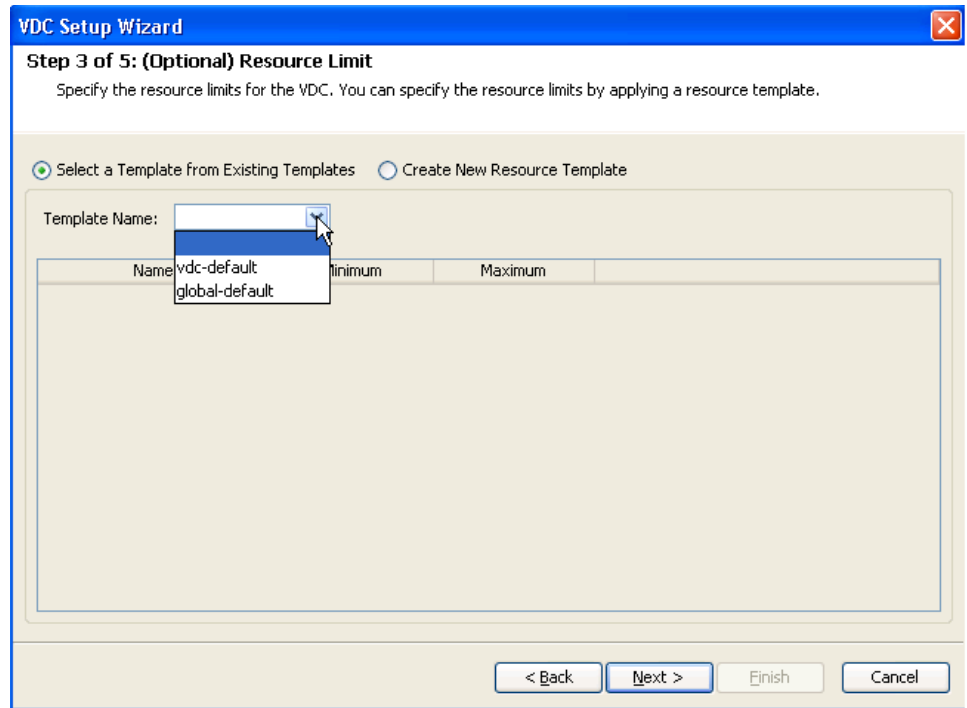
Step 10   Click **Next**.

The Resource Limit dialog box appears.

Step 11   (Optional) To use an existing resource templates, from the Template Name field, click on the down arrow and choose a resource template from the drop-down list (see Figure 2-3).
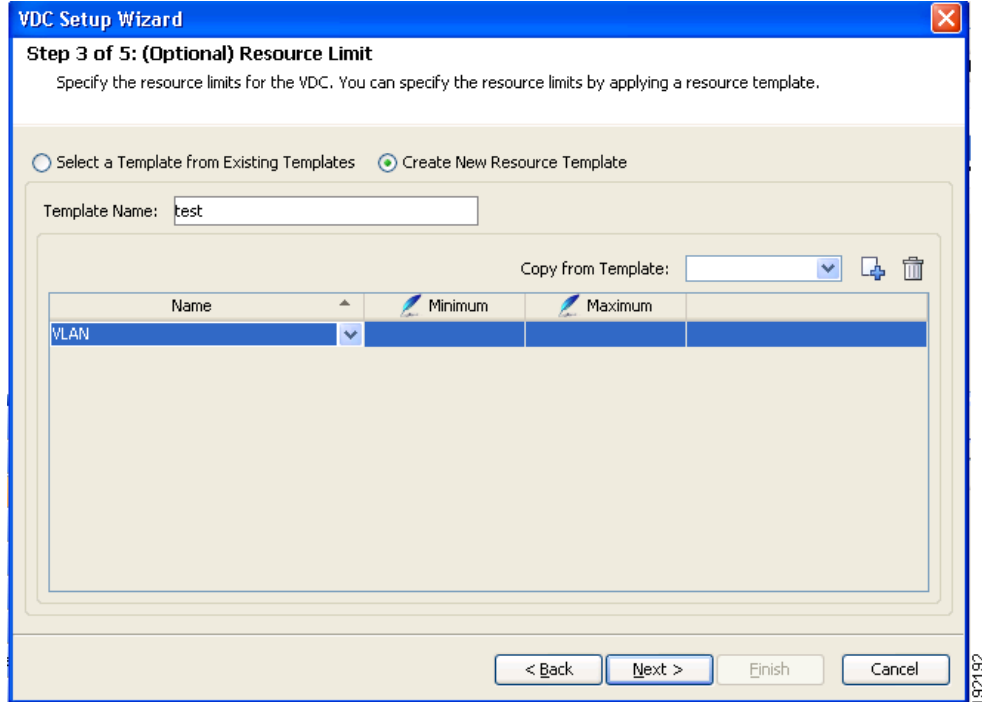
Figure 2-3 *Resource Limit Dialog Box Using an Existing Resource Template*

Note If you do not select a resource template, Cisco DCNM uses the vdc-default template.

Step 12 (Optional) To create a new resource template, follow these steps:

a. Click the **Create New Resource Template** radio button (see Figure 2-4).

Figure 2-4   ***Resource Limit Dialog Box Creating a New Resource Template***

b. From the Template Name field, enter the resource template name.

c. Click the ⊞ icon to add a new resource row.

A new resource limit row appears.

d. From the cell under Name, click the down arrow and choose a resource from the drop-down list.

e. Click the cell under Minimum and enter the minimum limit.

f. Click the cell under Maximum and enter the maximum limit.

g. To set additional resource limits, repeat Step c through Step f.

h. (Optional) To delete a row, click the row to delete and click the 🗑 icon.
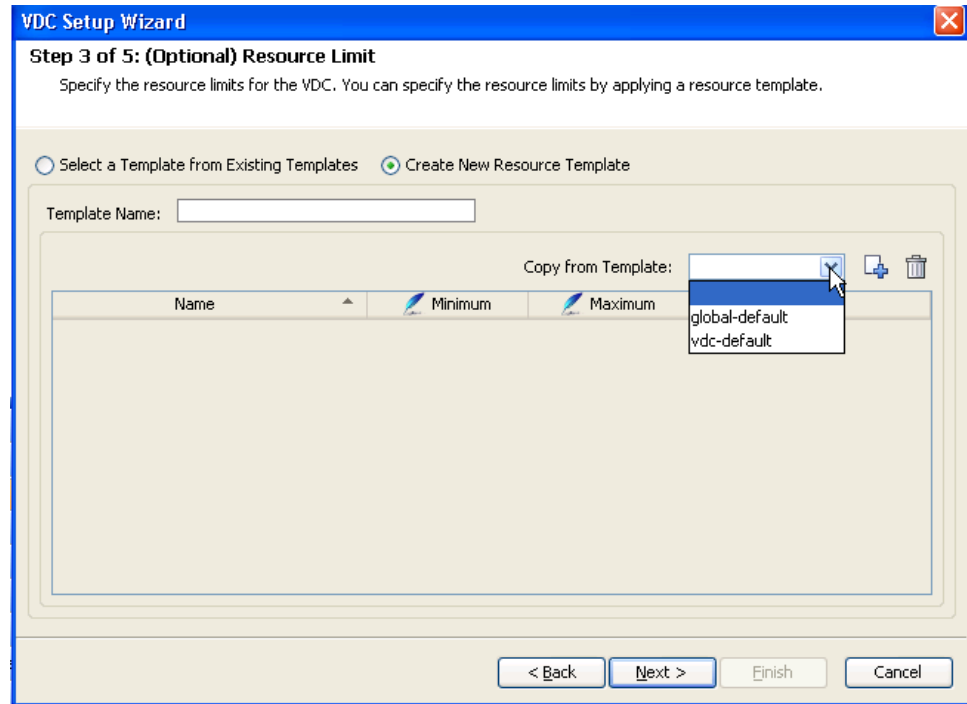
The resource limit row disappears.

> **Note** If you do not select a resource template, Cisco DCNM uses the vdc-default template.

Step 13 (Optional) To create a new resource template from an existing resource template, follow these steps:

a. Click the **Create New Resource Template** radio button.

b. From the Copy from Template field, click the down arrow and click a resource template (see Figure 2-5).

Figure 2-5   Resource Limit Dialog Box Copying a Resource Template

c. (Optional) Modify the resource fields as needed.

d. (Optional) To add a row, follow the procedure described in Step 12.

e. (Optional) To delete a row, click the row to delete and click the 🗑 icon.

The resource limit row disappears.

✎
Note   If you do not set up resource limits, Cisco DCNM uses the vdc-default template resource limits.

Step 14   (Optional) To change the resource limits, follow these steps:

a. Click the ⬚ icon to add a new resource row.

A new resource limit row appears.

b. From the cell under Name, click the down arrow and choose a resource from the drop-down list.

c. Click the cell under Minimum and enter the minimum limit.

d. Click the cell under Maximum and enter the maximum limit.

e. To change additional resource limits, repeat Step a through Step f.

f. (Optional) To delete a row, click the row to delete and click the 🗑 icon.

The resource limit row disappears.

✎
Note   If you do not set up resource limits, Cisco DCNM uses the vdc-default template resource limits.

Step 15   Click **Next**.

The Authentication dialog box appears (see Figure 2-6).

Figure 2-6   Authentication Dialog Box

Step 16   In the Password field, enter the admin user password.

Step 17   In the Confirm Password field, reenter the admin user password.

Step 18   (Optional) In the Expiry Date field, click the down arrow and choose an expiry date for the admin user from the Expiry Date dialog box (see Figure 2-7).

Figure 2-7   Expiry Date Dialog Box

Step 19   (Optional) In the Password Type field, click the down arrow and choose from the drop-down list.

Step 20   (Optional) Check the **Authenticate users using AAA Servers** check box and enter the AAA server information as follows:

    a.   In the Group Name field, enter an AAA server group name.

    b.   In the Type field, click the down arrow and choose the type of server group.

      c. In the Servers field, enter one or more host server IPv4 or IPv6 addresses or names, separated by commas.

Step 21   Click **Next**.

The Management of VDC dialog box appears (see Figure 2-8).

Figure 2-8   *Management of VDC Dialog Box*

Step 22   In the Management Interface area, enter the IPv4 or IPv6 address information.

Step 23   In the SSH area, click the down arrows and choose the SSH key type and SSS key length.

Step 24   In the Default Gateway area, enter the default IPv4 or IPv6 gateway address.

Step 25   In the Discover the VDC area, uncheck the **Discover the VDC** check box to prevent automatic discovery.

Step 26   Click **Finish**.

Note   Creating a VDC can take a few minutes depending on the amount of resources that the device must reserve for the VDC.

Step 27   Manually discover the VDC as described in the Discovering VDCs, page 3-78.

Step 28   From the menu bar, choose **File > Deploy** to apply your changes to the device.

Suspending a VDC

You can suspend an active nondefault VDC.

You must save the VDC running configuration to the startup configuration before suspending the VDC. Otherwise, you will lose the changes to the running configuration. For instructions, see the *System Management Configuration Guide, Cisco DCNM for LAN, Release 6.x*.

Note   You cannot suspend the default VDC.

Caution   Suspending a VDC disrupts all traffic on the VDC.

BEFORE YOU BEGIN

Log in to the default VDC with a username that has the network-admin user role.

DETAILED STEPS

Step 1   From the Feature Selector pane, choose **Virtual Devices**.

Step 2   From the Summary pane, double-click the device to display the list of VDCs.

Step 3   Right-click the VDC to suspend.

Step 4   Choose **Suspend VDC**.

Step 5   Click **Yes** when asked to confirm your decision. The VDC's status changes from Active to Suspended.

Resuming a VDC

You can resume a nondefault VDC from the suspended state. The VDC resumes with the configuration saved in the startup configuration.

BEFORE YOU BEGIN

Log in to the default VDC with a username that has the network-admin user role.

DETAILED STEPS

Step 1   From the Feature Selector pane, choose **Virtual Devices**.

Step 2   From the Summary pane, double-click the device to display the list of VDCs.

Step 3   Right-click the VDC to resume.

Step 4   Choose **Resume VDC**. The VDC's status changes from Suspended to Active.

RELATED TOPICS

- Configuring VDC Resource Templates, page 4-87
- Managing VDCs, page 3-47

Process for Creating VDCs

To create VDCs, follow these steps:

Step 1   If necessary, create a VDC resource template (see Chapter 4, "Configuring VDC Resource Templates").

Step 2   Create the VDC and allocate interfaces (see the "Creating VDCs" section on page 2-37).

> **Note**   Allocating interfaces to a VDC is optional. You can allocate the interfaces after you have verified the VDC configuration. For information about allocating interface, see the Allocating Interfaces to a VDC, page 3-55.

Step 3   Initialize the VDC (see the "Initializing a VDC" section on page 2-40).

Creating VDCs

You must create a VDC before you can use it. You can create up to three VDCs on your physical device.

> **Note**   VDC creation can take a few minutes to complete. Use the **show vdc** command to verify that completion of the create request.

BEFORE YOU BEGIN

Log on to the default VDC as a network administrator.

Choose a VDC resource template if you want to use resource limits other than those provided in the default VDC resource template. If there is no resource template available with the limits you want to use, see Configuring VDC Resource Templates, page 4-87

SUMMARY STEPS

1. **config t**

2. **vdc** *vdc-name* [**ha-policy** {**dual-sup** {**bringdown** | **restart** | **switchover**} [**single-sup** {**bringdown** | **reload** | **restart**}]} | **single-sup** {**bringdown** | **reload** | **restart**} [**dual-sup** {**bringdown** | **restart** | **switchover**}]}] [**id** *vdc-number*] [**template** *template-name*]

3. **show vdc membership**

4. **allocate interface ethernet** *slot*/*port*

   allocate interface ethernet *slot*/*port - last-port*

   allocate interface ethernet *slot*/*port*, **ethernet** *slot*/*port*, ...

5. **exit**

6. **show vdc**

7. **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose

Step 1	`config t`
	
	Example:
	`switch# config t`
	`switch(config)#`
		Enters configuration mode.

Step 2	`vdc` *vdc-name* [**ha-policy** {**dual-sup** {**bringdown** | **restart** | **switchover**} [**single-sup** {**bringdown** | **reload** | **restart**}]} | **single-sup** {**bringdown** | **reload** | **restart**} [**dual-sup** {**bringdown** | **restart** | **switchover**}]}] [**id** *vdc-number*] [**template** *template-name*] **Example:** `switch(config)# vdc admin-vdc`	Creates a VDC and enters VDC configuration mode. The VDC name can be a maximum of 32 characters that are not case sensitive. The VDC name cannot begin with a number. Valid VDC numbers range from 1 to 4. The default VDC number is the first available number. **Note** VDC number 1 is reserved for the default VDC. The default resource template is used if you do not specify one. The **ha-policy** option keywords are as follows: • **dual-sup**: – **bringdown**—Puts the VDC in the failed state. To recover from the failed state, you must reload the physical device. – **restart**—Takes down the VDC processes and interfaces and restarts it using the startup configuration. – **switchover** — Initiates a supervisor module switchover. • **single-sup**: – **bringdown**—Puts the VDC in the failed state. To recover from the failed state, you must reload the physical device. – **reload** — Reloads the supervisor module. – **restart**—Takes down the VDC processes and interfaces and restarts it using the startup configuration. The HA policy default for the **single-sup** keyword is **restart** and the default for the **dual-sup** keyword is **switchover**. **Note** The **vdc** command for a new VDC can take a few minutes to complete depending on the amount of resources that must be reserved.

Step 3	`show vdc membership`
	
	Example:
	`switch(config-vdc) show vdc membership`
		(Optional) Displays the interface membership for the VDCs.

	Command	**Purpose**
Step 4	**allocate interface ethernet** *slot*/*port* **Example:** switch(config-vdc)# allocate interface ethernet 2/1 Moving ports will cause all config associated to them in source vdc to be removed. Are you sure you want to move the ports? [yes] yes	(Optional) Allocates one interface to the VDC.
	allocate interface ethernet *slot*/*port* - *last-port* **Example:** switch(config-vdc)# allocate interface ethernet 2/1 - 4 Moving ports will cause all config associated to them in source vdc to be removed. Are you sure you want to move the ports? [yes] yes	(Optional) Allocates a range of interfaces on the same module to the VDC.
	allocate interface ethernet *slot*/*port*, **ethernet** *slot*/*port*, ... **Example:** switch(config-vdc)# allocate interface ethernet 2/1, ethernet 2/3, ethernet 2/5 Moving ports will cause all config associated to them in source vdc to be removed. Are you sure you want to move the ports? [yes] yes	(Optional) Allocates a list of interfaces to the VDC.
Step 5	**exit** **Example:** switch(config-vdc)# exit switch(config)#	Exits VDC configuration mode.
Step 6	**show vdc** **Example:** switch(config)# show vdc	(Optional) Displays VDC status information.
Step 7	**copy running-config startup-config** **Example:** switch(config)# copy running-config startup-config	Copies the running configuration to the startup configuration. **Note** After you create a VDC, you must copy the default VDC running configuration to the startup configuration so that a VDC user can copy the new VDC running configuration to the startup configuration.

Initializing a VDC

A newly created VDC is much like a new physical device. To access a VDC, you must first initialize it. The initialization process includes setting the VDC admin user account password and optionally running the setup script (see the "Example VDC Creation and Initialization" section on page 2-41). The setup script helps you perform basic configuration tasks such as creating more user accounts and configuring the management interface.

> **Note** The VDC admin user account in the nondefault VDC is separate from the network admin user account in the default VDC. The VDC admin user account has its own password and user role.

BEFORE YOU BEGIN

Log on to the default VDC as a network administrator.

Obtain an IPv4 or IPv6 address for the management interface (mgmt 0) if you want to use out-of-band management for the VDC.

SUMMARY STEPS

1. **switchto vdc** *vdc-name*
2. **show vdc current-vdc**

DETAILED STEPS

	Command	Purpose

Step 1	`switchto vdc` *vdc-name*
	
	Example:
	`switch# switchto vdc NewVDC`
	`switch-NewVDC#`
		Switches to the VDC.

Step 2	`show vdc current-vdc`
	
	Example:
	`switch-NewVDC# show vdc current-vdc`
		(Optional) Displays the current VDC number.

Verifying the VDC Configuration

To display VDC configuration information, perform one of the following tasks:

Command	Purpose
show running-config {**vdc** | **vdc-all**}	Displays the VDC information in the running configuration. Use this command in the default VDC to display the configuration for all VDCs on the physical device.
show vdc [*vdc-name*] [**detail**]	Displays the VDC status information. Use this command in the default VDC to display the status of all VDCs.
show vdc current-vdc	Displays the current VDC number.
show vdc membership [**status**]	Displays the VDC interface membership information. Use this command to ensure that you move the correct interfaces to a VDC.
show vdc resource template	Displays the VDC template configuration. Use this command to verify the configuration of a VDC resource template before using it to create your VDC.

For detailed information about the fields in the output from these commands, see the *Cisco Nexus 7000 Series NX-OS Virtual Device Context Command Reference*.

Example VDC Creation and Initialization

The following example shows how to create and initialize a VDC:

```
switch# config t
switch(config)# vdc test
switch(config-vdc)# allocate interface ethernet 2/46
Moving ports will cause all config associated to them in source vdc to be removed. Are you
sure you want to move the ports?  [yes] yes
switch(config-vdc)# exit
switch(config)# switchto vdc test


         ---- System Admin Account Setup ----


  Enter the password for "admin":<password>
  Confirm the password for "admin":<password>

         ---- Basic System Configuration Dialog ----

This setup utility will guide you through the basic configuration of
the system. Setup configures only enough connectivity for management
of the system.

Please register Cisco MDS 9000 Family devices promptly with your
supplier. Failure to register may affect response times for initial
service calls. MDS devices must be registered to receive entitled
support services.

Press Enter at anytime to skip a dialog. Use ctrl-c at anytime
to skip the remaining dialogs.
```

```
Would you like to enter the basic configuration dialog (yes/no): yes

  Create another login account (yes/no) [n]: n

  Configure read-only SNMP community string (yes/no) [n]: n

  Configure read-write SNMP community string (yes/no) [n]: n

  Enter the switch name : Test

  Continue with Out-of-band (mgmt0) management configuration? (yes/no) [y]:

    Mgmt0 IPv4 address : 10.10.5.5

    Mgmt0 IPv4 netmask : 255.255.254.0

  Configure the default gateway? (yes/no) [y]: y

    IPv4 address of the default gateway : 10.10.5.1

  Configure advanced IP options? (yes/no) [n]:

  Enable the telnet service? (yes/no) [y]:

  Enable the ssh service? (yes/no) [n]: y

    Type of ssh key you would like to generate (dsa/rsa/rsa1) : rsa

    Number of  key bits <768-2048> : 768

  Configure the ntp server? (yes/no) [n]:

  Configure default switchport interface state (shut/noshut) [shut]:

  Configure default switchport trunk mode (on/off/auto) [on]:

The following configuration will be applied:
  switchname Test
interface mgmt0
ip address 10.10.5.5 255.255.254.0
no shutdown
exit
vrf context management
ip route 0.0.0.0/0 10.10.5.1
exit
  telnet server enable
  ssh key rsa 768 force
  ssh server enable
  system default switchport shutdown
  system default switchport trunk mode on

Would you like to edit the configuration? (yes/no) [n]:

Use this configuration and save it? (yes/no) [y]:

[#######################################] 100%

Cisco Data Center Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2007, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained herein are owned by
other third parties and are used and distributed under license.
```

```
Some parts of this software may be covered under the GNU Public
License or the GNU Lesser General Public License. A copy of
each such license is available at
http://www.gnu.org/licenses/gpl.html and
http://www.gnu.org/licenses/lgpl.html
switch-test# exit
switch#
```

Example VDC Configurations

This section includes the following topics:

Example Running Configuration From the Default VDC

The following example shows a nondefault VDC configuration from the running configuration of the default VDC:

```
vdc payroll id 2
  limit-resource vlan minimum 16 maximum 4094
  limit-resource monitor-session minimum 0 maximum 2
  limit-resource vrf minimum 16 maximum 8192
  limit-resource port-channel minimum 0 maximum 192
  limit-resource u4route-mem minimum 8 maximum 80
  limit-resource u6route-mem minimum 4 maximum 48
```

Example Running Configuration From a Nondefault VDC

The following example shows the initial running configuration from a nondefault VDC:

```
version 4.0(1)
username admin password 5 $1$/CsUmTw5$/.3SZpb8LRsk9HdWAsQ501  role vdc-admin
telnet server enable
ssh key rsa 768 force
aaa group server radius aaa-private-sg
    use-vrf management
snmp-server user admin vdc-admin auth md5 0x061d8e733d8261dfb2713a713a95e87c priv
0x061d8e733d8261dfb2713a713a95e87c localizedkey
vrf context management
  ip route 0.0.0.0/0 10.10.5.1

interface Ethernet2/46

interface mgmt0
  ip address 10.10.5.5/23
```

Default Settings for Creating VDCs

Table 2-5 lists the default settings for VDC parameters.

Table 2-5   Default VDC Parameter Settings

Parameters	Default
Default VDC HA policies	**reload** for single supervisor module configurations **switchover** for dual supervisor module configurations
Nondefault VDC HA policies	**restart** for single supervisor module configurations **switchover** for dual supervisor module configurations
VDC ID	First available
Interface allocation	None

Additional References for Creating VDCs

For additional information related to creating VDC, see the following sections:

- Related Documents for Creating VDCs, page 2-44

Related Documents for Creating VDCs

Related Topic	Document Title
Cisco DCNM Licensing	*Cisco DCNM Installation and Licensing Guide, Release 5.x*
Cisco NX-OS Licensing	*Cisco NX-OS Licensing Guide*
Cisco Nexus 7000 Series 32-port, 10-Gbps Ethernet module	*Cisco Nexus 7000 Series Hardware Installation and Reference Guide*
Command reference	*Cisco Nexus 7000 Series NX-OS Virtual Device Context Command Reference*
FCoE	*Cisco NX-OS FCoE Configuration Guide for Cisco Nexus 7000 and Cisco MDS 9500*
FCoE command reference	*Cisco NX-OS FCoE Command Reference for Cisco Nexus 7000 and Cisco MDS 9500*

Feature History for Creating VDCs

Table 2-6 lists the release history for this feature.

Table 2-6   ***Feature History for Creating VDCs***

Feature Name	Releases	Feature Information
Support for F2 module-type	5.2(2a)	Added F2 module-type support for creating a VDC wizard.
Suspending and Resuming VDCs	5.2(1)	Added support for suspending and resuming an active nondefault VDC.
Support for N7K-F132XP-15 module	5.1(1)	VDC supports the N7K-F132XP-15 module. This module has 16 port groups that consist of 2 ports each.
Creating VDCs	5.0(2)	No change from Release 4.2.
Creating VDCs	4.2(1)	No change from Release 4.1.