Configuring an Admin VDC

This chapter describes how to configure an admin virtual device context (VDC) on Cisco NX-OS devices.

This chapter includes the following sections:

Information About Admin VDCs

Beginning with Cisco NX-OS Release 6.1 you can enable an admin VDC at the initial system bootup through a setup script. It is an optional step and the creation of an admin VDC is not required. An admin VDC is used for administrative functions only.

Beginning with Cisco NX-OS Release 6.2(2), the Supervisor 1 module supports an admin VDC with the same functionalities as Supervisor 2/2e modules. You can enable a default VDC or an admin VDC on the Supervisor 1 module. For the supported number of VDCs on Supervisor 1 and 2/2e modules, see the *Cisco Nexus 7000 Verified Scalability Guide*.

Beginning with Cisco NX-OS Release 6.2(2), all functionalities regarding the Supervisor 2e module on the Cisco Nexus 7000 Series switch is applicable to the Supervisor 2e module on the Cisco Nexus 7700 switch.

For more information on Supervisor modules and the Cisco Nexus 7700 switches, see the *Cisco Nexus 7000 Series Hardware Installation and Reference Guide*.

Prerequisites for Admin VDCs

Admin VDCs are supported on Supervisor 1 and Supervisor 2/2e modules. When an admin VDC is enabled, only the mgmt0 port is allocated to the admin VDC.

Note   The Advanced Services Package License and/or the VDC License are not required to enable the admin VDC.

Creating an Admin VDC

You can create an admin VDC in one of the following ways:

1. After a fresh switch bootup, a prompt is displayed to select the admin VDC. Choose **Yes** at the prompt to create an admin VDC. This option is recommended for brand new deployments. It is not recommended to use this option when migrating from Supervisor 1 to Supervisor 2/2e. For more information on the Supervisor 1 to Supervisor 2/2e migration procedure, see the following document:
    http://www.cisco.com/en/US/docs/switches/datacenter/hw/nexus7000/installation/guide/n7k_replacing.html#wp1051017

2. Enter the **system admin-vdc** command after bootup. The default VDC becomes the admin VDC. All the nonglobal configuration in the default VDC is lost after you enter this command. This option is recommended for existing deployments where the default VDC is used only for administration and does not pass any traffic.

3. You can change the default VDC to the admin VDC with the **system admin-vdc migrate** *new vdc name* command. After entering this command, the nonglobal configuration on a default VDC is migrated to the new migrated VDC. This option is recommended for existing deployments where the default VDC is used for production traffic whose downtime must be minimized.

Note   If the default VDC has Fabric Extenders that are enabled and configured, the migration of the default VDC configuration can take several minutes.

Guidelines and Limitations for Creating Admin VDCs

Admin VDCs have the following configuration guidelines and limitations:

*   No features or feature sets can be enabled in an admin VDC.

*   No interfaces from any line card module can be allocated to an admin VDC. Only mgmt0 can be allocated to an admin VDC which means that for an admin VDC, only out-of-band management is possible through the mgmt0 interface and console port.

*   When an admin VDC is enabled at bootup, it replaces the default VDC.

*   Once an admin VDC is created, it cannot be deleted and it cannot be changed back to the default VDC. To change it back to the default VDC, erase the configuration and perform a fresh bootup.

*   For the supported number of VDCs on Supervisor 1 and Supervisor 2/2e modules, see the *Cisco Nexus 7000 Verified Scalability Guide*.

The guidelines and limitations for migrating to an admin VDC with **system admin-vdc** and **system admin-VDC migrate** commands are as follows:

- During the admin VDC migration, some feature configurations, such as access control lists (ACLs), are copied into the new VDC but they are not removed from the admin VDC. You have to explicitly remove any unwanted configurations in the admin VDC. While it is recommended to remove this configuration, keeping it does not cause any side effect.

The guidelines and limitations for migrating to an admin VDC with the **system admin-vdc migrate** command only are as follows:

- If you enable the VTP in the default VDC when you enter the **system admin-vdc migrate** command, the VTP configuration is not automatically migrated. After the migration is complete, you must reconfigure the VTP feature in the new VDC.

- If the time zone is configured in the default VDC when you enter the **system admin-vdc migrate** command, the time zone configuration is not automatically migrated. After the migration is complete, you must reconfigure the timezone in the new VDC.

- As the management IP address in the default VDC is not migrated to the new VDC, some existing sessions are not automatically up in the new VDC. You have to configure a new IP address for the management interface in the VDC. Also, any external devices, for example, VPC keepalives over the management interface on the VPC peer or SNMP management stations should be reconfigured.

- During the migration, if the Cisco Nexus 7000 Series switches have enough system resources to spare, the resource limits of the default VDC are copied into the migrated VDC or the migration fails with an error message.

- If the default VDC has Fabric Extenders that are enabled and configured, the migration of the default VDC configuration can take several minutes.

Configuring an Admin VDC

SUMMARY STEPS

1. **config t**

2. **system admin-vdc** [**migrate** *new-vdc*]

3. **exit**

4. (Optional) **show vdc**

5. (Optional) **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose

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

	Command	Purpose

Step 2	`system admin-vdc [`**`migrate`** `new-vdc]`
	
	Example:
	`switch(config)# system admin-vdc`
		Enables the admin VDC. Use this command to migrate the default VDC to the admin VDC. If the migrate option is not included in the command, the default VDC becomes the admin VDC and any additional configuration is removed. Otherwise, the configuration is migrated to a new VDC.
		
		Note The management Ethernet IP address is not migrated as part of the migration process between the default VDC and the admin VDC.
		
		When migrating the admin VDC, the following error message is displayed: "Interface mgmt0 will not have its IP address migrated to the new VDC."

Step 3	`exit`
	Example:
	`switch(config-vdc)# exit`
	`switch(config)#`
		Exits the VDC configuration mode.

Step 4	`show vdc`
	
	Example:
	`switch(config)# show vdc`
		(Optional) Displays the VDC status information.

Step 5	`copy running-config startup-config`
	
	Example:
	`switch(config)# copy running-config`
	`startup-config`
		(Optional) 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.

Configuration Examples for Admin VDCs

This example shows the prompts at a clean bootup to enable the admin VDC:

```
Enter the password for "admin":
Confirm the password for "admin":
Do you want to enable admin vdc (yes/no) [n]:yes
```

This example shows the show vdc output before the admin VDC is created:

```
switch(config)# sh vdc

vdc_id  vdc_name    state     mac                type        lc
------  --------    -----     ----------         ---------   ------
1       switch      active    00:26:98:0d:01:41  Ethernet    m1 f1 m1xl m2xl
2       vdc2        active    00:26:98:0d:01:42  Ethernet    m1 f1 m1xl m2xl
3       vdc3        active    00:26:98:0d:01:43  Ethernet    f2
```

This example shows the output of the **system admin-vdc** command after a bootup:

```
switch(config)# system admin-vdc
All non-global configuration from the default vdc will be removed, Are you sure
you want to continue? (yes/no) [no] yes
```

This example shows the **show vdc** output after executing the **system admin-vdc** command:

```
switch(config)# show vdc

vdc_id vdc_name    state      mac                type        lc
------ --------    -----      ----------         ---------   ------
1      switch      active     00:26:98:0d:01:41  Admin       None
2      vdc2        active     00:26:98:0d:01:42  Ethernet    m1 f1 m1xl m2xl
3      vdc3        active     00:26:98:0d:01:43  Ethernet    f2
```

This example shows the output of the **system admin-vdc migrate** *new vdc name* command to migrate the default VDC to the admin VDC:

```
switch(config)# system admin-vdc migrate new-vdc

All non-global configuration from the default vdc will be removed, Are you sure
you want to continue? (yes/no) [no] yes
Note: Interface mgmt0 will not have its ip address migrated to the new vdc
Note: During migration some configuration may not be migrated.
Example: VTP will need to be reconfigured in the new vdc if it was enabled. Please
refer to configuration guide for details. Please wait, this may take a while
Note: Ctrl-C has been temporarily disabled for the duration of this command
2012 Jul 5 22:20:58 switch %$ VDC-1 %$ %VDC_MGR-2-VDC_ONLINE: vdc 4 has come
online
switch(config)#
```

This example shows the **show vdc** output after the admin VDC is created:

```
switch(config)# show vdc

vdc_id vdc_name    state      mac                type        lc
------ --------    -----      ----------         ---------   ------
1      switch      active     00:26:98:0d:01:41  Admin       None
2      vdc2        active     00:26:98:0d:01:42  Ethernet    m1 f1 m1xl m2xl
3      vdc3        active     00:26:98:0d:01:43  Ethernet    f2
4      new-vdc     active     00:26:98:0d:01:44  Ethernet    m1 f1 m1xl m2xl
switch(config)#
```

Additional References for Admin VDCs

For additional information related to implementing admin VDCs, see the following sections:

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Related Documents for Admin VDCs

Related Topic	Document Title
Cisco NX-OS licensing	*Cisco NX-OS Licensing Guide*
Supported number of VDCs	*Cisco Nexus 7000 Verified Scalability Guide*
VDC commands	*Cisco Nexus 7000 Series NX-OS Virtual Device Context Command Reference*

Feature History for Admin VDCs

Table 1-1 lists the release history for this feature.

Table 1-1   ***Feature History for VDC Resource Templates***

Feature Name	Cisco NX-OS Release	Feature Information
Supervisor 1 module	6.2(2)	Added support for admin VDCs on the Supervisor 1 module.
Admin VDC	6.1(1)	This feature was introduced on Supervisor 2 and Supervisor 2e modules.