



SAN Switching Commands

This chapter describes the Cisco NX-OS SAN Switching commands available on Cisco NX-OS switches.

clear device-alias

To clear device alias information, use the **clear device-alias** command.

```
clear device-alias {database | session | statistics}
```

| Syntax Description | database | Clears the device alias database. |
|--------------------|------------|-------------------------------------|
| | session | Clears the session information. |
| | statistics | Clears the device alias statistics. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to clear the device alias session:

```
switch# clear device-alias session
switch#
```

| Related Commands | Command | Description |
|------------------|---------------|--|
| | show cfs lock | Displays the state of the application's logical or physical locks. |

clear fcdomain

To clear the entire list of configured hosts, use the **clear fcdomain** command.

clear fcdomain session vsan *vsan-id*

| Syntax Description | session | Clears the session information. |
|--------------------|----------------|--|
| | vsan | Clears the Fibre Channel domains for a specified VSAN. |
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command clears only the list of configured hosts. Existing connections are not terminated. This command requires the FCoE license.

Examples This example shows how to clear the entire list of configured hosts for remote capture:

```
switch# clear fcdomain session vsan 10
switch#
```

| Related Commands | Command | Description |
|------------------|---|---|
| | show cfs lock | Displays state of application's logical or physical locks. |
| | show cfs application name fcdomain | Displays local application information by the domain manager. |

clear fcns statistics

To clear the name server statistics, use the **clear fcns statistics** command.

```
clear fcns statistics vsan vsan-id
```

| Syntax Description | vsan | Clears the FCS statistics for a specified VSAN. |
|--------------------|----------------|---|
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to clear the name server statistics:

```
switch# clear fcns statistics vsan 1
switch#
```

| Related Commands | Command | Description |
|------------------|----------------------|--------------------------------------|
| | show fcns statistics | Displays the name server statistics. |

clear fscm log

To clear the Fabric Startup Configuration Manager (FSCM) log, use the **clear fscm log** command.

clear fscm log

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to clear the FSCM log:

```
switch# clear fscm log
switch#
```

| Related Commands | Command | Description |
|------------------|---------------------------------------|---|
| | show cfs lock | Displays state of application's logical or physical locks. |
| | show cfs application name fscm | Displays local application information by the Fabric Startup Configuration Manager. |

clear fcs statistics

To clear the fabric configuration server statistics, use the **clear fcs statistics** command.

```
clear fcs statistics vsan vsan-id
```

| Syntax Description | vsan | Clears the FCS statistics for a specified VSAN. |
|--------------------|----------------|---|
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

| Command Default | None |
|-----------------|------|
|-----------------|------|

| Command Modes | EXEC mode |
|---------------|-----------|
|---------------|-----------|

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

| Usage Guidelines | This command requires the FCoE license. |
|------------------|---|
|------------------|---|

| Examples | This example shows how to clear the fabric configuration server statistics for VSAN 10: |
|----------|---|
| | <pre>switch# clear fcs statistics vsan 1 switch#</pre> |

| Related Commands | Command | Description |
|------------------|----------------------------|--|
| | show fcs statistics | Displays fabric configuration server statistics information. |

clear fctimer session

To clear fctimer Cisco Fabric Services (CFS) session configuration and locks, use the **clear fctimer session** command.

clear fctimer session

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines You must enable the fctimer for CFS distribution before this command is valid.
This command requires the FCoE license.

Examples This example shows how to clear an fctimer session:

```
switch# clear fctimer session
switch#
```

| Related Commands | Command | Description |
|------------------|--|--|
| | show cfs lock | Displays state of application's logical or physical locks. |
| | show cfs application name fctimer | Displays local application information by the Fibre Channel timer. |

clear fspf counters

To clear the Fabric Shortest Path First (FSPF) statistics, use the **clear fspf counters** command.

```
clear fspf counters vsan vsan-id [interface type]
```

| Syntax Description | vsan | Specifies that the counters are to be cleared for a VSAN. |
|--------------------|------------------|---|
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |
| | interface | (Optional) Specifies that the counters are to be cleared for an interface. |
| | <i>type</i> | Interface type. The interface types are FC (Fibre Channel) and san-port-channel (SAN port channel). |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines If the interface is not specified, all of the counters of a VSAN are cleared. If the interface is specified, the counters of the specific interface are cleared.

The only type of valid interface is virtual Fibre Channel (VFC) interface.

This command requires the FCoE license.

Examples This example shows how to clear the FSPF statistics on VSAN 1:

```
switch# clear fspf counters vsan 1
switch#
```

This example shows how to clear the FSPF statistics in VSAN 1 for the specified Fibre Channel interface:

```
switch# clear fspf counters vsan 100 interface vfc fc 301
switch#
```

| Related Commands | Command | Description |
|------------------|------------------------------------|---|
| | show fspf counter interface | Displays global FSPF information for a specific VSAN. |

clear rlr

To clear Registered Link Incident Report (RLIR) information, use the **clear rlr** command.

```
clear rlr {history | recent {interface fc slot/port | portnumber port} | statistics vsan vsan-id}
```

| Syntax Description | | |
|---------------------|--|--|
| history | | Clears the RLIR incident link history. |
| recent | | Clears the recent link incidents. |
| interface fc | | Clears the entries for the specified interface. |
| <i>slot/port</i> | | Slot or port number. The range is from 1 to 18. |
| portnumber | | Displays the port number for the link incidents. |
| <i>port</i> | | Port number. The range is from 1 to 224. |
| statistics | | Clears the RLIR statistics. |
| vsan | | Clears the RLIR statistics for a VSAN. |
| <i>vsan-id</i> | | VSAN ID. The range is from 1 to 4093. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to clear the RLIR statistics for VSAN 1:

```
switch# clear rlr statistics vsan 1
switch#
```

| Related Commands | Command | Description |
|------------------|-----------------|----------------------------|
| | show rlr | Displays RLIR information. |

clear rscn session

To clear a Registered State Change Notification (RSCN) session for a specified VSAN, use the **clear rscn session** command.

```
clear rscn session vsan vsan-id
```

| Syntax Description | vsan | Specifies a VSAN where the RSCN session should be cleared. |
|--------------------|----------------|--|
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines The RSCN application must be enabled for CFS distribution before this command is valid. This command requires the FCoE license.

Examples This example shows how to clear an RSCN session on VSAN 1:

```
switch# clear rscn session vsan 1
switch#
```

| Related Commands | Command | Description |
|------------------|---------------------------------------|---|
| | show cfs lock | Displays state of application's logical or physical locks. |
| | show cfs application name rscn | Displays local application information for the RSCN module. |

clear rscn statistics

To clear the Registered State Change Notification statistics for a specified VSAN, use the **clear rscn statistics** command.

```
clear rscn statistics vsan vsan-id
```

| Syntax Description | vsan | Clears the RSCN statistics for a VSAN. |
|--------------------|----------------|--|
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to clear the RSCN statistics for VSAN 1:

```
switch# clear rscn statistics vsan 1
switch#
```

| Related Commands | Command | Description |
|------------------|-----------------------------|---------------------------------------|
| | show rscn statistics | Displays RSCN statistics information. |

clear zone

To clear all configured information in the zone server for a specified VSAN, use the **clear zone** command.

```
clear zone { database | lock | statistics } vsan vsan-id
```

| Syntax Description | Parameter | Description |
|--------------------|-------------------|--|
| | database | Clears the zone server database information. |
| | lock | Clears the zone server database lock. |
| | statistics | Clears the zone server statistics. |
| | vsan | Clears the zone information for a VSAN. |
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

| Command Default | None |
|-----------------|------|
|-----------------|------|

| Command Modes | EXEC mode |
|---------------|-----------|
|---------------|-----------|

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines

After entering **clear zone database** command, you must explicitly enter the **copy running-config startup-config** command to ensure that the running configuration is used when you next start the switch.

When you enter the **clear zone lock** command from a remote switch, only the lock on that remote switch is cleared. When you enter the **clear zone lock** command from the switch where the lock originated, all locks in the VSAN are cleared. The recommended method to clear a session lock on a switch where the lock originated is by entering the **no zone commit vsan** command.

This command requires the FCoE license.

Examples

This example shows how to clear all configured information in the zone server for VSAN 1:

```
switch# clear zone database vsan 1
switch#
```

| Related Commands | Command | Description |
|------------------|------------------|---|
| | show zone | Displays zone information for any configured interface. |

clear zone smart-zoning

To clear the smart zoning configuration, use the **clear zone smart-zoning** command.

```
clear zone smart-zoning { fcalias name fcalias-name vsan vsan-id | vsan vsan-id | zone name
zone-name vsan vsan-id | zoneset name zoneset-name vsan vsan-id }
```

| Syntax Description | Parameter | Description |
|--------------------|---------------------|--|
| | fcalias name | Specifies auto-convert commands for an fcalias. |
| | <i>fcalias-name</i> | Specifies the fcalias name. The maximum size is 64 characters. |
| | vsan | Specifies the auto convert commands for a VSAN. |
| | <i>vsan-id</i> | Specifies the VSAN ID. The range is from 1 to 4093. |
| | zone name | Specifies the auto convert commands for a given zone. |
| | <i>zone-name</i> | Specifies the zone name. The maximum size is 64 characters. |
| | zoneset name | Specifies the auto convert commands for a zoneset. |
| | <i>zoneset-name</i> | Specifies the zoneset name. The maximum size is 64 characters. |
| | vsan | Specifies the VSAN. |
| | <i>vsan-id</i> | Specifies the VSAN ID. The range is from 1 to 4093. |

Defaults None.

Command Modes EXEC mode.

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 6.1(3) | This command was introduced. |

Usage Guidelines None

Examples The following example shows how to clear the smart zoning command for a VSAN:

```
switch(config)# clear zone smart-zoning vsan 1
WARNING: This command will clear smart zoning configs from the specified zone/zon
eset/fcalias/vsan. Do you want to continue? (y/n) [n] y
switch(config)#
```

| Related Commands | Command | Description |
|------------------|------------------|---|
| | show zone | Displays zone information for any configured interface. |

device-alias abort

To discard a Distributed Device Alias Services (device alias) Cisco Fabric Services (CFS) distribution session in progress, use the **device-alias abort** command.

device-alias abort

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to discard a device alias CFS distribution session in progress:

```
switch(config)# device-alias abort
There are no changes to abort
switch(config)#
```

| Related Commands | Command | Description |
|------------------|--------------------------------|---|
| | device-alias database | Configures and activates the device alias database. |
| | device-alias distribute | Enables CFS distribution for device aliases. |
| | show device-alias | Displays device alias information. |

device-alias commit

To apply the pending configuration pertaining to the Distributed Device Alias Services (device alias) Cisco Fabric Services (CFS) distribution session in progress in the fabric, use the **device-alias commit** command.

device-alias commit

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to commit pending changes to the device-alias database:

```
switch(config)# device-alias commit
switch(config)#
```

| Related Commands | Command | Description |
|------------------|--------------------------------|---|
| | device-alias database | Configures and activates the device alias database. |
| | device-alias distribute | Enables CFS distribution for device aliases. |
| | show device-alias | Displays device alias information. |

device-alias database

To initiate a Distributed Device Alias Services (device alias) session and configure the device alias database, use the **device-alias database** command. To deactivate the device alias database, use the **no** form of this command.

device-alias database

no device-alias database

Syntax Description This command has no arguments or keywords.

Command Default Deactivated

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines The **device-alias database** command starts a device alias session that locks all the databases on all the switches in this fabric. When you exit device alias database configuration mode, the device alias session ends and the locks are released.

You can only perform all modifications in the temporary device alias database. To make the changes permanent, use the **device-alias commit** command.

This command requires the FCoE license.

Examples This example shows how to activate a device alias session and enter device alias database configuration mode:

```
switch(config)# device-alias database
switch(config-device-alias-db)#
```

| Related Commands | Command | Description |
|------------------|----------------------------|---|
| | device-alias commit | Commits changes from the temporary device alias database to the active device alias database. |
| | device-alias abort | Discards changes and releases the CFS lock. |
| | show device-alias | Displays device alias database information. |

device-alias distribute

To enable Cisco Fabric Services (CFS) distribution for Distributed Device Alias Services (device alias), use the **device-alias distribute** command. To disable this feature, use the **no** form of this command.

device-alias distribute

no device-alias distribute

Syntax Description This command has no arguments or keywords.

Command Default Enabled

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines Use the **device-alias commit** command to apply pending changes to the CFS distribution session. This command requires the FCoE license.

Examples This example shows how to enable distribution for device alias information:

```
switch(config)# device-alias distribute
switch(config)#
```

| Related Commands | Command | Description |
|------------------|------------------------------|--|
| | device-alias commit | Commits changes to the active device alias database. |
| | device-alias database | Configures and activates the device alias database. |
| | show device-alias | Displays device alias information. |

device-alias import fcalias

To import device alias database information from another VSAN, use the **device-alias import fcalias** command. To revert to the default configuration or factory defaults, use the **no** form of this command.

device-alias import fcalias vsan *vsan-id*

no device-alias import fcalias vsan *vsan-id*

| | | |
|---------------------------|----------------------------|---|
| Syntax Description | vsan <i>vsan-id</i> | Specifies the VSAN ID. The range is from 1 to 4093. |
|---------------------------|----------------------------|---|

| | |
|------------------------|------|
| Command Default | None |
|------------------------|------|

| | |
|----------------------|---------------------------|
| Command Modes | Global configuration mode |
|----------------------|---------------------------|

| Command History | Release | Modification |
|------------------------|----------------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines You can import legacy device name configurations using this feature without losing data, if they satisfy the following restrictions:

- Each fcalias has only one member.
- The member type is supported by the device name implementation.

If any name conflict exists, the fcalias are not imported. The device name database is completely independent from the VSAN dependent fcalias database.

When the import operation is complete, enter the device-alias distribute command to enable the modified global fcalias table to distribute device name configuration to all other switches in the physical fabric command so that new definitions are available everywhere.

This command requires the FCoE license.

Examples This example shows how to import device alias information:

```
switch(config)# device-alias import fcalias vsan 10
switch(config)#
```

| Related Commands | Command | Description |
|-------------------------|--------------------------------|---|
| | device-alias database | Configures and activates the device alias database. |
| | device-alias distribute | Distributes fcalias database changes to the fabric. |
| | show device-alias | Displays device alias database information. |

device-alias mode

To configure device alias enhanced mode, use the **device-alias mode** command. To remove device alias enhanced mode, use the **no** form of this command.

device-alias mode enhanced

no device-alias mode enhanced

| Syntax Description | enhanced | Specifies enhanced mode. |
|--------------------|----------|--------------------------|
|--------------------|----------|--------------------------|

| Command Default | None |
|-----------------|------|
|-----------------|------|

| Command Modes | Global configuration mode |
|---------------|---------------------------|
|---------------|---------------------------|

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

| Usage Guidelines | This command requires the FCoE license. |
|------------------|---|
|------------------|---|

| Examples | This example shows how to configure the device alias enhanced mode: |
|----------|---|
|----------|---|

```
switch(config)# device-alias mode enhanced
switch(config)#
```

| Related Commands | Command | Description |
|--------------------------|---|--|
| | device-alias database | Enters device alias database configuration mode. |
| show device-alias | Displays device alias database information. | |

device-alias name

To configure device names in the device alias database, use the **device-alias name** command. To remove device names from the device alias database, use the **no** form of this command.

device-alias name *device-name* **pwwn** *pwwn-id*

no device-alias name *device-name*

| Syntax Description | | |
|--------------------|----------------------------|---|
| | <i>device-name</i> | Device name. The name can be a maximum of 64 alphanumeric characters. |
| | pwwn <i>pwwn-id</i> | Specifies the pWWN ID. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal number. |

Command Default None

Command Modes Device alias database configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to configure a device name alias entry in the device name database:

```
switch(config)# device-alias database
switch(config-device-alias-db)# device-alias name Device1 pwwn 21:00:00:20:37:6f:db:bb
switch(config-device-alias-db)#
```

| Related Commands | Command | Description |
|------------------|------------------------------|--|
| | device-alias database | Enters device alias database configuration mode. |
| | show device-alias | Displays device alias database information. |
| | device-alias commit | Commits changes to the active device alias database. |
| | device-alias abort | Discard changes and release the CFS lock. |

device-alias rename

To rename device names in the device alias database, use the **device-alias rename** command. To remove device names from the device alias database, use the **no** form of this command.

```
device-alias rename device-name1 device-name2
```

```
no device-alias rename device-name
```

| Syntax Description | | |
|--------------------|---------------------|--|
| | <i>device-name1</i> | Current device name. |
| | <i>device-name2</i> | New device name. The maximum length is 64 alphanumeric characters. |

| Command Default | None |
|-----------------|------|
|-----------------|------|

| Command Modes | Device alias database configuration mode |
|---------------|--|
|---------------|--|

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

| Usage Guidelines | This command requires the FCoE license. |
|------------------|---|
|------------------|---|

Examples This example shows how to rename a device name alias entry in the device name database:

```
switch(config)# device-alias database
switch(config-device-alias-db)# device-alias rename Device1 Device2
switch(config-device-alias-db)#
```

| Related Commands | Command | Description |
|------------------|------------------------------|--|
| | device-alias database | Enters device alias database configuration mode. |
| | device-alias commit | Commits changes to the active device alias database. |
| | device-alias abort | Discard changes and release the CFS lock. |
| | show device-alias | Displays device alias database information. |

fabric-binding activate

To activate fabric binding in a VSAN, use the **fabric-binding activate** command. To disable this feature, use the **no** form of this command.

fabric-binding activate vsan vsan-id [force]

no fabric-binding activate vsan vsan-id

Syntax Description

| | |
|----------------|--|
| vsan | Specifies the VSAN. |
| vsan-id | VSAN ID. The range is from 1 to 4093. |
| force | (Optional) Specifies the forces fabric binding activation. |

Command Default

Disabled

Command Modes

Global configuration mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

You must enable the fabric-binding feature before you enter the **fabric-binding activate** command to work. Also this is licensed feature on ame on N7K.

This command requires the FCoE license.

Examples

This example shows how to activate the fabric binding database for the specified VSAN:

```
switch(config)# fabric-binding activate vsan 1
switch(config)#
```

This example shows how to deactivate the fabric binding database for the specified VSAN:

```
switch(config)# no fabric-binding activate vsan 10
switch(config)#
```

This example shows how to forcefully activate the fabric binding database for the specified VSAN:

```
switch(config)# fabric-binding activate vsan 3 force
switch(config)#
```

This example shows how to revert to the previously configured state or to the factory default (if no state is configured):

```
switch(config)# no fabric-binding activate vsan 1 force
switch(config)#
```

| Related Commands | Command | Description |
|------------------|--------------------------------|---------------------------------------|
| | fabric-binding database | Configures a fabric binding database. |
| | fabric-binding enable | Enables fabric binding. |

fabric-binding database copy vsan

To copy from the active fabric binding database to the configuration fabric binding database, use the **fabric-binding database copy vsan** command.

fabric-binding database copy vsan *vsan-id*

| Syntax Description | vsan | Specifies the VSAN. |
|--------------------|----------------|---------------------------------------|
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines Fabric binding is configured on a per-VSAN basis and can be implemented in both Fibre Connection FICON VSANs and Fibre Channel VSANs.

If the configured database is empty, you cannot use this command.

This command requires the FCoE license.

Examples This example shows how to copy from the active database to the configuration database in VSAN 1:

```
switch# fabric-binding database copy vsan 1
switch#
```

| Related Commands | Command | Description |
|------------------|----------------------------|--|
| | fabric-binding diff | Provides the differences between the fabric-binding databases. |

fabric-binding database diff

To view the differences between the active database and the configuration database in a VSAN, use the **fabric-binding database diff** command.

```
fabric-binding database diff {active | config} vsan vsan-id
```

| Syntax Description | | |
|--------------------|--|--|
| active | | Provides information about the differences in the active database that relate to the configuration database. |
| config | | Provides information about information on the differences in the configuration database relate to the active database. |
| vsan | | Specifies the Virtual SAN (VSAN). |
| <i>vsan-id</i> | | VSAN ID. The range is from 1 to 4093. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines Fabric binding is configured on a per-VSAN basis and can be implemented in both FICON VSANs and Fibre Channel VSANs.

You must enable fabric-binding feature before you can use the **fabric-binding database diff** command. This command requires the FCoE license.

Examples This example shows how to display the differences between the active database and the configuration database in VSAN 1:

```
switch# fabric-binding database diff active vsan 1
switch#
```

This example shows how to display information about the differences between the configuration database and the active database:

```
switch# fabric-binding database diff config vsan 1
switch#
```

| Related Commands | Command | Description |
|------------------|----------------------------|--|
| | fabric-binding copy | Copies from the active to the configuration fabric binding database. |

fabric-binding database vsan

To configure a user-specified fabric binding list in a VSAN, use the **fabric-binding database vsan** command. To disable the fabric binding, use the **no** form of this command.

fabric-binding database vsan *vsan-id* **swwn** *switch-wwn* **domain** *domain-id*

no fabric-binding database vsan *vsan-id* **no swwn** *switch-wwn* **domain** *domain-id*

Syntax Description

| | |
|-------------------|--|
| vsan | Specifies the VSAN. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |
| swwn | Configures the switch WWN. |
| <i>switch-wwn</i> | WWN switch in the dotted hexadecimal format. |
| domain | Specifies the specified domain ID. |
| <i>domain-id</i> | Domain ID. The range is from 1 to 239. |

Command Default

None

Command Modes

Global configuration mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

Fabric binding is configured on a per-VSAN basis. In a Fibre Channel VSAN, only the switch world wide name (sWWN) is required; the domain ID is optional.

A user-specified fabric binding list contains a list of switch WWNs (sWWNs) within a fabric. If an sWWN attempts to join the fabric and that sWWN is not on the list, or the sWWN is using a domain ID that differs from the one specified in the allowed list, the Inter Switch Link between the switch and the fabric is automatically isolated in that VSAN and the switch is denied entry into the fabric.

This command requires the FCoE license.

Examples

This example shows how to enter the fabric binding database mode and add the sWWN and domain ID of a switch to the configured database list:

```
switch(config)# fabric-binding database vsan 5
switch(config-fabric-binding)# swwn 21:00:05:30:23:11:11:11 domain 102
switch(config-fabric-binding)#
```

This example shows how to delete a fabric binding database for the specified VSAN:

```
switch(config)# no fabric-binding database vsan 10
switch(config)#
```

This example shows how to delete the sWWN and domain ID of a switch from the configured database list:

```
switch(config)# fabric-binding database vsan 5
switch(config-fabric-binding)# no swwn 21:00:15:30:23:1a:11:03 domain 101
switch(config-fabric-binding)#
```

Related Commands

| Command | Description |
|--------------------------------|---------------------------|
| fabric-binding activate | Activates fabric binding. |
| fabric-binding enable | Enables fabric binding. |

feature fabric-binding

To enable fabric binding in a VSAN, use the **feature-binding enable** command. To disable fabric binding, use the **no** form of this command.

feature fabric-binding

no feature fabric-binding

Syntax Description This command has no arguments or keywords.

Command Default Disabled

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines Fabric binding is configured on a per-VSAN basis. you must enable fabric binding in each switch in the fabric that participates in the fabric binding. This command requires the FCoE license.

Examples This example shows how to enable fabric binding on that switch:

```
switch(config)# feature fabric-binding
switch(config)#
```

This example shows how to disable fabric binding on that switch:

```
switch(config)# no feature fabric-binding
switch(config)#
```

| Related Commands | Command | Description |
|------------------|--------------------------------|---------------------------------------|
| | fabric-binding activate | Activates fabric binding. |
| | fabric-binding database | Configures a fabric-binding database. |

fcalias clone

To clone a Fibre Channel alias, use the **fcalias clone** command.

```
fcalias clone origFcalias-Name cloneFcalias-Name vsan vsan-id
```

| Syntax Description | | |
|--------------------------|--|---|
| <i>origFcalias-Name</i> | | Fibre Channel alias. The name can be a maximum of 64 alphanumeric characters. |
| <i>cloneFcalias-Name</i> | | |
| vsan | | Specifies the clone Fibre Channel alias for a VSAN. |
| <i>vsan-id</i> | | VSAN ID. The range is from 1 to 4093. |

Command Default None

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines To disable a Fibre Channel alias, use the **no** form of the **fcalias name** command. This command requires the FCoE license.

Examples This example shows how to clone a fcalias called origAlias to cloneAlias on VSAN 1:

```
switch(config)# fcalias clone origAlias cloneAlias vsan 1
Rename requested for a non existing alias
switch(config)#
```

| Related Commands | Command | Description |
|------------------|---------------------|--|
| | show fcalias | Displays the member name information in a Fibre Channel alias (fcalias). |

fcalias name

To configure a Fibre Channel alias, use the **fcalias name** command. To disable a Fibre Channel alias, use the **no** form of this command.

fcalias name *alias-name* **vsan** *vsan-id*

no fcalias name *alias-name* **vsan** *vsan-id*

| Syntax Description | | |
|--------------------|-------------------|--|
| | <i>alias-name</i> | Name of the fcalias. The name can a maximum of 64 alphanumeric characters. |
| | vsan | Specifies the fcalias for a VSAN. |
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default None

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines To include multiple members in any alias, use the FC ID, fWWN, or pWWN values. This command requires the FCoE license.

Examples This example shows how to configure an fcalias called AliasSample on VSAN 3:

```
switch(config)# fcalias name AliasSample vsan 3
switch(config-fcalias)#
```

| Related Commands | Command | Description |
|------------------|--|--|
| | member (fcalias configuration mode) | Configures alias members for a specified zone. |

fcalias rename

To rename a Fibre Channel alias (fcalias), use the **fcalias rename** command. To revert to the defaults, use the **no** form of this command.

fcalias rename *current-name new-name vsan vsan-id*

no fcalias rename *current-name new-name vsan vsan-id*

| Syntax Description | | |
|--------------------|---------------------|--|
| | <i>current-name</i> | Current fcalias name. The name can be a maximum of 64 alphanumeric characters. |
| | <i>new-name</i> | New fcalias name. The name can be a maximum of 64 alphanumeric characters. |
| | vsan | Specifies the fcalias for a VSAN. |
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default None

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to rename an fcalias:

```
switch(config)# fcalias rename oldalias newalias vsan 10
switch(config)#
```

| Related Commands | Command | Description |
|------------------|---------------------|-------------------------------|
| | fcalias name | Configures fcalias names. |
| | show fcalias | Displays fcalias information. |

fcdomain

To configure the Fibre Channel domain feature, use the **fcdomain** command. To disable the Fibre Channel domain, use the **no** form of this command.

```
fcdomain { allowed domain vsan vsan-id | auto-reconfigure vsan vsan-id | contiguous-allocation
vsan vsan-id | domain id { preferred | static } vsan vsan-id | fabric-name name vsan vsan-id |
fcid { database | persistent vsan vsan-id } | optimize fast-restart vsan vsan-id | priority value
vsan vsan-id | restart [disruptive] vsan vsan-id | vsan vsan-id }
```

```
no fcdomain { allowed domain vsan vsan-id | auto-reconfigure vsan vsan-id |
contiguous-allocation vsan vsan-id | domain id { preferred | static } vsan vsan-id |
fabric-name name vsan vsan-id | fcid { database | persistent vsan vsan-id } | optimize
fast-restart vsan vsan-id | priority value vsan vsan-id | restart [disruptive] vsan vsan-id |
vsan vsan-id }
```

Syntax Description

| | |
|------------------------------|--|
| allowed | Configures the allowed domain ID. |
| <i>domain</i> | Domain ID. The range is from 1 to 239. |
| vsan | Specifies the VSAN. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |
| auto-reconfigure | Configures autoreconfigure. |
| contiguous-allocation | Configures contiguous allocation. |
| domain | Configures the domain ID and its type. |
| <i>id</i> | Domain ID. The range is from 0 to 239. |
| preferred | Configures the domain ID as preferred. By default, the local switch accepts the domain ID assigned by the principal switch and the assigned domain ID becomes the runtime domain ID. |
| static | Configures the domain ID as static. The assigned domain ID is discarded, all local interfaces are isolated, and the local switch assigns itself the configured domain ID, which becomes the runtime domain ID. |
| fabric-name | Specifies the fabric name. |
| <i>name</i> | Fabric name value. The name format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> . |
| fcid | Configures Fibre Channel domain persistent FC IDs. |
| database | Enters persistent FC IDs mode. |
| persistent | Enables or disables Fibre Channel domain persistent FC IDs. |
| optimize fast-restart | Enables a domain manager fast restart on a specified VSAN. |
| priority | Specifies the Fibre Channel domain priority. |
| <i>value</i> | Priority value. The range is from 1 to 254. |
| restart | Starts a disruptive or nondisruptive reconfiguration. |
| disruptive | (Optional) Forces the disruptive fabric reconfiguration. |

Command Default

Enabled

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines You can use this command to select the principal switch, configure domain ID distribution, reconfigure the fabric, and allocate FC IDs.

We recommend using the **optimize fast-restart** option on most fabrics, especially those with a large number of logical ports (3200 or more), where a logical port is an instance of a physical port in a VSAN. This command requires the FCoE license.

Examples This example shows how to configure a preferred domain ID for VSAN 1:

```
switch(config)# fcdomain domain 3 preferred vsan 1
switch(config)#
```

This example shows how to specify the disruptive fabric reconfiguration for VSAN 1:

```
switch(config)# fcdomain restart disruptive vsan 1
switch(config)#
```

This example shows how to enable the domain manager fast restart for VSANs 7 through 10:

```
switch(config)# fcdomain optimize fast-restart vsan 7 - 10
```

This example shows how to configure the fabric world wide name (fWWN) for VSAN 1:

```
switch(config)# fcdomain fabric-name 20:1:ac:16:5e:0:21:01 vsan 1
switch(config)#
```

| Related Commands | Command | Description |
|------------------|----------------------|--|
| | show fcdomain | Displays global information about the Fibre Channel domain configurations. |

fcdomain abort vsan

To flush cached data without committing the cached data and releasing the lock, use the **fcdomain abort vsan** command. To disable the flushing of cached data, use the **no** form of this command.

fcdomain abort vsan *vsan-id*

no fcdomain abort vsan *vsan-id*

| | | |
|---------------------------|---|--|
| Syntax Description | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |
| Command Default | Enabled | |
| Command Modes | Global configuration mode | |
| Command History | Release | Modification |
| | 5.2(1) | This command was introduced. |
| Usage Guidelines | This command requires the FCoE license. | |
| Examples | This example shows how to flush cached data: <pre>switch(config)# fcdomain abort vsan 10 switch(config)#</pre> | |
| Related Commands | Command | Description |
| | fcdomain | Configures Fibre Channel domain features. |
| | fcdomain commit vsan | Commits cached data and releases the lock. |
| | show fcdomain | Displays global information about the Fibre Channel domain configurations. |

fcdomain commit vsan

To commit cached data and release the lock, use the **fcdomain commit vsan** command. To release the lock without committing the cached data, use the **no** form of this command.

fcdomain commit vsan *vsan-id*

no fcdomain commit vsan *vsan-id*

| Syntax Description | vsan | Specifies the VSAN. |
|-------------------------|---|--|
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |
| Command Default | Enabled | |
| Command Modes | Global configuration mode | |
| Command History | Release | Modification |
| | 5.2(1) | This command was introduced. |
| Usage Guidelines | This command requires the FCoE license. | |
| Examples | This example shows how to commit cached data: <pre>switch(config)# fcdomain commit vsan 10 switch(config)#</pre> | |
| Related Commands | Command | Description |
| | fcdomain | Configures Fibre Channel domain features. |
| | fcdomain abort vsan | Flushes cached data without committing and releases the lock. |
| | show fcdomain | Displays global information about the Fibre Channel domain configurations. |

fcdomain distribute

To enable fabric distribution using Cisco Fabric Services (CFS), use the **fcdomain distribute** command. To disable fabric distribution using CFS, use the **no** form of this command.

fcdomain distribute

no fcdomain distribute

Syntax Description This command has no arguments or keywords.

Command Default Disabled

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to enable fabric distribution using CFS:

```
switch(config)# fcdomain distribute
switch(config)#
```

This example shows how to disable fabric distribution using CFS:

```
switch(config)# no fcdomain distribute
switch(config)#
```

| Related Commands | Command | Description |
|------------------|---|--|
| | fcdomain | Configures Fibre Channel domain features. |
| | show fcdomain | Displays global information about the Fibre Channel domain configurations. |
| | show cfs lock | Displays state of application's logical or physical locks. |
| | show cfs application name fcdomain | |

fcdomain rcf-reject

To enable the reconfigure fabric (RCF) rejection flag for a Fibre Channel interface, use the **fcdomain rcf-reject** command. To disable this feature, use the **no** form of this command.

fcdomain rcf-reject vsan *vsan-id*

no fcdomain rcf-reject vsan *vsan-id*

| Syntax Description | vsan | Specifies the VSAN. |
|--------------------|----------------|---------------------------------------|
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

| Command Default | Enabled |
|-----------------|---------|
|-----------------|---------|

| Command Modes | Interface configuration mode |
|---------------|------------------------------|
|---------------|------------------------------|

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

| Usage Guidelines | Use this command to configure the RCF reject option for the selected Fibre Channel or virtual Fibre Channel interface. This command requires the FCoE license. |
|------------------|---|
|------------------|---|

| Examples | This example shows how to configure the Fibre Channel Over IP RCF reject fcdomain feature on a virtual Fibre Channel interface: <pre>switch(config)# interface vfc 3 switch(config-if)# fcdomain rcf-reject vsan 1 switch(config-if)#</pre> |
|----------|--|
|----------|--|

| Related Commands | Command | Description |
|------------------|--------------------------|--|
| | show fcdomain | Displays global information about the Fibre Channel domain configurations. |
| | show interface fc | Displays an interface configuration for a specified Fibre Channel interface. |

fcdroplateny

To configure the network and switch Fibre Channel drop latency time, use the **fcdroplateny** command. To disable the Fibre Channel latency time, use the **no** form of this command.

fcdroplateny {**network** *milliseconds* [**vsan** *vsan-id*] | **switch** *milliseconds*}

no fcdroplateny {**network** *milliseconds* [**vsan** *vsan-id*] | **switch** *milliseconds*}

Syntax Description

| | |
|---------------------|---|
| network | Specifies the network latency. |
| <i>milliseconds</i> | Network latency. The range is from 500 to 60000 milliseconds. |
| vsan | (Optional) Specifies the VSAN. |
| <i>vsan-id</i> | (Optional) VSAN ID. The range is from 1 to 4093. |
| switch | Specifies the switch latency. |
| <i>milliseconds</i> | Switch latency. The range is from 0 to 60000 milliseconds. |

Command Default

2000 millisecond network latency
500 millisecond switch latency

Command Modes

Global configuration mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to configure the network latency to 5000 milliseconds:

```
switch(config)# fcdroplateny network 5000
switch(config)#
```

This example shows how to revert to the default switch latency:

```
switch(config)# no fcdroplateny switch 4000
switch(config)#
```

Related Commands

| Command | Description |
|--------------------------|--|
| show fcdroplateny | Displays the configured Fibre Channel drop latency parameters. |

fcid-allocation

To manually add a Fibre Channel ID (FC ID) to the default area company ID list, use the **fcid-allocation** command. To remove an FC ID from the default area company ID list, use the **no** form of this command.

fcid-allocation area company-id *company-id*

no fcid-allocation area company-id *company-id*

| Syntax Description | area | Modifies the auto area list of company ID. |
|--------------------|-------------------|--|
| | company-id | Configures the company ID. |
| | <i>company-id</i> | Company ID. |

Command Default None

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines

Fibre Channel standards require a unique FC ID to be allocated to an N port attached to a Fx port in any switch. To conserve the number of FCIDs used, Cisco NX-OS switches use a special allocation scheme. Some Host Bust Adaptors (HBAs) do not discover targets that have FC IDs with the same domain and area. The switch software maintains a list of tested company IDs that do not exhibit this behavior. These HBAs were allocated with single FC ID for other HBAs, a full area was allocated.

To allow further scalability for switches with numerous ports, the switch software maintains a list of HBAs that exhibit this behavior. Each HBA is identified by its company ID (also known as an Organizational Unique Identifier, or OUI) used in the pWWN during a fabric login. A full area is allocated to the N ports with company IDs that are listed and for the others, a single FCID is allocated. Regardless of the type (whole area or single) of FCID allocated, the FCID entries remain persistent. This command requires the FCoE license.

Examples This example shows how to add a new company FCID to the default area company ID list:

```
switch(config)# fcid-allocation area company-id 0x003223
switch(config)#
```

Related Commands

| Command | Description |
|--------------------------------------|--|
| show fcid-allocation area | Displays the configured Fibre Channel drop latency parameters. |

fcinterop fcid-allocation

To allocate Fibre Channel IDs (FC IDs) on the switch, use the **fcinterop fcid-allocation** command. To disable FC IDs on the switch, use the **no** form of this command.

fcinterop fcid-allocation { **auto** | **flat** | **none** }

no fcinterop fcid-allocation { **auto** | **flat** | **none** }

| Syntax Description | auto | Assigns a single FC ID to compatible HBAs. |
|--------------------|-------------|--|
| | flat | Assign a single FC ID. |
| | none | Assigns an FC ID range. |

Command Default The default is automatic allocation of FC IDs.

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to set the FC ID allocation to flat:

```
switch(config)# fcinterop fcid-allocation flat
switch(config)#
```

| Related Commands | Command | Description |
|------------------|----------------------------|--|
| | show flogi database | Displays the fabric login (FLOGI) table. |

fcns no-auto-poll

To enable or disable automatic polling in the name server database, use the **fcns no-auto-poll** command.

fcns no-auto-poll [**vsan** *vsan-id*] | [**wwn** *wwn-id*]

no fcns no-auto-poll [**vsan** *vsan-id*] | [**wwn** *wwn-id*]

| Syntax Description | |
|--------------------|--|
| vsan | (Optional) Specifies a VSAN ID. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |
| wwn | (Optional) Specifies the port WWN. |
| <i>wwn-id</i> | Port WWN. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> . |

Command Default None

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to disable automatic polling for VSAN 2:

```
switch(config)# fcns no-auto-poll vsan 2
switch(config)#
```

| Related Commands | Command | Description |
|------------------|------------------|--|
| | show fcns | Displays the name server database and statistical information for a specified VSAN or for all VSANs. |

fcns proxy-port

To register a name server proxy, use the **fcns proxy-port** command.

```
fcns proxy-port wwn-id vsan vsan-id
```

```
no fcns proxy-port wwn-id vsan vsan-id
```

| Syntax Description | |
|--------------------|---|
| <i>wwn-id</i> | Port WWN. The format is <i>hh:hh:hh:hh:hh:hh:hh</i> . |
| vsan | Specifies the virtual SAN (VSAN) ID. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

| Command Default | None |
|-----------------|------|
|-----------------|------|

| Command Modes | Global configuration mode |
|---------------|---------------------------|
|---------------|---------------------------|

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

| Usage Guidelines | <p>You can configure name server to proxy another name server. You can display the name server information using the CLI, but you can view the name server by using either the CLI or the Cisco DCNM for SAN.</p> <p>All name server registration requests come from the same port whose parameter is registered or changed. If a port request comes from a different port, then the request is rejected.</p> <p>This command requires the FCoE license.</p> |
|------------------|--|
|------------------|--|

| Examples | <p>This example shows how to configure a proxy port for VSAN 2:</p> <pre>switch(config)# fcns proxy-port 21:00:00:e0:8b:00:26:d vsan 2 switch(config)#</pre> |
|----------|---|
|----------|---|

| Related Commands | Command | Description |
|------------------|------------------|--|
| | show fcns | Displays the name server database and statistical information for a specified VSAN or for all VSANs. |

fcns reject-duplicate-pwwn vsan

To reject duplicate the Fibre Channel name server (FCNS) proxies on a VSAN, use the **fcns reject-duplicate-pwwn vsan** command.

fcns reject-duplicate-pwwn vsan *vsan-id*

no fcns reject-duplicate-pwwn vsan *vsan-id*

| | | |
|---------------------------|--|--|
| Syntax Description | vsan | (Optional) Specifies the VSAN ID. |
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |
| Command Default | Disabled | |
| Command Modes | Global configuration mode | |
| Command History | Release | Modification |
| | 5.2(1) | This command was introduced. |
| Usage Guidelines | This command requires the FCoE license. | |
| Examples | This example shows how to reject duplicate FCNS PWWNs for VSAN 2: | |
| | <pre>switch(config)# fcns reject-duplicate-pwwn vsan 2 switch(config)#</pre> | |
| Related Commands | Command | Description |
| | show fcns | Displays the name server database and statistical information for a specified VSAN or for all VSANs. |

fcping

To ping an N port, use the **fcping** command.

```
fcping { device-alias aliasname | fcid { fc-port | domain-controller-id } | pwwn pwwn-id } vsan
vsan-id [count number [timeout value [usr-priority priority]]]
```

| Syntax Description | Parameter | Description |
|--------------------|-----------------------------|---|
| | device-alias | Specifies the device alias name. |
| | <i>aliasname</i> | Device alias name. The name can be a maximum of 64 characters. |
| | fcid | Specifies the FC ID of the destination N port. |
| | <i>fc-port</i> | FC ID port. The format is <i>0xhhhhhh</i> . |
| | <i>domain-controller-id</i> | Controller ID to connect to the destination switch. |
| | pwwn | Specifies the port WWN of the destination N port. |
| | <i>pwwn-id</i> | PWWN ID. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> . |
| | vsan | Specifies the virtual SAN (VSAN) ID of the destination N port. |
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |
| | count | (Optional) Specifies the number of frames to send. A value of 0 sends forever. |
| | <i>number</i> | Frame count. The range is from 0 to 2147483647. |
| | timeout | (Optional) Specifies the timeout value in seconds. |
| | <i>value</i> | The range is from 1 to 10, and the default period to wait is 5 seconds. |
| | usr-priority | (Optional) Specifies the priority that the frame receives in the switch fabric. |
| | <i>priority</i> | Priority. The range is from 0 to 1. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines To obtain the domain controller ID, concatenate the domain ID with FFC. For example, if the domain ID is *0xda(218)*, the concatenated ID is *0xffcda*.

This command requires the FCoE license.



Note fctrace is not supported.

Examples

This example shows how to configure an fcping operation for the FC ID of the destination. By default, five frames are sent.

```
switch# fcping fcid 0x980000 vsan 200
28 bytes from 0x980000 time = 1102 usec
28 bytes from 0x980000 time = 388 usec
28 bytes from 0x980000 time = 370 usec
28 bytes from 0x980000 time = 843 usec
28 bytes from 0x980000 time = 392 usec
```

```
5 frames sent, 5 frames received, 0 timeouts
Round-trip min/avg/max = 370/619/1102 usec
switch#
```

This example shows how to configure the number of frames to be sent using the count option. The range is from 0 through 2147483647. A value of 0 will ping forever.

```
switch# fcping fcid 0xd70000 vsan 1 count 10
```

This example shows how to configure the timeout value:

```
switch# fcping fcid 0xd500b4 vsan 1 timeout 10
```

This example shows how to display the fcping operation using the device alias of the specified destination:

```
switch# fcping device-alias x vsan 1
```

Related Commands

| Command | Description |
|------------------|--|
| show fens | Displays the name server database and statistical information for a specified VSAN or for all VSANs. |

fcroute

To configure Fibre Channel routes and to activate policy routing, use the **fcroute** command. To remove a configuration or revert to factory defaults, use the **no** form of this command.

```
fcroute {fcid [network-mask] interface {fc slot/port | port-channel port | vfc vfc-id} domain
domain-id {metric number | remote | vsan vsan-id}}
```

```
no fcroute {fcid network-mask interface {fc slot/port | port-channel port | vfc vfc-id} domain
domain-id {metric number | remote | vsan vsan-id}}
```

| Syntax Description | |
|---------------------|---|
| <i>fcid</i> | FC ID. The format is 0xhhhhhh. |
| <i>network-mask</i> | (Optional) Network mask of the FC ID. The format is 0x0 to 0xfffff. |
| interface | Specifies an interface. |
| fc | Specifies the Fibre Channel interface. |
| <i>slot/port</i> | Slot number and port number. The range for the slot number is from 1 to 12 and the range for the port number is from 1 to 48. |
| port-channel | Specifies the SAN port channel interface. |
| <i>port</i> | Port channel number. The range is from 1 to 256. |
| vfc | Specifies the virtual Fibre Channel interface. |
| <i>vfc-id</i> | Virtual Fibre Channel ID. |
| domain | Specifies the route for the domain of the next hop switch. |
| <i>domain-id</i> | Domain ID. The range is from 1 to 239. |
| metric | Specifies the cost of the route. |
| <i>number</i> | The range is from 1 to 65535. |
| remote | Configures the static route for a destination switch that is remotely connected. |
| vsan | Specifies the VSAN ID. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default The default cost is 10.

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines Use this command to assign forwarding information to the switch and to activate a preferred path route map.

This command requires the FCoE license.

Examples

This example shows how to specify the Fibre Channel interface and the route for the domain of the next hop switch for VSAN 2:

```
switch(config)# fcroute 0x111211 interface fc9/1 domain 3 vsan 2
switch(config)#
```

This example shows how to specify the SAN port channel interface and the route for the domain of the next hop switch for VSAN 4:

```
switch(config)# fcroute 0x111211 interface port-channel 1 domain 3 vsan 4
switch(config)#
```

This example shows how to specify the Fibre Channel interface, the route for the domain of the next hop switch, and the cost of the route for VSAN 1:

```
switch(config)# fcroute 0x031211 interface fc9/1 domain 3 metric 1 vsan 1
switch(config)#
```

This example shows how to specify the Fibre Channel interface, the route for the domain of the next hop switch, the cost of the route, and the static route for a destination switch that is remotely connected for VSAN 3:

```
switch(config)# fcroute 0x111112 interface fc9/1 domain 3 metric 3 remote vsan 3
switch(config)#
```

Related Commands

| Command | Description |
|-------------------------|---|
| show fcroute | Displays Fibre Channel routes. |
| fcroute-map | Specifies a preferred path Fibre Channel route map. |
| show fcroute-map | Displays the preferred path route map configuration and status. |
| fcroute policy | Activates the preferred path Fibre Channel route map. |
| fcroute-map | |

fcs plat-check-global

To enable Fabric Configuration Server (FCS) platform and node-name checking fabric wide, use the **fcs plat-check-global** command. To disable this feature, use the **no** form of this command.

fcs plat-check-global vsan *vsan-id*

no fcs plat-check-global vsan *vsan-id*

| | | |
|---------------------------|--|---|
| Syntax Description | vsan | Specifies the VSAN ID for platform checking. |
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4096. |
| Command Default | None | |
| Command Modes | Global configuration mode | |
| Command History | Release | Modification |
| | 5.2(1) | This command was introduced. |
| Usage Guidelines | This command requires the FCoE license. | |
| Examples | This example shows how to enable FCS platform and node-name checking fabric wide: <pre>switch(config)# fcs plat-check-global vsan 2 switch(config)#</pre> | |
| Related Commands | Command | Description |
| | show fcs | Displays fabric configuration server information. |

fcs register

To register Fabric Configuration Server (FCS) attributes, use the **fcs register** command. To disable this feature, use the **no** form of this command.

fcs register

no fcs register

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to register FCS attributes:

```
switch(config)# fcs register
switch(config-fcs-register)#
```

| Related Commands | Command | Description |
|------------------|----------|---|
| | show fcs | Displays fabric configuration server information. |

fcs virtual-device-add

To include a virtual device in a query about zone information from a Fabric Configuration Server (FCS), use the **fcs virtual-device-add** command. To remove a virtual device, use the **no** form of this command.

```
fcs virtual-device-add [vsan-ranges vsan-ids]
```

```
no fcs virtual-device-add [vsan-ranges vsan-ids]
```

| Syntax Description | vsan-ranges | (Optional) Specifies one or multiple ranges of VSANs. |
|--------------------|-----------------|---|
| | <i>vsan-ids</i> | VSAN IDs. The range is from 1 to 4093. |

| Command Default | Disabled |
|-----------------|----------|
|-----------------|----------|

| Command Modes | Global configuration mode |
|---------------|---------------------------|
|---------------|---------------------------|

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

| Usage Guidelines | Enter VSAN ranges as <i>vsan-ids-vsan-ids</i> . When you specify more than one range, separate each range with a comma. If no range is specified, the command applies to all VSANs. |
|------------------|---|
|------------------|---|

This command requires the FCoE license.

| Examples | This example shows how to add to one range of VSANs: |
|----------|--|
|----------|--|

```
switch(config)# fcs virtual-device-add vsan-ranges 2-4
switch(config)#
```

This example shows how to add to more than one range of VSANs:

```
switch(config)# fcs virtual-device-add vsan-ranges 2-4,5-8
switch(config)#
```

| Related Commands | Command | Description |
|------------------|-----------------|---|
| | show fcs | Displays fabric configuration server information. |

fcsp

To configure a Fibre Channel Security Protocol (FC-SP) authentication mode for a specific interface in a FC-SP-enabled switch, use the **fcsp** command. To disable an FC-SP on the interface, use the **no** form of this command.

fcsp {**auto-active** | **auto-passive** | **on** | **off**} [*timeout-period*]

no fcsp{**auto-active** | **auto-passive** | **on** | **off**} [*timeout-period*]

Syntax Description

| | |
|-----------------------|---|
| auto-active | Configures the auto-active mode to authenticate the specified interface. |
| auto-passive | Configures the auto-passive mode to authenticate the specified interface. |
| on | Configures the on mode to authenticate the specified interface. |
| off | Configures the off mode to authenticate the specified interface. |
| <i>timeout-period</i> | (Optional) Timeout period to reauthenticate the interface. The range is from 0 (default—no authentication is performed) to 100,000 minutes. |

Command Default

Auto-passive mode

Command Modes

Interface configuration mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

You must enable FC-SP by using the **feature fcsp** command before you can use the **fcsp** command. This command requires the FCoE license.

Examples

This example shows how to turn on the authentication mode for Fibre Channel interface in port 1 of slot 2:

```
switch(config)# interface fc 2/1
switch(config-if)# fcsp on
switch(config-if)#
```

This example shows how to revert to the factory default of auto-passive for the selected interface:

```
switch(config-if)# no fcsp
```

This example shows how to change the selected interface to initiate FC-SP authentication but do not permit reauthentication:

```
switch(config-if)# fcsp auto-active 0
switch(config-if)#
```

| Related Commands | Command | Description |
|------------------|----------------|--|
| | feature fcsp | Enables FC-SP. |
| | show interface | Displays an interface configuration for a specified interface. |

fcsp dhchap

To configure Dixie-Hellman Challenge Handshake Protocol (DHCHAP) options in a switch, use the **fcsp dhchap** command. To revert to the factory defaults, use the **no** form of this command.

```
fcsp dhchap { devicename switch-wwn password [0 | 7] password |
dhgroup [0] [1][2][3][4] | hash [md5 | sha1] | password [0 | 7] password [wwn wwn-id] }
```

```
no fcsp dhchap { devicename switch-wwn password [0 | 7] password |
dhgroup [0 | 1 | 2 | 3 | 4] | hash [md5] [sha1] | password [0 | 7] password [wwn-id] }
```

| Syntax Description | Parameter | Description |
|--------------------|---|--|
| | devicename | Configures a password of another device in the fabric. |
| | <i>switch-wwn</i> | WWN of the device being configured. |
| | password | Configures a DHCHAP password for the local switch. |
| | 0 | (Optional) Specifies a clear text password. |
| | 7 | (Optional) Specifies a password in encrypted text. |
| | dhgroup | Configures a DHCHAP Diffie-Hellman group priority list. |
| | 0 | (Optional) Specifies Null DH—no exchange is performed (default). |
| | 1 2 3 4 | (Optional) Specifies one or more of the groups specified by the standards. |
| | hash | Configures a DHCHAP hash algorithm priority list in order of preference. |
| | md5 | (Optional) Specifies the MD5 hash algorithm. |
| | sha1 | (Optional) Specifies the SHA-1 hash algorithm. |
| | wwn | (Optional) Specifies the WWN ID. |
| | <i>wwn-id</i> | (Optional) WWN ID. The format is hh:hh:hh:hh:hh:hh:hh:hh. |

Command Default Disabled

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines

You can see only the **fcsp dhchap** command if you enable FS-CP by using the **feature fcsp** command.

Using SHA-1 as the hash algorithm might prevent RADIUS or TACACS+ usage.

If you change the DH group configuration, make sure that you change it globally for all switches in the fabric.

This command requires the FCoE license.

Examples

This example shows how to enable FC-SP:

```
switch(config)# # feature fcsp
```

This example shows how to configure the use of only the SHA-1 hash algorithm:

```
switch(config)# fcsp dhchap hash sha1
switch(config)#
```

This example shows how to configure the use of only the MD-5 hash algorithm:

```
switch(config)# fcsp dhchap hash md5
switch(config)#
```

This example shows how to define the use of the default hash algorithm priority list of MD-5 followed by SHA-1 for DHCHAP authentication:

```
switch(config)# fcsp dhchap hash md5 sha1
switch(config)#
```

This example shows how to revert to the factory default priority list of the MD-5 hash algorithm followed by the SHA-1 hash algorithm:

```
switch(config)# no fcsp dhchap hash sha1
switch(config)#
```

This example shows how to prioritize the use of DH group 2, 3, and 4 in the configured order:

```
switch(config)# fcsp dhchap dhgroup 2 3 4
switch(config)#
```

This example shows how to configure a clear text password for the local switch:

```
switch(config)# fcsp dhchap password 0 mypassword
```

This example shows how to configure a clear text password for the local switch to be used for the device with the specified WWN:

```
switch(config)# fcsp dhchap password 0 mypassword 30:11:bb:cc:dd:33:11:22
switch(config)#
```

This example shows how to configure a password entered in an encrypted format for the local switch:

```
switch(config)# fcsp dhchap password 7 sfsfdf
switch(config)#
```

Related Commands

| Command | Description |
|---------------------|--|
| feature fcsp | Enables FC-SP. |
| show fcsp | Displays configured FC-SP information. |

fcsp reauthenticate

To reauthenticate a Fibre Channel or virtual Fibre Channel interface, use the **fcsp reauthenticate** command. To revert to the factory defaults, use the **no** form of this command.

fcsp reauthenticate interface {*fc slot/port* | *vfc vfc-id*}

no fcsp reauthenticate interface {*fc slot/port* | *vfc vfc-id*}

| Syntax Description | | |
|---------------------|--|--|
| interface | | Specifies the interface on which to perform the reauthentication. |
| interface fc | | Specifies the Fibre Channel interface by the slot number and port number. |
| <i>slot/port</i> | | Slot number and port number. The range for slot numbers is from 1 to 18 and the range for the port numbers is from 1 to 256. |
| vfc | | Specifies the virtual Fibre Channel interface. |
| <i>vfc-id</i> | | Virtual interface ID. The range is from 1 to 8192. |

Command Default 30 seconds

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to configure the Fibre Channel Security Protocol (FC-SP) reauthentication on a virtual Fibre Channel interface:

```
switch# fcsp reauthenticate interface vfc 1
FC-SP does not know about this port (probably it is not up)
switch#
```

| Related Commands | Command | Description |
|------------------|---------------------|--|
| | feature fcsp | Enables FC-SP. |
| | show fcsp | Displays configured FC-SP information. |

fcsp timeout

To configure the timeout value for a Fibre Channel Security Protocol (FC-SP) message, use the **fcsp timeout** command. To revert to the factory defaults, use the **no** form of this command.

fcsp timeout *timeout-period*

no fcsp timeout *timeout-period*

| | | |
|---------------------------|--|---|
| Syntax Description | <i>timeout-period</i> | Timeout period. The range is from 20 to 1000 seconds. |
| Command Default | 30 seconds | |
| Command Modes | Global configuration mode | |
| Command History | Release | Modification |
| | 5.2(1) | This command was introduced. |
| Usage Guidelines | You can see only the fcsp timeout command if you enable FC-SP by using the feature fcsp command. This command requires the FCoE license. | |
| Examples | This example shows how to configure the FCSP timeout value: <pre>switch(config)# feature fcsp switch(config)# fcsp timeout 60</pre> | |
| Related Commands | Command | Description |
| | feature fcsp | Enables FC-SP. |
| | show fcsp | Displays configured FC-SP information. |

fctimer

To change the default Fibre Channel timers, use the **fctimer** command. To revert to the default values, use the **no** form of this command.

```
fctimer {d_s_tov milliseconds | e_d_tov milliseconds | r_a_tov milliseconds} [vsan vsan-id]
```

```
no fctimer {d_s_tov milliseconds | e_d_tov milliseconds | r_a_tov milliseconds} [vsan vsan-id]
```

Syntax Description

| | |
|---------------------|--|
| d_s_tov | Specifies the distributed services timeout value (DS_TOV). |
| <i>milliseconds</i> | DS_TOV. The range is from 5000 to 100000 milliseconds. |
| e_d_tov | Specifies the error detect timeout value (ED_TOV). |
| <i>milliseconds</i> | ED_TOV. The range is from 1000 to 4000 milliseconds with a default of 2000. |
| r_a_tov | Specifies the resolution allocation timeout value (RA_TOV). |
| <i>milliseconds</i> | RA_TOV. The range is from 5000 to 100000 milliseconds with a default of 10000. |
| vsan | (Optional) Specifies the VSAN ID. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4096. |

Command Default

The Fibre Channel timers have the following default values:

- 5 seconds for DS_TOV.
- 2 seconds for ED_TOV.
- 10 seconds for RA_TOV.

Command Modes

Global configuration mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

The Cisco, Brocade, and McData FC Error Detect (ED_TOV) and Resource Allocation (RA_TOV) timers default to the same values. They can be changed if needed. In accordance with the FC-SW2 standard, these values must be the same on each switch in the fabric.

Use the **vsan** keyword to configure different TOV values for specific VSANs. The VSAN must be suspended before you can alter the timers.

This command requires the FCoE license.

Examples

This example shows how to change the default Fibre Channel timers:

```
switch(config)# fctimer e_d_tov 5000
```

```

This configuration would impact whole fabric.
Do you want to continue? (y/n) [n] y
suspend all vsans first
could not update the value
switch(config)#

```

```

switch(config)# fctimer r_a_tov 7000
This configuration would impact whole fabric.
Do you want to continue? (y/n) [n] y
suspend all vsans first
could not update the value
switch(config)#

```

Related Commands

| Command | Description |
|--------------|---|
| show fctimer | Displays the configured Fibre Channel timer values. |

fctimer abort

To discard a Fibre Channel timer (fctimer) Cisco Fabric Services (CFS) distribution session that is in progress, use the **fctimer abort** command.

fctimer abort

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to discard a CFS distribution session in progress:

```
switch(config)# fctimer abort
switch(config)#
```

| Related Commands | Command | Description |
|------------------|-----------------------------------|--|
| | fctimer distribute | Enables CFS distribution for the Fibre Channel timer. |
| | show fctimer | Displays Fibre Channel timer information. |
| | show cfs lock name fctimer | Displays the state of the CFS state for Fibre Channel timer. |

fctimer commit

To commit pending configuration changes for the Fibre Channel timer (fctimer) Cisco Fabric Services (CFS) distribution session that is in progress, use the **fctimer commit** command.

fctimer commit

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to commit pending changes to the Fibre Channel timer configuration:

```
switch(config)# fctimer commit
switch(config)#
```

| Related Commands | Command | Description |
|------------------|---------------------------|---|
| | fctimer distribute | Enables CFS distribution for the Fibre Channel timer. |
| | show fctimer | Displays Fibre Channel timer information. |

fctimer distribute

To enable Cisco Fabric Services (CFS) distribution for the Fibre Channel timer (fctimer), use the **fctimer distribute** command. To disable this feature, use the **no** form of this command.

fctimer distribute

no fctimer distribute

Syntax Description This command has no arguments or keywords.

Command Default Disabled

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines Before distributing the Fibre Channel timer changes to the fabric, you must commit the temporary changes to the active configuration by using the **fctimer commit** command.

This command requires the FCoE license.

Examples This example shows how to enable CFS distribution for the fctimer:

```
switch(config)# fctimer distribute
switch(config)#
```

| Related Commands | Command | Description |
|------------------|-----------------------|--|
| | fctimer commit | Commits the Fibre Channel timer configuration changes to the active configuration. |
| | show fctimer | Displays Fibre Channel timer information. |

fctrace

To trace the route to an N port, use the **fctrace** command.

```
fctrace { device-alias aliasname | fcid fcid | pwwn pwwn-id } vsan vsan-id [timeout seconds]
```

| Syntax Description | Parameter | Description |
|--------------------|---------------------|---|
| | device-alias | Specifies the device alias name. |
| | <i>aliasname</i> | Device alias name. The name can be a maximum of 64 alphanumeric characters. |
| | fcid | Specifies the FC ID of the destination N port. |
| | <i>fcid</i> | FCID. The format is 0xhhhhhh.. |
| | pwwn | Specifies the PWWN of the destination N port. |
| | <i>pwwn-id</i> | PWWN ID. The format is hh:hh:hh:hh:hh:hh:hh:hh. |
| | vsan | Specifies the VSAN ID. |
| | <i>vsan-id</i> | VSAN ID of the destination port. The range is from 1 to 4093. |
| | timeout | (Optional) Specifies the timeout value. |
| | <i>seconds</i> | (Optional) Timeout in seconds. The range is from 1 to 10. |

Command Default By default, the period to wait before timing out is 5 seconds.

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to trace a route to the specified FC ID in VSAN 1:

```
switch# fctrace fcid 0x660000 vsan 1
switch#
```

This example shows how to trace a route to the specified device alias in VSAN 1:

```
switch# fctrace device-alias x vsan 1
switch#
```

fdmi suppress-updates

To suppress Fabric-Device Management Interface (FDMI) updates, use the **fdmi suppress-updates** command.

```
fdmi suppress-updates vsan vsan-id
```

| Syntax Description | vsan | Specifies the VSAN ID. |
|--------------------|----------------|---------------------------------------|
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default By default, FDMI updates are not suppressed.

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to suppress the FDMI updates in VSAN 1:

```
switch# fdmi suppress-updates vsan 1
switch#
```


install feature-set fcoe

To install the Fibre Channel over Ethernet (FCoE) feature set in the default virtual device context (VDC), use the **install feature-set fcoe** command.

install feature-set fcoe

no install feature-set fcoe

Syntax Description This command has no arguments or keywords.

Defaults None

Command Modes EXEC mode

SupportedUserRoles network-admin
vdc-admin

| Command History | Release | Modification |
|-----------------|---------|---|
| | 5.2(1) | This command was introduced on the Cisco Nexus 7000 and 9000 Series Switches. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to install the FCoE feature set in the default VDC:

```
switch# config t
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# install feature-set fcoe
switch(config)#
```

| Related Commands | Command | Description |
|------------------|-------------------------------|--|
| | feature-set fcoe | Enables the FCoE feature and all related features. |
| | allow feature-set fcoe | Allows you to enable FCoE in this VDC. |

feature fcsp

To enable the Fibre Channel Security Protocol (FC-SP) in a switch, use the **feature fcsp** command. To disable FC-SP, use the **no** form of this command.

feature fcsp

no feature fcsp

Syntax Description This command has no arguments or keywords.

Command Default Disabled

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines Additional FC-SP commands are available when you enable the FC-SP feature. This command requires the FCoE license.

Examples This example shows how to enable FC-SP:

```
switch(config)# feature fcsp
ENTERPRISE_PKG license not installed. FCSP feature will be shut down after grace
period of approximately 99 day(s).
switch(config)#
```

| Related Commands | Command | Description |
|------------------|------------------|--|
| | show fcsp | Displays configured FC-SP information. |

feature npiv

To enable N port identifier virtualization (NPIV) for all VSANs on a switch, use the **feature npiv** command. To disable NPIV, use the **no** form of this command.

feature npiv

no feature npiv

Syntax Description This command has no arguments or keywords.

Command Default Disabled

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines NPIV allows you to assign multiple port IDs to a single N port. This feature allows multiple applications on the N port to use different identifiers and allows access control, zoning, and port security to be implemented at the application level.

You must globally enable NPIV for all VSANs on the switch to allow the NPIV-enabled applications to use multiple N port identifiers.

This command requires the FCoE license.

Examples This example shows how to enable NPIV for all VSANs on the switch:

```
switch(config)# feature npiv
switch(config)#
```

This example shows how to disable NPIV for all VSANs on the switch:

```
switch(config)# no feature npiv
switch(config)#
```

| Related Commands | Command | Description |
|------------------|-----------------------|------------------------------------|
| | show interface | Displays interface configurations. |

feature port-track

To enable port tracking for indirect errors, use the **feature port-track** command. To disable this feature, use the **no** form of this command.

feature port-track

no feature port-track

Syntax Description This command has no arguments or keywords.

Command Default Disabled

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines The Cisco NX-OS software brings the linked port down when the tracked port goes down. When the tracked port recovers from the failure and comes back up again, the tracked port is also brought up automatically (unless otherwise configured).

This command requires the FCoE license.

Examples This example shows how to enable port tracking:

```
switch(config)# feature port-track
switch(config)#
```

This example shows how to disable port tracking:

```
switch(config)# no feature port-track
switch(config)#
```

| Related Commands | Command | Description |
|------------------|--|---|
| | show interface fc | Displays configuration and status information for a specified Fibre Channel interface. |
| | show interface san-port-channel | Displays configuration and status information for a specified SAN port channel interface. |

fspf config

To configure a Fabric Shortest Path First (FSPF) feature for an entire VSAN, use the **fspf config** command. To delete an FSPF configuration for the entire VSAN, use the **no** form of this command.

```
fspf config vsan vsan-id { min-ls-arrival ls-arrival-time | min-ls-interval ls-interval-time | region
region-id | spf { hold-time spf-holdtime | static }
```

```
no fspf config vsan vsan-id { no min-ls-arrival ls-arrival-time | no min-ls-interval ls-interval-time
| no region region-id | no spf { hold-time spf-holdtime | static }
```

Syntax Description

| | |
|--------------------------------|---|
| vsan | Specifies a VSAN ID. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |
| min-ls-arrival | Specifies the minimum time before a new link state update for a domain is accepted by the switch. |
| <i>ls-arrival-time</i> | Integer that specifies the time in milliseconds. The range is from 0 to 65535. |
| min-ls-interval | Specifies the minimum time before a new link state update for a domain is generated by the switch. |
| <i>ls-interval-time</i> | Integer that specifies the time in milliseconds. The range is from 0 to 65535. |
| region <i>region-id</i> | Specifies the autonomous region to which the switch belongs. The backbone region has <i>region-id</i> =0. |
| <i>region-id</i> | Unsigned integer value. The range is from 0 to 255. |
| spf | Specifies parameters related to the Shortest Path First (SPF) route computation. |
| hold-time | Specifies the time between two consecutive SPF computations. If the time is small, then routing reacts faster to changes but CPU usage is increased. be more. |
| <i>spf-holdtime</i> | Integer that specifies time in milliseconds. The range is from 0 to 65535. |
| static | Forces a static SPF computation. |

Command Default

This command is not applicable to virtual Fibre Channel interfaces.

In FSPF configuration mode, the default is dynamic SPF computation.

If configuring the *spf hold-time*, the default value for FSPF is 0.

If configuring the *min-ls-arrival*, the default value for FSPF is 1000 milliseconds.

If configuring the *min-ls-interval*, the default value for FSPF is 5000 milliseconds.

Command Modes

Global configuration mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

Use the **fspf config** command to enter FSPF configuration mode for the specified VSAN. In FSPF configuration mode, the **fspf config** commands configure FSPF for this VSAN.

This command requires the FCoE license.

Examples

This example shows how to configure a static SPF computation in VSAN 1 and delete the FSPF configuration in VSAN 3:

```
switch(config)# fspf config vsan 1
switch(fspf-config)# spf static
switch(fspf-config)# exit
switch(config)# no fspf config vsan 3
switch(config)#
```

Related Commands

| Command | Description |
|----------------------------|---|
| show fspf interface | Displays information for each selected interface. |
| fspf enable | Enables FSPF routing protocol in the specified VSAN. |
| fspf cost | Configures the cost for the selected interface in the specified VSAN. |
| fspf hello-interval | Specifies the hello message interval to verify the health of a link in the VSAN. |
| fspf passive | Disables the FSPF protocol for the specified interface in the specified VSAN. |
| fspf retransmit | Specifies the retransmit time interval for unacknowledged link state updates in the specified VSAN. |

fspf cost

To configure the Fabric Shortest Path First (FSPF) link cost for a Fibre Channel over IP (FCIP) interface or virtual Fibre Channel interface, use the **fspf cost** command. To revert to the default value, use the **no** form of this command.

```
fspf cost link-cost vsan vsan-id
```

```
no fspf cost link-cost vsan vsan-id
```

Syntax Description

| | |
|------------------|--|
| <i>link-cost</i> | FSPF link cost, in seconds. For an FCIP interface, the range is from 1 to 65535. For a virtual FC interface, the range is from 1 to 30000. |
| vsan | Specifies the VSAN ID. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default

1000 seconds for 1 Gbps interfaces
500 seconds for 2 Gbps interfaces

Command Modes

Interface configuration mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

FSPF tracks the state of links on all switches in the fabric, associates a cost with each link in its database, and chooses the path with a minimal cost. You can change the cost associated with an interface can be changed by using the **fspf cost** command to implement the FSPF route selection.

For virtual Fibre Channel interfaces, this command configures the FSPF parameters for the virtual E (VE) port.

This command requires the FCoE license.

Examples

This example shows how to configure the FSPF link cost on an FCIP interface:

```
switch(config)# interface fc 2/1
switch(config-if)# fspf cost 5000 vsan 1
switch(config-if)#
```

This example shows how to configure the FSPF link cost on a virtual Fibre Channel interface:

```
switch(config)# interface vfc 5
switch(config-if)# fspf cost 2100 vsan 1
switch(config-if)#
```

| Related Commands | Command | Description |
|------------------|----------------------------|--|
| | show fspf interface | Displays information for each selected interface. |
| | show interface fc | Displays an interface configuration for a specified Fibre Channel interface. |
| | switchport mode E | Configures a virtual Fibre Channel interface as a VE port. |

fspf dead-interval

To set the maximum interval for which a hello message must be received before the neighbor is considered lost, use the **fspf dead-interval** command. To revert to the default value, use the **no** form of this command.

fspf dead-interval *seconds vsan vsan-id*

no fspf dead-interval *seconds vsan vsan-id*

| Syntax Description | seconds | FSPF dead interval in seconds. The range is from 2 to 65535. |
|--------------------|---------|--|
| | vsan | Specifies the VSAN ID. |
| | vsan-id | VSAN ID. The range is from 1 to 4093. |

Command Default 80 seconds

Command Modes Interface configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This value must be the same in the ports at both ends of the Inter-Switch-Link (ISL).



Caution

An error is reported at the command prompt if the configured dead time interval is less than the hello time interval.

For virtual Fibre Channel interfaces, this command configures the FSPF parameters for the virtual E (VE) port.

Examples This example shows how to configure the maximum interval of 4000 seconds for a hello message before the neighbor is considered lost:

```
switch(config)# interface fc 2/1
switch(config-if)# fspf dead-interval 4000 vsan 1
switch(config-if)#
```

This example shows how to configure the maximum interval of 300 seconds for a hello message in a virtual Fibre Channel interface before the neighbor is considered lost:

```
switch(config)# interface vfc 5
switch(config-if)# fspf dead-interval 300 vsan 1
switch(config-if)#
```

Related Commands

| Command | Description |
|----------------------------|--|
| show fspf interface | Displays information for each selected interface. |
| show interface fc | Displays an interface configuration for a specified Fibre Channel interface. |
| switchport mode E | Configures a virtual Fibre Channel interface as a VE port. |

fspf enable

To enable Fabric Shortest Path First (FSPF) for a VSAN, use the **fspf enable** command. To disable FSPF routing protocols, use the **no** form of this command.

fspf enable vsan *vsan-id*

no fspf enable vsan *vsan-id*

Syntax Description

| | |
|----------------|---------------------------------------|
| vsan | Specifies the VSAN ID. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default

Enabled

Command Modes

Global configuration mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

This command is not applicable to virtual Fibre Channel interfaces.

This command configures FSPF on VSANs globally.

This command requires the FCoE license.

Examples

This example shows how to enable a FSPF in VSAN 5 and disable FSPF in VSAN 7:

```
switch(config)# fspf enable vsan 5
switch(config)# no fspf enable vsan 7
switch(config)#
```

Related Commands

| Command | Description |
|----------------------------|---|
| fspf config vsan | Configures FSPF features for a VSAN. |
| show fspf interface | Displays information for each selected interface. |

fspf hello-interval

To verify the health of the link, use the **fspf hello-interval** command. To revert to the default settings, use the **no** form of this command.

fspf hello-interval *seconds vsan vsan-id*

no fspf hello-interval *seconds vsan vsan-id*

| Syntax Description | hello-interval | Specifies the FSPF hello interval in seconds. |
|--------------------|----------------|--|
| | <i>seconds</i> | FSPF interval in seconds. The range is from 2 to 65535 for Fibre Channel over IP (FCIP) interfaces and from 1 to 65534 for virtual Fibre Channel interfaces. |
| | vsan | Specifies the VSAN ID. |
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default 20 seconds

Command Modes Interface configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command configures Fabric Shortest Path First (FSPF) for the specified Fibre Channel interface. This value must be the same in the ports at both ends of the Inter-Switch-Link (ISL) for Fibre Channel over IP (FCIP) interfaces.

For virtual Fibre Channel interfaces, this command configures the FSPF parameters for the virtual E (VE) port.

This command requires the FCoE license.

Examples This example shows how to configure a hello interval of 3 seconds on VSAN 1:

```
switch(config)# interface fc 2/1
switch(config-if)# fspf hello-interval 3 vsan 1
switch(config-if)#
```

This example shows how to configure a hello interval of 30 seconds for a virtual Fibre Channel interface on VSAN 1:

```
switch(config)# interface vfc 5
switch(config-if)# fspf hello-interval 30 vsan 1
switch(config-if)#
```

| Related Commands | Command | Description |
|------------------|---------------------|--|
| | show fspf interface | Displays information for each selected interface. |
| | switchport mode E | Configures a virtual Fibre Channel interface as a VE port. |

fspf passive

To disable the Fabric Shortest Path First (FSPF) protocol for selected interfaces, use the **fspf passive** command. To revert to the default state, use the **no** form of this command.

fspf passive vsan *vsan-id*

no fspf passive vsan *vsan-id*

| Syntax Description | Parameter | Description |
|--------------------|----------------|---------------------------------------|
| | vsan | Specifies the VSAN ID. |
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default FSPF is enabled

Command Modes Interface configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines By default, FSPF is enabled on all E ports and TE ports of an Fibre Channel over IP (FCIP) interface. You can use the **fspf passive** command to disable FSPF on the ports at both ends of the Inter-Switch-Link (ISL) for the protocol to operate correctly.

For virtual Fibre Channel interfaces, this command configures the FSPF parameters for the virtual E (VE) port.

This command requires the FCoE license.

Examples This example shows how to disable the FSPF protocol for a virtual Fibre Channel interface on VSAN 1 and verify the interface configuration:

```
switch(config)# interface vfc 5
switch(config-if)# fspf passive vsan 1
switch(config-if)# show fspf interface
FSPF interface vfc5 in VSAN 1
FSPF routing administrative state is passive
Timer intervals configured, Hello 30 s, Dead 300 s, Retransmit 5 s
FSPF State is DOWN
switch(config-if)#
```

| Related Commands | Command | Description |
|------------------|----------------------------|---|
| | show fspf interface | Displays information for each selected interface. |

| Command | Description |
|--------------------------|---|
| show interface fc | Displays an interface configuration for a specified FCIP interface. |
| switchport mode E | Configures a virtual Fibre Channel interface as a VE port. |

fspf retransmit-interval

To specify the time after which an unacknowledged link state update should be transmitted on the interface, use the **fspf retransmit-interval** command. To revert to the default settings, use the **no** form of this command.

fspf retransmit-interval *seconds vsan vsan-id*

no spf retransmit-interval *seconds vsan vsan-id*

| Syntax Description | seconds | Fabric Shortest Path First (FSPF) retransmit interval in seconds. The range is from 1 to 65535. |
|--------------------|----------------|---|
| | vsan | Specifies the VSAN ID. |
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default 5 seconds

Command Modes Interface configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This value must be the same in the ports at both ends of the ISL for Fibre Channel over IP (FCIP) interfaces.

For virtual Fibre Channel interfaces, this command configures the FSPF parameters for the virtual E (VE) port.

This command requires the FCoE license.

Examples This example shows how to specify a retransmit interval of 6 seconds after which an unacknowledged link state update should be transmitted on the interface for VSAN 1:

```
switch(config)# interface fc 2/1
switch(config-if)# fspf retransmit-interval 6 vsan 1
```

This example shows how to specify a retransmit interval of 3 seconds after which an unacknowledged link state update should be transmitted on the virtual Fibre Channel interface on VSAN 1:

```
switch(config)# interface vfc 5
switch(config-if)# fspf retransmit-interval 3 vsan 1
```


| Related Commands | Command | Description |
|------------------|----------------------------|---|
| | show fspf interface | Displays information for each selected interface. |
| | show interface fc | Displays an interface configuration for a specified Fibre Channel over IP (FCIP) interface. |
| | switchport mode E | Configures a virtual Fibre Channel interface as a VE port. |

er

in-order-guarantee

To enable in-order delivery, use the **in-order-guarantee** command. To disable in-order delivery, use the **no** form of this command.

in-order-guarantee [**vsan** *vsan-id*]

no in-order-guarantee [**vsan** *vsan-id*] [,] [-]

| Syntax Description | | |
|--------------------|----------------|--|
| | vsan | Specifies the VSAN ID. |
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |
| | [,] [-] | (Optional) Allows you to enter multiple VSANs separated by commas or a range of VSANs separated by a dash. |

Command Default Disabled

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines In-order delivery of data frames guarantees frame delivery to a destination in the same order that they were sent by the originator.

This command requires the FCoE license.

Examples This example shows how to enable in-order delivery for the entire switch:

```
switch(config) # in-order-guarantee
switch(config) #
```

This example shows how to disable in-order delivery for the entire switch:

```
switch(config) # no in-order-guarantee
switch(config) #
```

This example shows how to enable in-order delivery for a specific VSAN:

```
switch(config) # in-order-guarantee vsan 3452
switch(config) #
```

This example shows how to disable in-order delivery for a specific VSAN:

```
switch(config) # no in-order-guarantee vsan 101
switch(config) #
```

| Related Commands | Command | Description |
|------------------|----------------------------|---|
| | show in-order-guarantee | Displays the in-order-guarantee status. |

member (fcalias configuration mode)

To add a member name to a Fibre Channel alias on a VSAN, use the **member** command. To remove a member name from a Fibre Channel alias, use the **no** form of this command.

```
member { device-alias devicealias name both initiator target | domain-id domain-id | fcid fc-id
both initiator target | fwwn fwwn-id | interface fc slot/port | ip-address ip-address | pwwn
pwwn-id both initiator target | symbolic-nodename nodename }
```

```
no member { device-alias devicealias name both initiator target | domain-id domain-id | fcid fc-id
both initiator target | fwwn fwwn-id | interface fc slot/port | ip-address ip-address | pwwn
pwwn-id both initiator target | symbolic-nodename nodename }
```

| Syntax Description | |
|--|---|
| device-alias <i>aliasname</i> | Specifies the member device alias. The name can be a maximum of 64 alphanumeric characters. |
| both | Specifies the device type as both. |
| initiator | Specifies the device type as initiator. |
| target | Specifies the device type as target. |
| domain-id <i>domain-id</i> | Specifies the member domain ID. The range is from 1 to 239. |
| fcid <i>fc-id</i> | Specifies the member FC ID. The format is <i>0xhhhhhh</i> , where <i>h</i> is a hexadecimal digit. |
| fwwn <i>fwwn-id</i> | Specifies the member fWWN ID. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal digit. |
| interface fc <i>slot/port</i> | Specifies the member interface ID. |
| ip-address <i>ip-address</i> | Specifies the IP address. |
| pwwn <i>pwwn-id</i> | Specifies the member pWWN ID. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal digit. |
| symbolic-nodename <i>nodename</i> | Specifies the member symbolic node name. The name can be a maximum length of 255 alphanumeric characters. |

Command Default None

Command Modes Fcalias configuration mode

| Command History | Release | Modification |
|-----------------|---------|--|
| | 6.1(3) | Added the keywords both , initiator , target to the syntax description. |
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples

This example shows how to add a member to an alias called samplealias:

```
switch(config)# fcalias name samplealias vsan 1
switch(config)#
```

This example shows how to define a Fibre Channel interface for the member:

```
switch(config-fcalias)# member interface fc9/1
switch(config-fcalias)#
```

This example shows how to delete the specified member:

```
switch(config-fcalias)# no member interface fc9/1
switch(config-fcalias)#
```

This example shows how to add the IP address member to fcalias:

```
switch(config-fcalias)# member ip-address 10.1.1.1
switch(config-fcalias)#
```

This example shows how to specify the device type as initiator:

```
switch(config)# fcalias name fc1 vsan 1
switch(config-fcalias)#
switch(config-fcalias)# member fcid 0x111111 initiator
switch(config-fcalias)#
```

This example shows how to specify the device type as target:

```
switch(config-fcalias)# member pwwn 11:11:11:11:11:11:11:11 target
switch(config-fcalias)#
```

This example shows how to specify the device type as both:

```
switch(config-fcalias)# member device-alias dev1 both
switch(config-fcalias)#
```

Related Commands

| Command | Description |
|---------------------|---|
| fcalias name | Configures an alias. |
| show fcalias | Displays the member name information in an alias. |

member (zone configuration mode)

To add a member name to a Fibre Channel zone, use the **member** command. To remove a member name from a zone, use the **no** form of this command.

```
member { device-alias devicealiasname [both initiator target] | domain-id domain-id
port-number port | fcalias alias-name | fcid fc-id [both initiator target] | fwwn fwwn-id |
interface fc slot/port [domain-id domain-id | swwn swwn-id] | pwwn pwwn-id [lun lun-id]
[both initiator target] | symbolic-nodename nodename }
```

```
no member { device-alias devicealiasname [both initiator target] | domain-id domain-id
port-number port | fcalias alias-name | fcid fc-id [both initiator target] | fwwn fwwn-id |
interface fc slot/port [domain-id domain-id | swwn swwn-id] | pwwn pwwn-id [lun lun-id]
[both initiator target] | symbolic-nodename nodename }
```

Syntax Description

| | |
|--|---|
| device-alias <i>aliasname</i> | Specifies the member device alias. The name can be a maximum of 64 alphanumeric characters. |
| both | (Optional) specifies the device type as both. |
| initiator | (Optional) specifies the device type as initiator. |
| target | (Optional) specifies the device type as target. |
| domain-id <i>domain-id</i> | Specifies the member domain ID. The range is from 1 to 239. |
| port-number <i>port</i> | Specifies the member port number. The range is from 0 to 255. |
| fcalias <i>alias-name</i> | Specifies a Fibre Channel alias name. The name can be a maximum of 64 alphanumeric characters. |
| fcid <i>fc-id</i> | Specifies the member FC ID. The format is <i>0xhhhhhh</i> , where <i>h</i> is a hexadecimal digit. |
| fwwn <i>fwwn-id</i> | Specifies the member fWWN ID. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal digit. |
| interface fc <i>slot/port</i> | Specifies the member interface ID. |
| swwn <i>swwn-id</i> | (Optional) Specifies the member sWWN ID. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal digit. |
| pwwn <i>pwwn-id</i> | Specifies the member pWWN ID. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal digit. |
| lun <i>lun-id</i> | (Optional) Specifies the member Logical Unit Number (LUN) ID. The format is <i>0xhhhh[:hhhh[:hhhh[:hhhh]]]</i> , where <i>h</i> is a hexadecimal digit. |
| symbolic-nodename <i>nodename</i> | Specifies the member symbolic node name. The name can be a maximum of 255 characters. |

Command Default

None

Command Modes

Zone set zone configuration mode and zoneset-zone configuration mode

Command History

| Release | Modification |
|---------|--|
| 6.1(3) | Added the keywords both , initiator , target to the syntax description. |
| 5.2(1) | This command was introduced. |

Usage Guidelines

Create a zone set zone member only if you need to add member to a zone from the zone set prompt. This command requires the FCoE license.

Examples

This example shows how to add a member to a zone called zs1 on VSAN 1:

```
switch(config)# zone name zs1 vsan 1
switch(config-zone)# member fcid 0x111112
```

This example shows how to add a zone to a zone set called Zoneset1 on VSAN 1:

```
switch(config)# zoneset name ZoneSet1 vsan 1
switch(config-zoneset-zone)# member fcid 0x111112
```

This example shows how to assign a Fibre Channel interface member into a zone:

```
switch(config)# zoneset name ZoneSet1 vsan 1
switch(config-zoneset-zone)# member interface fc 3/1
```

This example shows how to delete the specified device from a zone:

```
switch(config-zoneset-zone)# no member interface fc 3/1
```

This example shows how to specify the device type as both:

```
switch(config)# zone name z1 vsan 1
switch(config-zone)# member fcid 0x999999 target
switch(config-zone)# member pwn 11:11:11:11:11:11:22 both
switch(config-zone)#
```

This example shows how to specify the device type as initiator:

```
switch(config-zone)# member device-alias dev1 initiator
switch(config-zone)#
```

Related Commands

| Command | Description |
|--|----------------------------------|
| zoneset (configuration mode) | Specifies a name for a zone set. |
| zone name (zone set configuration mode) | Configures a zone in a zone set. |
| show zoneset | Displays zone set information. |

member (zoneset configuration mode)

To configure zone set members, use the **member** command. To remove a zone set member, use the **no** form of this command.

member *member-name*

no member *member-name*

| | | |
|---------------------------|--------------------|---|
| Syntax Description | <i>member-name</i> | Member name. The name can be a maximum of 64 alphanumeric characters. |
|---------------------------|--------------------|---|

| | |
|------------------------|------|
| Command Default | None |
|------------------------|------|

| | |
|----------------------|-----------------------------|
| Command Modes | Zone set configuration mode |
|----------------------|-----------------------------|

| | | |
|------------------------|----------------|------------------------------|
| Command History | Release | Modification |
| | 5.2(1) | This command was introduced. |

| | |
|-------------------------|---|
| Usage Guidelines | This command requires the FCoE license. |
|-------------------------|---|

| | |
|-----------------|--|
| Examples | This example shows how to add a member zone to a zone set: |
|-----------------|--|

```
switch(config)# zoneset name Zoneset1 vsan 10
switch(config-zoneset)# member ZoneA
switch(config-zoneset)#
```

| | | |
|-------------------------|---------------------|----------------------------|
| Related Commands | Command | Description |
| | show zone | Displays zone information. |
| | zoneset name | Creates a zone set. |

purge fcdomain fcid

To purge persistent Fibre Channel IDs (FCIDs), use the **purge fcdomain fcid** command.

purge fcdomain fcid vsan *vsan-id*

| Syntax Description | vsan | Specifies that FC IDs are to be purged for a VSAN ID. |
|--------------------|----------------|---|
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

| Command Default | None |
|-----------------|------|
|-----------------|------|

| Command Modes | EXEC mode |
|---------------|-----------|
|---------------|-----------|

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

| Usage Guidelines | This command requires the FCoE license. |
|------------------|---|
|------------------|---|

Examples This example shows how to purge all dynamic, unused FCIDs in VSAN 4:

```
switch# purge fcdomain fcid vsan 4
switch#
```

This example shows how to purge all dynamic, unused FCIDs in VSANs 4, 5, and 6:

```
switch# purge fcdomain fcid vsan 4-6
switch#
```

| Related Commands | Command | Description |
|------------------|---------------------|----------------------------|
| | show zone | Displays zone information. |
| | zoneset name | Creates a zone set. |

rlr preferred-cond fcid

To specify a preferred host to receive Registered Link Incident Report (RLIR) frames, use the **rlr preferred-cond fcid** command. To remove a preferred host, use the **no** form of this command.

```
rlr preferred-cond fcid fc-id vsan vsan-id
```

```
no rlr preferred-cond fcid fc-id vsan vsan-id
```

Syntax Description

| | |
|----------------|---|
| fcid | Specifies the Fibre Channel ID (FC ID). |
| <i>fcid</i> | FC ID. The format is 0xhhhhhh. |
| vsan | Specifies the VSAN ID. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default

By default, the switch sends RLIR frames to one of the hosts in the VSAN with the register function set to “conditionally receive” if no hosts have the register function set to “always receive.”

Command Modes

Global configuration mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

The switch sends RLIR frames to the preferred host only if it meets the following conditions:

- No host in the VSAN is registered for RLIR with the registration function set to “always receive.” If one or more hosts in the VSAN are registered as “always receive,” then RLIR sends only to these hosts and not to the configured preferred host.
- The preferred host is registered with the registration function set to “conditionally receive.” If all registered hosts have the registration function set to “conditionally receive,” then the preferred host receives the RLIR frames.

You can specify only one RLIR preferred host per VSAN.

This command requires the FCoE license.

Examples

This example shows how to specify the FC ID 0x654321 as the Registered Link IncidentRF Report (RLIR) preferred host for VSAN 2:

```
switch(config)# rlr preferred-cond fcid 0x654321 vsan 2
Stub Library could not be opened
*** libficoncmi.so: cannot open shared object file: No such file or directory *
**
switch(config)#
```

This example shows how to remove the FCID 0x654321 as the RLIR preferred host for VSAN 2:

```
switch(config)# no rlir preferred-cond fcid 0x654321 vsan 2
switch(config)#
```

Related Commands

| Command | Description |
|-------------------|---|
| show rlir | Displays information about RLIR, Link Incident Record Registration (LIRR), and Distribute Registered Link Incident Record (DRLIR) frames. |
| clear rlir | Clears the RLIRs. |
| debug rlir | Enables RLIR debugging. |

rscn

To configure a Registered State Change Notification (RSCN), which is a Fibre Channel service that informs N ports about changes in the fabric, use the **rscn** command. To revert to the default settings, use the **no** form of this command.

```
rscn { abort vsan vsan-id | commit vsan vsan-id | distribute | event-tov event-timeout vsan vsan-id
multi-pid vsan vsan-id | restrict swrscn-event vsan vsan-id | suppress domain-swrscn vsan
vsan-id }
```

```
no rscn { abort vsan vsan-id | commit vsan vsan-id | distribute | event-tov event-timeout vsan
vsan-id multi-pid vsan vsan-id | restrict swrscn-event vsan vsan-id | suppress
domain-swrscn vsan vsan-id }
```

Syntax Description

| | |
|-------------------------------|---|
| abort | Aborts the configuration. |
| commit | Commits the configuration. |
| distribute | Enables or disables Cisco Fabric Services (CFS) based distribution for an RSCN. |
| event-tov | Specifies event timeout value in milliseconds. |
| <i>event-timeout</i> | Event timeout in milliseconds. The range is from 0 to 2000 milliseconds. |
| multi-pid | Sends RSCNs in multiple port ID (multi-PID) format. |
| suppress domain-swrscn | Suppresses transmission of the domain format the SW-Registered State Change Notification (RSCNs). |
| vsan | Specifies the VSAN ID. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default

None

Command Modes

Global configuration mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to configure RSCNs in multi-PID format:

```
switch(config)# rscn multi-pid vsan 1
switch(config)#
```

| Related Commands | Command | Description |
|------------------|-----------------------------|---|
| | show rscn src-table | Displays the state change registration table. |
| | show rscn statistics | Displays RSCN statistics. |

rscn abort

To cancel a Registered State Change Notification (RSCN) configuration on a VSAN, use the **rscn abort** command. To reverse the cancellation, use the **no** form of this command.

rscn abort vsan *vsan-id*

no rscn abort vsan *vsan-id*

Syntax Description

| | |
|----------------|---|
| vsan | Specifies the VSAN where the RSCN configuration should be canceled. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default

None

Command Modes

Global configuration mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to cancel an RSCN configuration on VSAN 1:

```
switch(config)# rscn abort vsan 1
switch(config)#
```

Related Commands

| Command | Description |
|--------------------------------|---|
| rscn commit | Commits a pending RSCN configuration on a specified VSAN. |
| rscn distribute | Enables the distribution of an RSCN configuration. |
| rscn event-tov | Configures an RSCN event timeout. |
| clear rscn session vsan | Clears the RSCN session for a specified VSAN. |
| show rscn | Displays the RSCN configuration information. |

rscn commit

To apply a pending Registered State Change Notification (RSCN) configuration, use the **rscn commit** command. To discard a pending RSCN configuration, use the **no** form of this command.

```
rscn commit vsan vsan-id
```

```
no rscn commit vsan vsan-id
```

Syntax Description

| | |
|----------------|--|
| vsan | Specifies the VSAN where the RSCN configuration should be committed. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default

None

Command Modes

Global configuration mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

If you commit the changes made to the active database, the configuration is committed to all the switches in the fabric. On a successful commit, the configuration change is applied throughout the fabric and the lock is released.

This command requires the FCoE license.

Examples

This example shows how to commit an RSCN configuration on VSAN 1:

```
switch(config)# rscn commit vsan 1
switch(config)#
```

Related Commands

| Command | Description |
|---------------------------|---|
| rscn abort | Cancels a pending RSCN configuration on a specified VSAN. |
| rscn distribute | Enables the distribution of an RSCN configuration. |
| rscn event-tov | Configures an RSCN event timeout. |
| clear rscn session | Clears the RSCN session for a specified VSAN. |
| show rscn | Displays the RSCN configuration information. |

rscn distribute

To enable distribution of a Registered State Change Notification (RSCN) configuration, use the **rscn distribute** command. To disable the distribution, use the **no** form of this command.

rscn distribute

no rscn distribute

Syntax Description This command has no arguments or keywords.

Command Default RSCN timer distribution is disabled.

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines The RSCN timer configuration must be the same on all switches in the VSAN. Cisco Fabric Services (CFS) automatically distributes the RSCN timer configuration to all switches in a fabric. Only the RSCN timer configuration is distributed.

This command requires the FCoE license.

Examples This example shows how to enable the distribution of an RSCN configuration:

```
switch(config)# rscn distribute
switch(config)#
```

| Related Commands | Command | Description |
|------------------|---------------------------|---|
| | rscn abort | Cancels a pending RSCN configuration on a specified VSAN. |
| | rscn commit | Applies a pending RSCN configuration. |
| | rscn event-tov | Configures an RSCN event timeout. |
| | clear rscn session | Clears the RSCN session for a specified VSAN. |
| | show rscn | Displays the RSCN configuration information. |

rscn event-tov

To configure an event timeout value for a Registered State Change Notification (RSCN) on a specified VSAN, use the **rscn event-tov** command. To cancel the event timeout value and restore the default value, use the **no** form of this command.

```
rscn event-tov timeout vsan vsan-id
```

```
no rscn event-tov timeout vsan vsan-id
```

Syntax Description

| | |
|----------------|---|
| <i>timeout</i> | Event timeout value in milliseconds. The range is from 0 to 2000. |
| vsan | Specifies the VSAN where the RSCN event timer should be used. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default

The default timeout values are 2000 milliseconds for Fibre Channel VSANs.

Command Modes

Global configuration mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

Before changing the timeout value, you must enable RSCN configuration distribution by using the **rscn distribute** command.

The RSCN timer is registered with Cisco Fabric Services (CFS) during initialization and switchover.

This command requires the FCoE license.

Examples

This example shows how to configure an RSCN event timeout value on VSAN 1:

```
switch(config)# rscn event-tov 1 vsan 1
Successful. Commit should follow for command to take effect.
switch(config)#
```

Related Commands

| Command | Description |
|---------------------------|---|
| rscn abort | Cancels a pending RSCN configuration on a specified VSAN. |
| rscn commit | Applies a pending RSCN configuration. |
| rscn distribute | Enables distribution of an RSCN configuration. |
| clear rscn session | Clears the RSCN session for a specified VSAN. |
| show rscn | Displays the RSCN configuration information. |

show device-alias

To display the device name information, use the **show device-alias** command.

```
show device-alias {database | merge status | name device-name [pending] | pending |
pending-diff | pwwn pwwn-id [pending] | session status | statistics | status }
```

Syntax Description

| | |
|-----------------------|--|
| database | Displays the entire device name database. |
| merge status | Displays the device merge status. |
| name | Displays device name database information for a specific device name. |
| <i>device-name</i> | Device alias name. The maximum length is 64 alphanumeric characters. |
| pending | (Optional) Displays the pending device name database information. |
| pending-diff | Displays pending differences in the device name database information. |
| pwwn | Displays device name database information for a specific PWWN. |
| <i>pwwn-id</i> | PWWN ID. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal digit. |
| session status | Displays the device name session status. |
| statistics | Displays device name database statistics. |
| status | Displays the device name database status. |

Command Default

None

Command Modes

EXEC mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

To make use of fcalias as device names instead of using the cryptic device name, add only one member per fcalias.

This command requires the FCoE license.

Examples

This example shows how to display the contents of the device alias database:

```
switch# show device-alias database
There are no entries in the database
switch#
```

This example shows how to display all global fcalias and all VSAN dependent fcalias:

```
switch# show device-alias name efg
switch#
```

This example shows how to display all global fcaliases and all VSAN-dependent fcaliases:

```
switch# show device-alias statistics
switch#
```

Related Commands

| Command | Description |
|--------------------------------|--|
| device-alias name | Configures device alias names. |
| device-alias database | Configures device alias information. |
| device-alias distribute | Enables device alias CFS distribution. |

show fabric-binding

To display configured fabric binding information, use the **show fabric-binding** command.

```
show fabric-binding { database [active] [vsan vsan-id] | efmd statistics [vsan vsan-id] | statistics
  [vsan vsan-id] | status [vsan vsan-id] | violations [last number] }
```

| Syntax Description | Parameter | Description |
|--------------------|------------------------|--|
| | database | Displays configured database information. |
| | active | (Optional) Displays the active database configuration information. |
| | vsan | (Optional) Specifies the Fibre Connection (FICON) enabled VSAN ID. |
| | <i>vsan-id</i> | (Optional) VSAN ID. The range is from 1 to 4093. |
| | efmd statistics | Displays Exchange Fabric Membership Data (EFMD) statistics. |
| | statistics | Displays the fabric binding statistics. |
| | status | Displays the fabric binding status. |
| | violations | Displays violations in the fabric binding configuration. |
| | last | (Optional) Specifies the latest n violations. |
| | <i>number</i> | (Optional) Violation number. The range is from 1 to 100. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to display the configured fabric binding database information:

```
switch# show fabric-binding database
```

This example shows how to display the active fabric binding information:

```
switch# show fabric-binding database active
```

This example shows how to display the active VSAN-specific fabric binding information for 61:

```
switch# show fabric-binding database active vsan 61
```

This example shows how to display the configured VSAN-specific fabric binding information for VSAN 4:

```
switch# show fabric-binding database vsan 4
```

This example shows how to display the fabric binding statistics:

```
switch# show fabric-binding statistics
```

This example shows how to display the fabric binding status for each VSAN:

```
switch# show fabric-binding status
```

This example shows how to display the EFMD statistics:

```
switch# show fabric-binding efmd statistics
```

This example shows how to display the EFMD statistics for a specified VSAN:

```
switch# show fabric-binding efmd statistics vsan 4
```

This example shows how to display the fabric binding violations:

```
switch# show fabric-binding violations last 1
```

```
-----  
VSAN Switch WWN [domain]          Last-Time [Repeat count] Reason  
-----  
switch#
```

Related Commands

| Command | Description |
|-----------------------|--------------------------------------|
| fabric-binding | Configures fabric binding in a VSAN. |

show fc2

To display FC2 information, use the **show fc2** command.

```
show fc2 { bind | classf | exchange | exchresp | flogi | nport | plogi | plogi_pwwn | port brief |
socket | sockexch | socknotify | socknport | vsan }
```

Syntax Description

| | |
|-------------------|---|
| bind | Displays FC2 socket bindings. |
| classf | Displays FC2 classf sessions. |
| exchange | Displays FC2 active exchanges. |
| exchresp | Displays FC2 active responder exchanges. |
| flogi | Displays the FC2 FLOGI table. |
| nport | Displays FC2 local N ports. |
| plogi | Displays FC2 PLOGI sessions. |
| plogi_pwwn | Displays FC2 PLOGI pWWN entries. |
| port | Displays the FC2 physical port table. |
| brief | Displays the FC2 physical port table in brief format. |
| socket | Displays FC2 active sockets. |
| sockexch | Displays FC2 active exchanges for each socket. |
| socknotify | Displays FC2 local N port PLOGI/LOGO notifications for each socket. |
| socknport | Displays FC2 local nports per each socket. |
| vsan | Displays the FC2 VSAN table. |

Command Default

None

Command Modes

EXEC mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to display the FC2 active socket information:

```
switch# show fc2 socket
SOCKET  REFCNT  PROTOCOL  FLAGS  PID  RCVBUF  RMEM_USED  QLEN  NOTSK
e6809920  2      0      0      26397  1075200  0      0      0
e68090c0  3      0      0      26397  1075200  0      0  e6809920
e680a9e0  2      0      0      26397  1075200  0      0      0
e680baa0  3      0      0      26397  1075200  0      0  e680a9e0
e7c84860  2      0  20000  7477  107520  0      0      0
```

```

ebcb14f0      2      0      20      7482    107520      0      0      0
e7c7d920      5      0     200      7482    4194304     0      0      0
e7c7f240      4      0     200      7482    4194304     0      0      0
e8073aa0      3      0     200      7482    4194304     0      0      0
e9526180      3      0      0       7475     107520     0      0      0
e7c40c90      3      0      0       7475     107520     0      0      0
e7c41d50      3      0      0       7475     107520     0      0      0
e9097aa0      3      0      0       7475     256000     0      0      0
eb57ee10      3      0      0       7475     107520     0      0      0
e99b3240      3      0      0       7478     131072     0      0      0
e99b2e10      3      0      0       7478     107520     0      0      0
e99b3aa0      4      0     200      7476     860160     0      0      0
e7c9d4f0      3      0      0       7476     860160     0      0      0
eb526180      3      0      0       7458     524288     0      0      0
eb527240      3      0      0       7458     524288     0      0      0
ec0b8860      3      0      0       7458     107520     0      0      0
e7c850c0      3      0     200      7455     107520     0      0      0
e7c854f0      4      0     200      7455     4194304     0      0      0
--More--

```

This example shows how to display the FC2 socket binding information:

```

switch# show fc2 bind
SOCKET FLAGS NLEVEL RULE   SINDEX  VSAN    D_ID    MASK TYPE  SUBTYPE M_VAL
UES
e7c7d920   60     1     7  ffffffff  65535   fffc00  ffff00  22 05:01:00 79:7a
:7b:7c:7d:00:00:00
                                01:01:08 01:00
:00:00:00:00:00:00
e7c429e0   20     1     7  ffffffff  65535   fffc00  ffff00  22 02:01:00 1c:1e
:00:00:00:00:00:00
                                01:01:04 79:00
:00:00:00:00:00:00
e68090c0    0     0     7  ffffffff  65535   fffffe  fffffff  1 01:01:00 90:00
:00:00:00:00:00:00
e680baa0    0     0     7  ffffffff  65535   fffffd  fffffff  22 01:01:00 40:00
:00:00:00:00:00:00
e8073aa0   40     0     7  ffffffff  65535   fffffa  fffffff  20 01:02:04 fa:03
:25:26:70:78:00:00
e7c7d920   40     0     7  ffffffff  65535   fffc00  ffff00  22 06:01:00 23:24
:25:26:70:78:00:00
e7c7f240   40     0     7  ffffffff  65535   fffffd  fffffff  22 03:01:00 22:70
:34:00:00:00:00:00
e9097aa0    0     0     7  ffffffff  65535   fffc00  ffff00  20 02:02:04 fa:01
:fa:00:00:00:00:00

```

This example shows how to display the FC2 local N port information:

```

switch# show fc2 nport
switch# show fc2 nport
REF  VSAN  D_ID  MASK  FL  ST  IFINDEX  CF  TC  2-SO  IC  RC  RS  CS
EE 3-SO  IC  RC  RS  CS  EE
  1  65535 fffffe ffffff 2003  0  ffffffff c800 0128 8000 0000 0000 2112 0064 0
008 8000 0000 0000 2112 0064 0000
  4  65535 fffc00 ffff00 98b  0  ffffffff 8800 0128 8000 0000 0000 2112 0064 0
008 8000 0000 0000 2112 0064 0000
  1  65535 fffffd ffffff  3  0  ffffffff c800 0128 8000 0000 0000 2112 0064 0
008 8000 0000 0000 2112 0064 0000
  2  65535 fffffa fffffff  3  0  ffffffff c800 0128 8000 0000 0000 2112 0064 0
008 8000 0000 0000 2112 0064 0000
  1  65535 fffffc fffffff  3  0  ffffffff c800 0128 8000 0000 0000 2112 0064 0
008 8000 0000 0000 2112 0064 0000
switch#

```

This example shows how to display the FC2 PLOGI session information:

```
switch# show fc2 plogi
HIX ADDRESS VSAN S_ID D_ID IFINDEX FL STATE CF TC 2-SO IC RC
RS CS EE 3-SO IC RC RS CS EE EECNT TCCNT 2CNT 3CNT REFCNT
3218 ec07c000 1 fffc93 0d7000 ffffffff 0000 0 0000 0001 8000 0000 2000
0256 0001 0001 8000 0000 2000 0256 0001 0000 0 0 0 0 1
3218 e90f6000 1 fffc93 d70000 ffffffff 0000 0 0000 0001 8000 0000 2000
0256 0001 0001 8000 0000 2000 0256 0001 0000 0 0 0 0 1
switch#
```

This example shows how to display the FC2 physical port information:

```
switch# show fc2 port
0 fc2_very_bad_frames_rx
IX ST MODE EMUL TXPKTS TXDROP TXERR RXPKTS RXDROP TX-LB-PKTS TX- LB
-DROP RX-LB-PKTS RX-LB-DROP R_A_TOV E_D_TOV F-SO RC RS CS EE 2-SO RS
3-SO RS
0 D 1 0 0 0 0 0 0 0 0 0 0
0 0 0 10000 2000 8000 0000 2112 0001 0001 8000 0256 8000 0256
1 D 1 0 0 0 0 0 0 0 0 0 0
0 0 0 10000 2000 8000 0000 2112 0001 0001 8000 0256 8000 0256
2 D 1 0 0 0 0 0 0 0 0 0 0
0 0 0 10000 2000 8000 0000 2112 0001 0001 8000 0256 8000 0256
3 D 1 0 0 0 0 0 0 0 0 0 0
0 0 0 10000 2000 8000 0000 2112 0001 0001 8000 0256 8000 0256
4 D 1 0 0 0 0 0 0 0 0 0 0
0 0 0 10000 2000 8000 0000 2112 0001 0001 8000 0256 8000 0256
5 D 1 0 0 0 0 0 0 0 0 0 0
0 0 0 10000 2000 8000 0000 2112 0001 0001 8000 0256 8000 0256
6 D 1 0 0 0 0 0 0 0 0 0 0
0 0 0 10000 2000 8000 0000 2112 0001 0001 8000 0256 8000 0256
7 D 1 0 0 0 0 0 0 0 0 0 0
0 0 0 10000 2000 8000 0000 2112 0001 0001 8000 0256 8000 0256
```

This example shows how to display the FC2 local N port PLOGI notifications for each socket:

```
switch# show fc2 socknotifiy
switch# show fc2 socknotifiy
SOCKET ADDRESS REF VSAN D_ID MASK FL ST IFINDEX
eed14860 e785e100 4 65535 fffc00 ffff00 98b 0 ffffffff
ebde0430 e785e100 4 65535 fffc00 ffff00 98b 0 ffffffff
switch#
```

This example shows how to display the FC2 local N ports for each socket:

```
switch# show fc2 socknport
switch# show fc2 socknport
SOCKET ADDRESS REF VSAN D_ID MASK FL ST IFINDEX
eb57ee10 e786f100 2 65535 fffffa ffffff 3 0 ffffffff
eb527240 e785e000 1 65535 fffffd ffffff 3 0 ffffffff
e7c850c0 e786f100 2 65535 fffffa ffffff 3 0 ffffffff
e7c85920 e786f000 1 65535 fffffc ffffff 3 0 ffffffff
eed14860 e785e100 4 65535 fffc00 ffff00 98b 0 ffffffff
ebde0430 e785e200 1 65535 fffffe ffffff 2003 0 ffffffff
ebde0430 e785e100 4 65535 fffc00 ffff00 98b 0 ffffffff
switch#
```

This example shows how to display the FC2 VSAN table:

```
switch# show fc2 vsan
switch# show fc2 vsan
VSAN X_ID E_D_TOV R_A_TOV WWN IOP_MODE
1 3 2000 10000 20:01:00:22:55:79:a4:81 100
2 1 2000 10000 20:02:00:22:55:79:a4:81 100
```


| | | | | | |
|----|---|------|-------|-------------------------|-----|
| 3 | 1 | 2000 | 10000 | 20:03:00:22:55:79:a4:81 | 100 |
| 4 | 1 | 2000 | 10000 | 20:04:00:22:55:79:a4:81 | 100 |
| 5 | 1 | 2000 | 10000 | 20:05:00:22:55:79:a4:81 | 100 |
| 6 | 1 | 2000 | 10000 | 20:06:00:22:55:79:a4:81 | 100 |
| 7 | 1 | 2000 | 10000 | 20:07:00:22:55:79:a4:81 | 100 |
| 8 | 1 | 2000 | 10000 | 20:08:00:22:55:79:a4:81 | 100 |
| 9 | 1 | 2000 | 10000 | 20:09:00:22:55:79:a4:81 | 100 |
| 10 | 1 | 2000 | 10000 | 20:0a:00:22:55:79:a4:81 | 100 |
| 11 | 1 | 2000 | 10000 | 20:0b:00:22:55:79:a4:81 | 100 |
| 12 | 1 | 2000 | 10000 | 20:0c:00:22:55:79:a4:81 | 100 |
| 13 | 1 | 2000 | 10000 | 20:0d:00:22:55:79:a4:81 | 100 |
| 14 | 1 | 2000 | 10000 | 20:0e:00:22:55:79:a4:81 | 100 |
| 15 | 1 | 2000 | 10000 | 20:0f:00:22:55:79:a4:81 | 100 |
| 16 | 1 | 2000 | 10000 | 20:10:00:22:55:79:a4:81 | 100 |
| 17 | 1 | 2000 | 10000 | 20:11:00:22:55:79:a4:81 | 100 |
| 18 | 1 | 2000 | 10000 | 20:12:00:22:55:79:a4:81 | 100 |
| 19 | 1 | 2000 | 10000 | 20:13:00:22:55:79:a4:81 | 100 |
| 20 | 1 | 2000 | 10000 | 20:14:00:22:55:79:a4:81 | 100 |

show fcalias

To display the member name information in a Fibre Channel alias (fcalias), use the **show fcalias** command.

```
show fcalias [name fcalias-name] [pending] [vsan vsan-id]
```

Syntax Description

| | |
|---------------------|--|
| name | (Optional) Displays fcalias information for a specific name. |
| <i>fcalias-name</i> | (Optional) Name. The maximum length is 64 alphanumeric characters. |
| pending | (Optional) Displays pending fcalias information. |
| vsan | (Optional) Displays fcalias information for a VSAN. |
| <i>vsan-id</i> | (Optional) VSAN ID. The range is from 1 to 4093. |

Command Default

Displays a list of all global fcalias and all VSAN-dependent fcalias.

Command Modes

EXEC mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

To make use of fcalias as device names instead of using the cryptic device name, add only one member per fcalias.

This command requires the FCoE license.

Examples

This example shows how to display the fcalias configuration information for VSAN 1:

```
switch# show fcalias vsan 1
fcalias name aliasname vsan 1

fcalias name samplealias vsan 1
  interface fc3/1 swwn 20:00:00:22:55:79:a4:80
switch#
```

Related Commands

| Command | Description |
|---------------------|---------------------------|
| fcalias name | Configures fcalias names. |

show fcdomain

To display the Fibre Channel domain (fcdomain) information, use the **show fcdomain** command.

```
show fcdomain [address-allocation [cache] | allowed | domain-list | fcid persistent [unused] |
pending [vsan vsan-id] | pending-diff [vsan vsan-id] | session-status [vsan vsan-id] | statistics
[interface { fc slot/port [vsan vsan-id] } | san-port-channel port [vsan vsan-id]] | status | vsan
vsan-id]
```

| Syntax Description | |
|---------------------------|--|
| address-allocation | (Optional) Displays statistics for the FC ID allocation. |
| cache | (Optional) Reassigns the FC IDs for a device (disk or host) that exited and reentered the fabric for the principal switch. In the cache content, VSAN refers to the VSAN that contains the device, WWN refers to the device that owned the FC IDs, and mask refers to a single or entire area of FC IDs. |
| allowed | (Optional) Displays a list of allowed domain IDs. |
| domain-list | (Optional) Displays a list of domain IDs provided by the principal switch. |
| fcid persistent | (Optional) Displays persistent FC IDs (across reboot). |
| unused | (Optional) Displays unused persistent FCIDs (across reboot). |
| pending | (Optional) Displays the pending configuration. |
| vsan | (Optional) Specifies the VSAN ID. |
| <i>vsan-id</i> | (Optional) VSAN ID. The range is from 1 to 4093. |
| pending-diff | (Optional) Displays the difference between the running configuration and the pending configuration. |
| session-status | (Optional) Displays the last action performed by an FC domain. |
| statistics | (Optional) Displays the statistics of an FC domain. |
| interface | (Optional) Specifies an interface. |
| fc | (Optional) Specifies a Fibre Channel interface. |
| <i>slot/port</i> | (Optional) Slot number and port number. The range for the slot numbers is from 1 to 18 and the range for the port numbers is from 1 to 48. |
| san-port-channel | (Optional) Specifies a SAN port channel interface. The range is from 1 to 128. |
| <i>port</i> | (Optional) Port channel number. The range is from 1 to 256. |
| status | (Optional) Displays all VSAN-independent information in an FC domain. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines

When you enter the **show fcdomain** with no arguments, all VSANs appear. The VSANs should be active or you get an error.

This command requires the FCoE license.

Examples

This example shows how to display the fcdomain information for VSAN 1:

```
switch# show fcdomain vsan 1
The local switch is the Principal Switch.

Local switch run time information:
  State: Stable
  Local switch WWN:      20:01:00:22:55:79:a4:81
  Running fabric name: 20:01:00:22:55:79:a4:81
  Running priority: 128
  Current domain ID: 0x93(147)

Local switch configuration information:
  State: Enabled
  FCID persistence: Enabled
  Auto-reconfiguration: Disabled
  Contiguous-allocation: Disabled
  Configured fabric name: 20:01:00:05:30:00:28:df
  Optimize Mode: Disabled
  Configured priority: 128
  Configured domain ID: 0x00(0) (preferred)

Principal switch run time information:
  Running priority: 128

No interfaces available.
switch#
```

This example shows how to display the fcdomain domain-list information for VSAN 76:

```
switch# show fcdomain domain-list vsan 1

Number of domains: 1
Domain ID          WWN
-----
0x93(147)         20:01:00:22:55:79:a4:81 [Local] [Principal]
switch#
```

[Table 1-1](#) describes the significant fields shown in the **show fcdomain domain-list** command output.

Table 1-1 *show fcdomain Field Descriptions*

| Field | Description |
|-----------|---|
| Domain ID | Lists the domain IDs corresponding to the WWN. |
| WWN | Indicates the WWN of the switch (physical or virtual) that requested the corresponding domain ID. |
| Principal | Indicates which row of the display lists the WWN and domain ID of the principal switch in the VSAN. |

Table 1-1 *show fcdomain Field Descriptions*

| Field | Description |
|---------------|---|
| Local | Indicates which row of the display lists the WWN and domain ID of the local switch (the switch where you entered the show fcdomain domain-list command). |
| Virtual (IVR) | Indicates which row of the display lists the WWN of the virtual switch used by the inter-VSAN routing (IVR) manager to obtain the domain ID. |

This example shows how to display the allowed domain ID lists for VSAN 1:

```
switch# show fcdomain allowed vsan 1
```

This example shows how to display the status of the Cisco Fabric Services (CFS) distribution for allowed domain ID lists:

```
switch# show fcdomain status
Already assigned or reserved domain IDs: none.
[User] configured allowed domain IDs: 1-239.
switch#
```

This example shows how to display the pending configuration changes for VSAN 10:

```
switch# show fcdomain pending vsan 10
```

This example shows how to display the differences between the pending configuration and the current configuration for VSAN 10:

```
switch# show fcdomain pending-diff vsan 10
```

This example shows how to display the status of the distribution session for VSAN 1:

```
switch# show fcdomain session-status vsan 1
Session parameters for VSAN 1
-----
Session Parameters for VSAN: 1
-----
Last Action Time Stamp      : None
Last Action                 : None
Last Action Result         : None
Last Action Failure Reason : none
switch#
```

Related Commands

| Command | Description |
|-----------------|--|
| fcdomain | Configures the Fibre Channel domain feature. |

show fcdroplateny

To display the configured Fibre Channel latency parameters, use the **show fcdroplateny** command.

```
show fcdroplateny [network | switch]
```

| Syntax Description | network | (Optional) Displays the network latency in milliseconds. |
|--------------------|---------|--|
| | switch | (Optional) Displays the switch latency in milliseconds. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to display the configured Fibre Channel latency parameters:

```
switch# show fcdroplateny
switch latency value:500 milliseconds
global network latency value:2000 milliseconds

VSAN specific network latency settings
vsan 1 network latency:2000 milliseconds
switch#
```

| Related Commands | Command | Description |
|------------------|--------------|--|
| | fcdroplateny | Configures the network and switch Fibre Channel drop latency time. |

show fcid-allocation

To display the Fibre Channel area list of company IDs, use the **show fcid allocation** command.

```
show fcid-allocation area | company-id-from-wwn wwn [company-id]
```

| Syntax Description | area | Displays the auto area list of company IDs. |
|--------------------|----------------------------|--|
| | company-id-from-wwn | Displays the company ID from the specified world wide name (WWN). |
| | <i>wwn</i> | WWN. The format is hh:hh:hh:hh:hh:hh:hh:hh. |
| | <i>company-id</i> | (Optional) Company ID (also known as Organizational Unit Identifier, or OUI) to display. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to display the Fibre Channel area company list of company IDs:

```
switch# show fcid-allocation area
Fcid area allocation company id info:

    00: 2:6B
    00: 5:E6
    00: 6:2B
    00: 9:6B
    00: D:60
    00:11:25
    00:14:5E
    00:1B:32
    00:50:2E
    00:50:8B
    00:60:B0
    00:90:A5
    00:A0:B8
    00:D0:B2
    00:E0:69
    00:E0:8B
Total company ids: 16
+ - Additional user configured company ids.
* - Explicitly deleted company ids from default list.
```

Table 1-2 describes the significant fields shown in the display.

Table 1-2 *show fcid-allocation area company* Field Descriptions

| Field | Description |
|-------|---|
| + | Indicates a company ID added to the default list. |
| - | Indicates a company ID deleted from the default list. |

Related Commands

| Command | Description |
|------------------------|--|
| fcid-allocation | Adds an FC ID to the default area company ID list. |

show fcns database

To display the results of the discovery or to display the name server database for a specified VSAN or for all VSANs, use the **show fcns database** command.

```
show fcns database { detail [vsan vsan-id] | domain domain-id [detail] [vsan vsan-range] | fcid
fcid-id [detail] vsan vsan-range | local [detail] [vsan vsan-range] | vsan vsan-id | npv [detail]
vsan vsan-id node_wwn node_wwn vsan vsan-id proxy-host vsan vsan-id }
```

| Syntax Description | | |
|--------------------|--|--|
| detail | | Displays all objects in each entry. |
| vsan | | (Optional) Displays entries for a specified VSAN ID. |
| <i>vsan-id</i> | | VSAN ID. The range is from 1 to 4093. |
| domain | | Displays entries in a domain. |
| <i>domain-id</i> | | Domain ID. The range is from 1 to 239. |
| detail | | (Optional) Displays detailed entries for the domain. |
| fcid | | Displays an entry for the given port. |
| <i>fcid-id</i> | | FC ID. The format is 0xhhhhhh. |
| local | | Displays local entries. |
| npv | | Displays N port virtualization (NPV) entries. |
| node_wwn | | Displays end-devices logged in via an npv node. |
| proxy-host | | Displays an entry for the proxy host. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines The discovery can take several minutes to complete, especially if the fabric is large or if several devices are slow to respond.

Virtual enclosure ports can be viewed by using the **show fcns database** command.

This command requires the FCoE license.

Examples This example shows how to display the contents of the FCNS database:

```
switch# show fcns database
```

This example shows how to display the detailed contents of the FCNS database:

```
switch# show fcns database detail
```

This example shows how to display the management VSAN (VSAN 2):

```
switch# show fcns database vsan 2
```

This example shows how to display the database for all configured VSANs:

```
switch# show fcns database
```

Related Commands

| Command | Description |
|-------------|---|
| fcns | Specifies the configuration mode command for the name server configuration. |

show fcns statistics

To display the statistical information for a specified VSAN or for all VSANs, use the **show fcns statistics** command.

show fcns statistics [**detail**] [**vsan** *vsan-id*]

| Syntax Description | detail | (Optional) Displays detailed statistics. |
|--------------------|----------------|---|
| | vsan | (Optional) Displays statistics for the specified VSAN ID. |
| | <i>vsan-id</i> | (Optional) VSAN ID. The range is from 1 to 4093. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to display the statistical information for a specified VSAN:

```
switch# show fcns statistics
Name server statistics for vsan 1
=====
registration requests received = 0
deregistration requests received = 0
queries received = 0
queries sent = 0
reject responses sent = 0
RSCNs received = 0
RSCNs sent = 0
switch#
```

| Related Commands | Command | Description |
|------------------|-------------|---|
| | fcns | Specifies the configuration mode command for the name server configuration. |

show fcroute

To view specific information about existing Fibre Channel and Fabric Shortest Path First (FSPF) configurations, use the **show fcroute** command.

```
show fcroute {distance | label [label] vsan vsan-id | multicast [fc-id vsan vsan-id | vsan vsan-id]
| summary [vsan vsan-id] | unicast [[host] fc-id fc-mask vsan vsan-id | vsan vsan-id] }
```

Syntax Description

| | |
|------------------|--|
| distance | Displays the FC route preference. |
| label | Displays label routes. |
| <i>label</i> | (Optional) Label routes for the specified label. |
| vsan | (Optional) Specifies the ID of the VSAN. |
| <i>vsan-id</i> | (Optional) VSAN ID. The range is from 1 to 4093. |
| multicast | Displays FC multicast routes. |
| <i>fc-id</i> | (Optional) Fibre Channel ID. |
| summary | Displays the FC routes summary. |
| unicast | Displays FC unicast routes. |
| <i>host</i> | Unicast routes for the specified host. |
| <i>fc-mask</i> | Unicast routes for hosts that match the range of FCIDs that are specified by the mask. |

Command Default

None

Command Modes

EXEC mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

When the number of routes is displayed in the command output, both visible and hidden routes are included in the total number of routes.

This command requires the FCoE license.

Examples

This example shows how to display the administrative distance:

```
switch# show fcroute distance

      Route
  UUID  Distance  Name
  ----  -
  10    20         rib
  22    40         fcdomain
  39    80         rib-config
```

```

12          100          fspf
17          120          flogi
64          200          rib-test
switch#

```

This example shows how to display the multicast routing information:

```

switch# show fcroute multicast
switch#

```

This example shows how to display the FC ID information for a specified VSAN:

```

switch# show fcroute multicast vsan 3

```

This example shows how to display the FC ID and interface information for a specified VSAN:

```

switch# show fcroute multicast 0xffffffff vsan 2

```

This example shows how to display the unicast routing information:

```

switch# show fcroute unicast

```

This example shows how to display the unicast routing information for a specified VSAN:

```

switch# show fcroute unicast vsan 4
switch#

```

This example shows how to display the unicast routing information for a specified FC ID:

```

switch# show fcroute unicast 0x040101 0xffffffff vsan 4

```

This example shows how to display the route database information:

```

switch# show fcroute summary

```

This example shows how to display the route database information for a specified VSAN:

```

switch# show fcroute summary vsan 4

```

```

FC Route Database Created Tue Jul 12 09:46:39 2011

```

```

VSAN          Ucast          Mcast          Label          Last Modified Time
-----
1              1              0              0              Tue Jul 12 09:46:39 2011
-----
Total          1              0              0
switch#

```

Related Commands

| Command | Description |
|----------------|---|
| fcroute | Configures Fibre Channel routes and activates policy routing. |

show fctimer

To display the Fibre Channel timers (fctimers), use the **show fctimer** command.

```
show fctimer [d_s_tov [vsan vsan-id] | e_d_tov [vsan vsan-id] | f_s_tov [vsan vsan-id] | r_a_tov
[vsan vsan-id] | last action status | pending | pending-diff | session status | status | vsan
vsan-id]
```

| Syntax Description | | |
|---------------------------|---|--|
| d_s_tov | (Optional) Displays the distributed services timeout value (D_S_TOV) in milliseconds. | |
| vsan | (Optional) Displays information for a VSAN. | |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. | |
| e_d_tov | (Optional) Displays the error detection timeout value (E_D_TOV) in milliseconds. | |
| f_s_tov | (Optional) Displays the fabric stability timeout value (F_S_TOV) in milliseconds. | |
| r_a_tov | (Optional) Displays the resource allocation timeout value (R_A_TOV) in milliseconds. | |
| last action status | (Optional) Displays the status of the last Cisco Fabric Services (CFS) commit or discard operation. | |
| pending | (Optional) Displays the status of pending fctimer commands. | |
| pending-diff | (Optional) Displays the difference between the pending database and running configuration. | |
| session status | (Optional) Displays the state of the fctimer CFS session. | |
| status | (Optional) Displays the Fibre Channel timer status. | |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to display the configured global TOVs:

```
switch# show fctimer
F_S_TOV   D_S_TOV   E_D_TOV   R_A_TOV
-----
5000 ms   5000 ms   2000 ms   10000 ms
```

This example shows how to display the configured TOVs for a specified VSAN:

```
switch# show fctimer vsan 10

vsan no.  F_S_TOV  D_S_TOV  E_D_TOV  R_A_TOV
-----
1         5000 ms   5000 ms   2000 ms   10000 ms
switch#
```

Related Commands

| Command | Description |
|----------------|--------------------------------|
| fctimer | Configures fctimer parameters. |

show fdmi

To display the Fabric-Device Management Interface (FDMI) database information, use the **show fdmi** command.

```
show fdmi database [detail [hba-id {hba-id vsan vsan-id} | vsan vsan-id] | vsan vsan-id] |
suppress-updates
```

| Syntax Description | Parameter | Description |
|--------------------|-------------------------|--|
| | database | Displays the FDMI database contents. |
| | detail | (Optional) Specifies detailed FDMI information. |
| | hba-id | (Optional) Displays detailed information for the specified host bus adapter (HBA) entry. |
| | <i>hba-id</i> | HBA ID. |
| | vsan | (Optional) Specifies FDMI information for the specified VSAN. |
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |
| | suppress-updates | Displays the VSANs that are configured to suppress updates. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to display all HBA management servers:

```
switch# show fdmi database
switch#
```

This example shows how to display the VSAN 1-specific FDMI information:

```
switch# show fdmi database detail vsan 1
switch#
```

This example shows how to display the details for the specified HBA entry in VSAN 1:

```
switch# show fdmi database detail Hba-id 21:01:00:e0:8b:2a:f6:54 vsan 1
switch#
```


| Related Commands | Command | Description |
|------------------|-----------------------|--------------------------|
| | fdmi suppress-updates | Suppresses FDMI updates. |

show flogi

To list all the fabric login (FLOGI) sessions through all interfaces across all VSANs, use the **show flogi** command.

```
show flogi { auto-area-list } | database { fcid fcid-id | interface { fc slot/port | vfc vfc-id } | vsan
vsan-id }
```

| Syntax Description | | |
|-----------------------|--|--|
| auto-area-list | | Displays the list of Organizational Unit Identifiers (OUIs) that are allocated areas. |
| database | | Displays information about FLOGI sessions. |
| fcid | | Displays FLOGI database entries based on the FC ID allocated. |
| <i>fcid-id</i> | | FC ID. The format is <i>0xhhhhh</i> . |
| interface | | Displays FLOGI database entries based on the logged in interface. |
| fc | | Specifies the Fibre Channel or virtual Fibre Channel interface. |
| <i>slot/port</i> | | Slot and port number. The range for the slot numbers is from 1 to 12 and the range for the port numbers is from 1 to 48. |
| vfc | | Specifies a virtual Fibre Channel interface. |
| <i>vfc-id</i> | | Virtual interface ID. The range is from 1 to 8192. |
| vsan | | Displays FLOGI database entries based on the VSAN ID. |
| <i>vsan-id</i> | | VSAN ID. The range is from 1 to 4093. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines The output of this command is sorted by interface numbers and then by VSAN IDs.

In a Fibre Channel fabric, each host or disk requires an FC ID. Use the **show flogi database** command to verify if a storage device is displayed in the fabric login (FLOGI) table as in the Examples section. If the required device is displayed in the FLOGI table, the fabric login is successful. Examine the FLOGI database on a switch that is directly connected to the host HBA and connected ports.

This command requires the FCoE license.

Examples This example shows how to display the list of Organisational Unit Identifiers that are allocated areas:

```
switch# show flogi auto-area-list
Fcid area allocation company id info:
```

```

00: 2:6B
00: 5:E6
00: 6:2B
00: 9:6B
00: D:60
00:11:25
00:14:5E
00:1B:32
00:50:2E
00:50:8B
00:60:B0
00:90:A5
00:A0:B8
00:D0:B2
00:E0:69
00:E0:8B
Total company ids: 16
+ - Additional user configured company ids.
* - Explicitly deleted company ids from default list.
switch#

```

This example shows how to display the details about the FLOGI database:

```

switch# show flogi database
-----
INTERFACE          VSAN    FCID          PORT NAME          NODE NAME
-----
vfc425             100    0xd40000    21:00:00:c0:dd:14:54:85  20:00:00:c0:dd:14:54:85
vfc426             200    0x980000    21:00:00:c0:dd:14:54:87  20:00:00:c0:dd:14:54:87

Total number of flogi = 2.

```

This example shows how to display a specific FLOGI interface:

```
switch# show flogi database interface fc 2/3
```

This example shows how to display the FLOGI for VSAN 100:

```

switch# show flogi database vsan 100
-----
INTERFACE          VSAN    FCID          PORT NAME          NODE NAME
-----
vfc425             100    0xd40000    21:00:00:c0:dd:14:54:85  20:00:00:c0:dd:14:54:85

Total number of flogi = 1.

```

This example shows how to display the FLOGI for a specific FC ID:

```
switch# show flogi database fcid 0xef02e2
```

Related Commands

| Command | Description |
|---------------------------------|--|
| <code>show fcns database</code> | Displays all the local and remote name server entries. |

show fspf

To display global Fibre Shortest Path First (FSPF) routing information, use the **show fspf** command.

```
show fspf [database [vsan vsan-id] [detail | domain domain-id detail] | interface | vsan vsan-id
interface {fc slot/port | port-channel port-channel number | san-port-channel
port-channel-number | vfc vfc-id}]
```

| Syntax Description | | |
|----------------------------|------------|---|
| database | (Optional) | Displays the FSPF link state database. |
| vsan | (Optional) | Specifies the VSAN ID. |
| <i>vsan-id</i> | (Optional) | VSAN ID. The range is from 1 to 4093. |
| detail | (Optional) | Displays detailed FSPF information. |
| domain | (Optional) | Specifies the domain of the database. |
| <i>domain-id</i> | (Optional) | Domain ID. The range is from 0 to 255. |
| interface | (Optional) | Specifies the FSPF interface. |
| fc | | Specifies the Fibre Channel interface to configure. |
| <i>slot/port</i> | | Slot and port number. The range for slot numbers is from 1 to 12 |
| port-channel | | Specifies the port channel interface. |
| san-port-channel | | Specifies the SAN port channel interface. |
| <i>port-channel number</i> | | Port channel number. The range for port numbers is from 1 to 256. |
| vfc | | Specifies the virtual FC interface. |
| <i>vfc-id</i> | | Virtual interface ID. The range is from 1 to 8192. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines If you enter the command without parameters, all the entries in the database are displayed. This command requires the FCoE license.

Examples This example shows how to display the FSPF interface information:

```
switch# show fspf vsan 1 fc2/1
```

This example shows how to display the FSPF database information:

```
switch# show fspf database vsan 1
```

```

FSPF Link State Database for VSAN 1 Domain 0xc6(198)
LSR Type = 1
Advertising domain ID = 0xc6(198)
LSR Age = 1050
LSR Incarnation number = 0x800007c5
LSR Checksum = 0x35d2
Number of links = 0
  NbrDomainId      IfIndex  NbrIfIndex  Link Type      Cost
-----
switch#

```

This command shows how to display the FSPF information for a specified VSAN:

```

switch# show fspf vsan 1
FSPF routing for VSAN 1
FSPF routing administration status is enabled
FSPF routing operational status is UP
It is an intra-domain router
Autonomous region is 0
SPF hold time is 0 msec
MinLsArrival = 1000 msec , MinLsInterval = 2000 msec
Local Domain is 0xc6(198)
Number of LSRs = 1, Total Checksum = 0x000035d2

Protocol constants :
  LS_REFRESH_TIME = 30 minutes (1800 sec)
  MAX_AGE          = 60 minutes (3600 sec)

Statistics counters :
  Number of LSR that reached MaxAge = 0
  Number of SPF computations        = 0
  Number of Checksum Errors         = 0
  Number of Transmitted packets :   LSU 0 LSA 0 Hello 0 Retranmsitted LSU 0
  Number of received packets :     LSU 0 LSA 0 Hello 0 Error packets 0

switch#

```

This command shows how to display the FSPF information for all interfaces:

```

switch# show fspf interface
FSPF interface vfc5 in VSAN 1
FSPF routing administrative state is active
Interface cost is 2100
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN

switch#

```

Related Commands

| Command | Description |
|-------------|------------------|
| fspf | Configures FSPF. |

show rlir

To display Registered Link Incident Report (RLIR) information, use the **show rlir** command.

```
show rlir {erl [vsan vsan-id] | history | recent {interface fc slot/port | portnumber port} |
statistics [vsan vsan-id]}
```

Syntax Description

| | |
|---------------------|--|
| erl | Displays the Established Registration List (ERL). |
| vsan | (Optional) Specifies a VSAN ID. |
| <i>vsan-id</i> | (Optional) VSAN ID. The range is from 1 to 4093. |
| history | Displays the link incident history. |
| recent | Displays recent link incidents. |
| interface fc | Specifies a Fibre Channel interface. |
| <i>slot/port</i> | Slot and port number. The range for the slot numbers is from 1 to 12 and the range for the port numbers is from 1 to 48. |
| portnumber | Displays RLIR information for the specified port number. |
| <i>port</i> | Port number. The range is from 1 to 224. |
| statistics | Displays RLIR statistics for all VSANs or the specified VSAN. |

Command Default

None

Command Modes

EXEC mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to display the RLIR information for VSAN 1:

```
switch# show rlir erl vsan 1
```

This example shows how to display the RLIR statistics for VSAN 1:

```
switch# show rlir statistics vsan 1
```

Related Commands

| Command | Description |
|---------------------------------|---|
| clear rlir | Clears the RLIR commands. |
| rlir preferred-cond fcid | Sets preferred host to receive an RLIR. |

show rscn

To display Registered State Change Notification (RSCN) information, use the **show rscn** command.

```
show rscn { brief-log | event-tov vsan vsan-id | pending vsan vsan-id | pending-diff vsan vsan-id
| scr-table [vsan vsan-id] | session status vsan vsan-id | statistics [vsan vsan-id] }
```

| Syntax Description | | |
|-----------------------|--|---|
| brief-log | | Displays a brief log of the RSCN. |
| event-tov | | Displays the event timeout value. |
| vsan | | Specifies a VSAN ID. |
| <i>vsan-id</i> | | VSAN ID. The range is from 1 to 4093. |
| pending | | Displays the pending configuration. |
| pending-diff | | Displays the difference between the active and the pending configuration. |
| scr-table | | Displays the State Change Registration (SCR) table. |
| session status | | Displays the RSCN session status. |
| statistics | | Displays RSCN statistics. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines The SCR table cannot be configured. It is only populated if one or more N ports send SCR frames to register for RSCN information. If the **show rscn scr-table** command does not return any entries, no N port is interested in receiving RSCN information.

This command requires the FCoE license.

Examples This example shows how to display the RSCN information on VSAN 1:

```
switch# show rscn scr-table vsan 1
```

This example shows how to display the RSCN statistics on VSAN 1:

```
switch# show rscn statistics vsan 1
```

This example shows how to display the RSCN event timeout value configured on VSAN 1:

```
switch# show rscn event-tov vsan 1
```

This example shows how to display the difference between the active RSCN configuration and the pending RSCN configuration on VSAN 1:

```
switch# show rscn pending-diff vsan 1
```

Related Commands

| Command | Description |
|------------------------------|---|
| rscn | Configures a registered state change notification (RSCN). |
| clear rscn session | Clears RSCN session configuration. |
| clear rscn statistics | Clears RSCN statistics. |
| rscn abort | Aborts the RSCN configuration. |
| rscn commit | Commits the RSCN configuration. |

show trunk protocol

To display the trunk protocol status, use the **show trunk protocol** command.

show trunk protocol

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|------------------------|----------------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to display the trunk protocol status:

```
switch# show trunk protocol
Trunk Protocol is enabled
switch#
```

| Related Commands | Command | Description |
|-------------------------|------------------------------|--|
| | trunk protocol enable | Configures the trunking protocol for Fibre Channel interfaces. |

show vsan

To display information about configured VSAN, use the **show vsan** command.

```
show vsan [vsan-id [membership] | membership [interface {fc slot/port | san-port-channel port
| vfc vfc-id}] | usage]
```

Syntax Description

| | |
|-------------------------|--|
| <i>vsan-id</i> | (Optional) Information for the specified VSAN ID. The range is from 1 to 4094. |
| membership | (Optional) Displays membership information. |
| interface | (Optional) Specifies the interface type. |
| fc | Specifies a Fibre Channel interface. |
| <i>slot/port</i> | Slot and port number. The slot range is from 1 to 12 and the port range is from 1 to 48. |
| san-port-channel | Specifies a SAN port channel interface specified by the port channel number. |
| <i>port</i> | Port channel number. The range is from 1 to 256. |
| vfc | Specifies a virtual Fibre Channel interface. |
| <i>vfc-id</i> | Virtual interface ID. The range is from 1 to 8192. |
| usage | (Optional) Displays VSAN usage in the system. |

Command Default

None

Command Modes

EXEC mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

When you enter the **show vsan membership interface** command, interface information appears for interfaces that are configured in this VSAN.

The interface range must be in ascending order and nonoverlapping. You can specify a range using a hyphen and several interfaces using commas:

- The interface range format for a Fibre Channel interface range is `fcslot/port - port, fcslot/port, fcslot/port`:

For example, `show int fc2/1 - 3 , fc2/4 , fc3/2`

This command requires the FCoE license.

Examples

This example shows how to display the configured VSAN information:

```
switch# show vsan 1
vsan 1 information
```

```

name:VSAN0001 state:active
interoperability mode:default
loadbalancing:src-id/dst-id/oxid
operational state:up

switch#

This example shows how to display the membership information for all VSANs:

switch # show vsan membership
vsan 1 interfaces:

vsan 331 interfaces:
    fc2/3          fc2/4          san-port-channel 14 vfc1
    vfc2           vfc3           vfc4             vfc5
    vfc6           vfc7           vfc8             vfc9
    vfc10          vfc11          vfc12            vfc13
    vfc14          vfc15          vfc16            vfc17
    vfc18          vfc19          vfc20

vsan 332 interfaces:
    fc2/5          fc2/6          fc2/7            fc2/8
    san-port-channel 8 san-port-channel 9 vfc21            vfc22
    vfc23          vfc24          vfc25            vfc26
    vfc27          vfc28          vfc29            vfc30
    vfc31          vfc32          vfc33            vfc34
    vfc35          vfc36          vfc37            vfc38
    vfc39          vfc40

vsan 333 interfaces:
fc2/1          fc2/2          san-port-channel 13

vsan 334 interfaces:

vsan 336 interfaces:

vsan 337 interfaces:

vsan 4079(evfp_isolated_vsan) interfaces:

vsan 4094(isolated_vsan) interfaces:

switch#

```

This example shows how to display the membership information for a specified interface:

```

switch# show vsan membership interface fc2/1
fc2/1
    vsan:333
    allowed list:1-4078,4080-4093
switch#

```

Related Commands

| Command | Description |
|-------------|--------------------|
| vsan | Configures a VSAN. |

show wwn

To display the status of the WWN configuration, use the **show wwn** command.

```
show wwn {status [block-id number] | switch | vsan-wwn }
```

| Syntax Description | Parameter | Description |
|--------------------|-----------------|--|
| | status | Displays a summary of the WWN usage and alarm status. |
| | block-id | (Optional) Displays the WWN usage and alarm status for a block ID. |
| | <i>number</i> | Block ID. The range is from 34 to 1793. |
| | switch | Displays the switch WWN. |
| | vsan-wwn | Displays all user-configured VSAN WWNs. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to display the WWN of the switch:

```
switch# show wwn switch
Switch WWN is 20:00:00:22:55:79:a4:80
switch#
```

This example shows how to display a user-configured VSAN WWN:

```
switch# show wwn vsan-wwn
```

| Related Commands | Command | Description |
|------------------|-----------------|--|
| | wwn vsan | Configures a WWN for a suspended VSAN that has interop mode 4 enabled. |

show zone

To display zone information, use the **show zone** command.

```
show zone [active [vsan vsan-id] | analysis { active vsan vsan-id | vsan vsan-id | zoneset
zoneset-name } | ess [vsan vsan-id] | member { fcalias alias-name | fcid fc-id [active | lun lun-id
| vsan vsan-id] | pwwn wwn [active | lun lun-id | vsan vsan-id] } | name string [active
| pending] [vsan vsan-id] | pending [active] [vsan vsan-id] | pending-diff [vsan vsan-id] |
policy [pending] [vsan vsan-id] | statistics [vsan vsan-id] | status [vsan vsan-id]]
```

Syntax Description

| | |
|------------------------------------|---|
| active | (Optional) Displays zones that are part of the active zone set. |
| vsan | (Optional) Displays zones that belong to the specified VSAN ID. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |
| analysis | (Optional) Displays the analysis of the zone database. |
| active | Displays the analysis of the active zone database. |
| vsan | Displays the analysis of the zone database for the specified VSAN. |
| zoneset <i>zoneset-name</i> | Displays the analysis of the specified zone set. |
| ess | (Optional) Displays the exchange switch support (ESS) information. |
| member | (Optional) Displays all zones in which the given member is part of. |
| fcalias | Displays member information for a specific fcalias. |
| <i>alias-name</i> | Name. The maximum size is 64 characters. |
| fc-id | Displays member information for a specific Fibre Channel ID. |
| <i>fc-id</i> | Fibre Channel ID. |
| lun <i>lun-id</i> | (Optional) Displays the logical unit ID. |
| pwwn | Displays device name information for a specific PWWN. |
| <i>wwn</i> | WWN. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal number. |
| name <i>string</i> | (Optional) Displays members of a specified zone. |
| pending | (Optional) Displays members of a specified zone in the current session. |
| pending-diff | (Optional) Displays pending changes to the zone database. |
| statistics | (Optional) Displays zone server statistics. |
| status | (Optional) Displays the zone server current status. |

Command Default

None

Command Modes

EXEC mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to display the configured zone information:

```
switch# show zone
```

This example shows how to display the zone information for a specific VSAN:

```
switch# show zone vsan 1
```

This example shows how to display the members of a specific zone:

```
switch# show zone name Zone1
```

This example shows how to display all zones to which a member belongs using the PWWN:

```
switch# show zone member pwwn 21:00:00:20:37:9c:48:e5
```

This example shows how to display the number of control frames exchanged with other switches:

```
switch# show zone statistics
Statistics For VSAN: 1
*****
Number of Merge Requests Sent: 0
Number of Merge Requests Recvd: 0
Number of Merge Accepts Sent: 0
Number of Merge Accepts Recvd: 0
Number of Merge Rejects Sent: 0
Number of Merge Rejects Recvd: 0
Number of Change Requests Sent: 0
Number of Change Requests Recvd: 0
Number of Change Rejects Sent: 0
Number of Change Rejects Recvd: 0
Number of GS Requests Recvd: 0
Number of GS Requests Rejected: 0
Number of RSCN Sent: 0
switch#
```

This example shows how to display the status of the configured zones:

```
switch# show zone status
VSAN: 1 default-zone: deny distribute: active only Interop: default
      mode: basic merge-control: allow
      session: none
      hard-zoning: enabled broadcast: unsupported
Default zone:
      qos: none broadcast: unsupported ronly: unsupported
Full Zoning Database :
      DB size: 64 bytes
      Zonesets:0 Zones:0 Aliases: 2
Active Zoning Database :
      Database Not Available
Status:
switch#
```

This example checks the status of the **zoneset distribute vsan** command and displays the default zone attributes of a specific VSAN or all active VSANs:

```
switch# show zone status vsan 100
VSAN: 100 default-zone: deny distribute: active only Interop: default
      mode: basic merge-control: allow
      session: none
      hard-zoning: enabled broadcast: unsupported
```

```

Default zone:
  qos: none broadcast: unsupported ronly: unsupported
Full Zoning Database :
  DB size: 148 bytes
  Zonesets:1 Zones:2 Aliases: 0
Active Zoning Database :
  DB size: 56 bytes
  Name: zs100 Zonesets:1 Zones:1
Status: Activation completed at 15:37:50 UTC Feb 21 2011

```

This example shows how to display the zone status:

```

switch# show zone
zone name z425 vsan 100
  pwn 21:00:00:c0:dd:14:54:85
  pwn 21:00:00:04:cf:67:d0:64

zone name inact vsan 100
  pwn 21:00:00:c0:dd:14:54:87
  pwn 21:00:00:04:cf:17:66:b7

zone name z426 vsan 200
  pwn 21:00:00:c0:dd:14:54:87
  pwn 21:00:00:04:cf:17:66:b7

zone name test vsan 200
  pwn 21:00:00:04:cf:17:66:b7

```

This example shows how to display zones that are part of the active zoneset:

```

switch# show zone active
zone name z425 vsan 100
* fcid 0xd40000 [pwn 21:00:00:c0:dd:14:54:85]
* fcid 0x0500cb [pwn 21:00:00:04:cf:67:d0:64]

zone name z426 vsan 200
* fcid 0x980000 [pwn 21:00:00:c0:dd:14:54:87]
* fcid 0x1500e4 [pwn 21:00:00:04:cf:17:66:b7]

```

Table 1-3 describes the significant fields shown in the **show zone status vsan** display.

Table 1-3 *show zone status Field Descriptions*

| Field | Description |
|---------------|---|
| VSAN: | VSAN number displayed. |
| default-zone: | Default-zone policy, either permit or deny. |
| Default zone: | Field that displays the attributes for the specified VSAN. The attributes include Qos level, broadcast zoning enabled/disabled, and read-only zoning enabled/disabled. |
| distribute: | Distribute full-zone set (full) or active-zone set (active only). |
| Interop: | <ul style="list-style-type: none"> •Mode 1— Standards based interop mode that requires all other vendors in the fabric to be in interop mode. •Mode 2—Brocade native mode (Core PID 0). •Mode 3—Brocade native mode (Core PID 1). •Mode 4—McData native mode. |
| mode: | Zoning mode, either basic or enhanced. |

Table 1-3 *show zone status Field Descriptions (continued)*

| Field | Description |
|-------------------------|---|
| merge control: | Merge policy, either allow or restrict. |
| Hard zoning is enabled | If hardware resources (TCAM) becomes full, hard zoning is automatically disabled. |
| Full Zoning Database: | Values of the zone database. |
| Active Zoning Database: | Values of the active zone database. |
| Status: | Status of the last zone distribution. |

Related Commands

| Command | Description |
|----------------|------------------------------|
| zone | Configures zone information. |

show zone analysis

To display detailed analysis and statistical information about the zoning database, use the **show zone analysis** command.

show zone analysis { **active vsan** *vsan-id* | **pending** | **vsan** *vsan-id* | **zoneset** *name vsan vsan-id* }

| Syntax Description | | |
|--------------------|--|--|
| active | | Displays analysis information for the active zone set. |
| pending | | Displays zone set analysis in the pending database. |
| vsan | | Displays analysis information for the specified VSAN ID. |
| <i>vsan-id</i> | | VSAN ID. The range is from 1 to 4093. |
| zoneset | | Displays zone set analysis information for the specified zone set. |
| <i>name</i> | | Zone set name. The maximum size is 64 characters. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to display the detailed statistics and analysis of the active zoning database for VSAN 1:

```
switch# show zone analysis active vsan 1
```

This example shows how to display the detailed statistics and analysis of the full zoning database for VSAN 1:

```
switch# show zone analysis vsan 1
Zoning database analysis vsan 1
Full zoning database
  Last updated at: 14:36:56 UTC Oct 04 2005
  Last updated by: Local [CLI / SNMP / GS / CIM / INTERNAL] or
                  Merge [interface] or
                  Remote [Domain, IP-Address]
                  [Switch name]

  Num zonesets: 1
  Num zones: 1
  Num aliases: 0
  Num attribute groups: 0
  Formatted database size: < 1 Kb / 2000 kb ( < 1% usage)
```

```

Unassigned zones:
  zone name z1 vsan 1

```

Table 1-4 describes the fields displayed in the output of the **show zone analysis** command for the full zoning database.

Table 1-4 *show zone analysis Field Descriptions for the Full Zoning Database*

| Field | Description |
|----------------------|--|
| Last updated at | Time stamp that shows when the full zoning database was last updated. |
| Last Updated by | <p>Agent that most recently modified the full zoning database. The agent can be one of the following three types:</p> <ul style="list-style-type: none"> • Local—Indicates that the full database was last modified locally through a configuration change from one of the following applications: <ul style="list-style-type: none"> – CLI—The full zoning database was modified by the user from the command line interface. – SNMP—The full zoning database was modified by the user through the Simple Network Management Protocol (SNMP). – GS—The full zoning database was modified from the Generic Services (GS) client. – CIM—The full zoning database was modified by the applications using the Common Information Model (CIM). – INTERNAL—The full zoning database was modified as a result of an internal activation either from Inter-VSAN Routing (IVR) or from the IP storage services manager. • Merge—Indicates that the full database was last modified by the Merge protocol. In this case, the interface on which the merge occurred is also displayed. • Remote—Indicates that the full database was last modified by the Change protocol, initiated by a remote switch, when the full zone set distribution was enabled. The domain, IP address, and switch name of the switch initiating the change are also displayed. <p>Note The switch name is displayed on the next line, aligned with the domain, only if the switch name is set. The default switch name <i>switch</i> and the <i>ip-address</i> are not displayed.</p> |
| Num zonesets | Total number of zone sets in the database. |
| Num zones | Total number of zones in the database, including unassigned zones. |
| Num aliases | Total number of aliases in the database, including unassigned FC aliases. |
| Num attribute groups | Total number of attribute groups in the database. This field applies only when enhanced zoning is used. |

Table 1-4 *show zone analysis Field Descriptions for the Full Zoning Database (continued)*

| Field | Description |
|-------------------------|---|
| Formatted database size | Total size of the full database when formatted to be sent over the wire. The formatted database size is displayed in kilobytes in this format: < X KB / Y KB, as in the following example: Formatted database size: < 1 KB/2000 KB In this example, the formatted database size is less than 1 KB out of the maximum size of 2000 KB. |
| Unassigned zones | All the unassigned zones in the VSAN. Only the names of the zones are displayed. The details about the members of the zone are not displayed in this section. |

This example shows how to display the zone set analysis information for VSAN 100:

```
switch# show zone analysis zoneset zs100 vsan 100
Zoning database analysis vsan 100
  Zoneset analysis: zs100
    Num zonesets: 1
    Num zones: 1
    Num aliases: 0
    Num attribute groups: 0
    Formatted size: 104 bytes / 2048 Kb
```

Related Commands

| Command | Description |
|--------------------------|-------------------------------------|
| zone compact vsan | Compacts a zone database in a VSAN. |

show zone internal global-info

To display the zone global information, use the **show zone internal global-info** command.

show zone internal global-info

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

| Command History | Release | Modification |
|-----------------|---------|-----------------------------|
| | 6.1(3) | Changed the command output. |

Usage Guidelines None.

Examples The following example displays the zone server internal state for a VSAN:

```
switch# show zone internal global-info
Global Full Database Counters :
  Zonesets: 3 Zones: 3 Huge id zones: 0
  Read-only Zones: 0 QoS Zones: 0
  Broadcast Zones: 0 Smart-zoning Zones: 0
  Aliases: 0 Attribute-groups: 1
  Members: 7 LUN Members: 0 DDAS Members: 0 Smart-zoning members: 2
  Adv Zoning3 Members(IPv4 + dom-If): 0 IPv6 Members: 0
Global Session Database Counters (diff) :
  Zonesets: 0 Zones: 0 Smart-zoning Zones: 0
  Aliases: 0 Attribute-groups: 0
  Members: 0 LUN Members: 0 DDAS Members: 0 Smart-zoning members: 0
Global Active Database Counters :
  Zonesets: 1 Zones: 1 Huge id zones: 0
  Read-only Zones: 0 QoS Zones: 0
  Broadcast Zones: 0 Smart-zoning Zones: 0
  Members: 2 LUN Members: 0 DDAS Members: 0 Smart-zoning members: 0
  Adv Zoning3 Members(IPv4 + dom-If): 0 IPv6 Members: 0
Global Session Active Database Counters (diff) :
  Zones: 0 Smart-zoning Zones: 0
  Members: 0 LUN Members: 0 DDAS Members: 0 Smart-zoning members: 0
Global ISSU Info:
  fs_upgrade = 0 system_upg = 0 lc_upgrade = 0
Global RSCN Generation Info: Enabled
Global Smart-zoning vsan counter: 1
switch#
```

show zone internal vsan

To display the zone server internal state for a VSAN, use the **show zone internal vsan** command.

show zone internal vsan *vsan-id*

| | | |
|---------------------------|----------------|---|
| Syntax Description | <i>vsan-id</i> | Specifies the VSAN ID. The range is from 1 to 4093. |
| Defaults | None. | |
| Command Modes | EXEC mode. | |
| Command History | Release | Modification |
| | 6.1(3) | Changed the command output. |
| Usage Guidelines | None. | |

Examples

The following example displays the zone server internal state for a VSAN:

```
switch# show zone internal vsan 1
VSAN: 1 default-zone: deny(rw) distribute: active only
  E_D_TOV: 2000 R_A_TOV: 10000 D_S_TOV: 5000 F_S_TOV: 5000 F_D_TOV: 2000
  Interop: default IOD: disable bcast: unsupported dflt-bcast: unsupported dfl
t-qos: 0
  Smart-zoning: disabled   Inc Tmp SZ mode: 0   Tmp Smart-zoning: 0
  DBLock:-(F count:0) Ifindex Table Size: 5 Transit Frame Index: 0
  Total Transit Frame Count: 0 Transit Discard Count: 0
Full Database Counters :
  Zonesets: 0 Zones: 0 Huge id zones: 0
  Read-only Zones: 0 QoS Zones: 0
  Broadcast Zones: 0 Smart-zoning Zones: 0
  Aliases: 0 Attribute-groups: 0
  Members: 0 LUN Members: 0 DDAS Members: 0 Smart-zoning members: 0
  Adv Zoning3 Members(IPv4 + dom-If): 0 IPv6 Members: 0
switch#
```

show zone policy

To display the zone policies, use the **show zone** policy command.

show zone policy

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

| Command History | Release | Modification |
|-----------------|---------|--|
| | 6.1(3) | Changed the command output to include (smart-zone disabled). |

Usage Guidelines None.

Examples The following example displays the zone policies:

```
switch# show zone policy
Vsan: 1
  Default-zone: deny
  Distribute: active only
  Broadcast: unsupported
  Merge control: allow
  Generic Service: read-write
  Smart-zone: disabled
switch#
```

show zone smart-zoning auto-conv

To display the previous auto convert status, use the **show zone smart-zoning auto-conv** command.

```
show zone smart-zoning auto-conv {log errors | status vsan vsan-id}
```

| Syntax Description | log | Displays the logged messages. |
|--------------------|---------|--|
| | errors | Displays the error logs for smart zoning auto convert. |
| | status | Displays the previous auto convert status. |
| | vsan | Displays the zones belonging to the specified VSAN. |
| | vsan-id | VSAN ID. The range is from 1 to 4093. |

Defaults None.

Command Modes EXEC mode.

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 6.1(3) | This command was introduced. |

Usage Guidelines None.

Examples The following example displays the previous auto convert status for a VSAN:

```
switch# show zone smart-zoning auto-conv status vsan 1
zone name z1 vsan 1
  fcid 0x380200  init
  fcid 0x380220  init
  fcid 0x111111  unknown
switch#
```

show zoneset

To display the configured zone sets, use the **show zoneset** command.

```
show zoneset [active [vsan vsan-id] | brief [active [vsan vsan-id] | vsan vsan-id] | name
zoneset-name [active [vsan vsan-id] | brief [active [vsan vsan-id] | vsan vsan-id] | vsan
vsan-id] | pending [active [vsan vsan-id] | brief [active [vsan vsan-id] | vsan vsan-id] | vsan
vsan-id] | vsan vsan-id
```

Syntax Description

| | |
|---------------------|--|
| active | (Optional) Displays only active zone sets. |
| vsan | (Optional) Displays the VSAN. |
| <i>vsan-id</i> | (Optional) VSAN ID. The range is from 1 to 4093. |
| brief | (Optional) Displays zone set members in a brief list. |
| name | (Optional) Displays members of a specified zone set. |
| <i>zoneset-name</i> | Zone set name. The maximum size is 64 alphanumeric characters. |
| pending | (Optional) Displays zone sets members that are in session. |

Command Default

None

Command Modes

EXEC mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to display the configured zone set information for VSAN 1:

```
switch# show zoneset vsan 1
```

This example shows how to display the configured zone set information for a VSANs 2 and 3:

```
switch# show zoneset vsan 2-3
```

Related Commands

| Command | Description |
|--|----------------------------------|
| zoneset (Global configuration mode) | Groups zones under one zone set. |
| zoneset (EXEC mode) | Merges zone set databases. |

switchport mode trunk

To configure an Ethernet interface as a trunk port, use the **switchport mode trunk** command. To remove the configuration, use the **no** form of this command.

switchport mode trunk

no switchport mode trunk

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes

- auto Trunk mode auto.
- off Trunk mode off.
- on Trunk mode on.

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines You must configure the Ethernet interface as a trunk port to allow both Fibre Channel and Ethernet traffic on the same interface.



Note

On Cisco NX-OS 5.0(2)N1(1), the switchport trunk mode is on by default for virtual Fibre Channel interfaces and cannot be configured.

Examples This example shows how to enable the trunk mode for interface Ethernet 2/1:

```
switch(config)# interface ethernet 2/1
switch(config-if)# switchport mode trunk
switch(config-if)#
```

| Related Commands | Command | Description |
|------------------|----------------------------------|--|
| | show interface switchport | Displays information on all interfaces configured as switch ports. |

system default switchport

To configure port attributes for Fibre Channel interfaces, use the **system default switchport** command. To disable port attributes, use the **no** form of this command.

```
system default switchport {shutdown | trunk mode {auto | off | on}}
```

```
no system default switchport {shutdown | trunk mode {auto | off | on}}
```

Syntax Description

| | |
|-----------------|--|
| shutdown | Disables or enables switch ports by default. |
| trunk | Configures the trunking parameters as a default. |
| mode | Configures the trunking mode. |
| auto | Enables autosense trunking. |
| off | Disables trunking. |
| on | Enables trunking. |

Command Default

Enabled

Command Modes

Global configuration mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

Attributes configured using this command are applied globally to all future switch port configurations, even if you do not individually specify them at that time.

This command changes the configuration of the following ports to administrative mode F:

- All ports that are down.
- All F ports that are up, whose operational mode is F, and whose administrative mode is not F.

This command does not affect non-F ports that are up; however, if non-F ports are down, this command changes the administrative mode of those ports.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to configure a port shutdown:

```
switch(config)# system default switchport shutdown
switch(config)#
```

This example shows how to configure the trunk mode:

```
switch(config)# system default switchport trunk mode auto
```

Related Commands

| Command | Description |
|---------------------------------------|---|
| show system default switchport | Displays default values for switch port attributes. |
| show interface brief | Displays Fibre Channel port modes. |

system default zone default-zone permit

To configure default values for a zone, use the **system default zone default-zone permit** command. To revert to the default settings, use the **no** form of this command.

system default zone default-zone permit

no system default zone default-zone permit

Syntax Description This command has no arguments or keywords.

Command Default No default values for zones.

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command defines the default values for the default zone for all Virtual SANs (VSANs). The default values are used when you initially create a VSAN and it becomes active. If you do not want to use the default values, use the **zone default-zone permit vsan** command to define the operational values for the default zone.

Use the **system default zone default-zone permit** command only be used with VSANs that have not yet been created; this command has no effect on existing VSANs.

Because VSAN 1 is the default VSAN and is always present, this command has no effect on it.

This command requires the FCoE license.

Examples This example shows how to set the default zone to use the default values:

```
switch(config)# system default zone default-zone permit
switch(config)#
```

This example shows how to restore the default setting:

```
switch(config)# no system default zone default-zone permit
switch(config)#
```

| Related Commands | Command | Description |
|------------------|--------------------------------------|---|
| | zone default-zone permit vsan | Defines whether a default zone (nodes not assigned a created zone) permits or denies access to all in the default zone. |
| | show system default zone | Displays default values for the default zone. |

system default zone

To configure default values for a zone, use the **system default zone** command. To revert to the default settings, use the **no** form of this command.

```
system default zone { default-zone permit | distribute full | gs read read-write | mode enhanced }
```

```
no system default zone { default-zone permit | distribute full | gs read read-write | mode enhanced }
```

Syntax Description

| | |
|------------------------|---|
| default-zone | Specifies default values for the default zone. |
| permit | Specifies the default zone permit. |
| distribute full | Specifies the default values for zone set distribution. |
| gs | Specifies the default zone generic services permission. |
| read | Specifies the default zone generic services permission as read. |
| read-write | Specifies the default zone generic services permission as read-write. |
| mode | Specifies the default values for zone mode. |
| enhanced | Specifies the enhanced default zone mode. |

Command Default

Distribution to active zone sets only.

Command Modes

Global configuration mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

This command distributes the default values for the default zone to all Virtual SANs (VSANs). The default values are used when you initially create a VSAN and it becomes active. If you do not want to use the default values, use the **zoneset distribute full vsan** command to distribute the operational values for the default zone.

Use the **system default zone distribute full** command only be used with VSANs that have not yet been created; thus command has no effect on existing VSANs.

Because VSAN 1 is the default VSAN and is always present, this command has no effect on it.

This command requires the FCoE license.

Examples

This example shows how to configure the default values for enhanced zone mode:

```
switch(config)# system default zone mode enhanced
switch(config)#
```

This example shows how to configure the default zone generic services permission as read:

```
switch(config)# system default zone gs read
switch(config)#
```

This example shows how to configure the default zone generic services permission as read-write:

```
switch(config)# system default zone gs read-write
switch(config)#
```

This example shows how to distribute the default values to the active zone set only:

```
switch(config)# no system default zone distribute full
switch(config)#
```

Related Commands

| Command | Description |
|-------------------------------------|---|
| zoneset distribute full vsan | Distributes the operational values for the default zone to all zone sets. |
| show system default zone | Displays default values for the default zone. |

system default zone smart-zone

To configure the default values for smart zoning, use the **system default zone smart-zone** command in the configuration mode. To disable this feature, use the **no** form of the command.

system default zone smart-zone enable

no system default zone smart-zone enable

| | | |
|---------------------------|---|--|
| Syntax Description | enable | Specifies the default smart zone enable or disable. |
| Defaults | None. | |
| Command Modes | Configuration mode | |
| Command History | Release | Modification |
| | 6.1(3) | This command was introduced. |
| Usage Guidelines | None | |
| Examples | <p>The following example shows how to configure the default values for smart-zone:</p> <pre>switch# config switch(config)# no system default zone smart-zone enable switch(config)#</pre> | |
| Related Commands | Command | Description |
| | show system default zone | Displays the default value of zone mode as basic and enhanced. |

trunk protocol enable

To configure the trunking protocol for virtual Fibre Channel and virtual port channel interfaces, use the **trunk protocol enable** command. To disable this feature, use the **no** form of this command.

trunk protocol enable

no trunk protocol enable

Syntax Description This command has no arguments or keywords.

Command Default Enabled

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines You disable the trunking protocol on a switch, no port on that switch can apply new trunk configurations. Existing trunk configurations are not affected, and the TE port continues to function in trunking mode, but only supports traffic in Virtual SANs (VSANs) that it negotiated previously (when the trunking protocol was enabled). Also, other switches that are directly connected to this switch are similarly affected on the connected interfaces. In some cases, you may need to merge traffic from different port VSANs across a nontrunking Inter-Switch Link (ISL). Before you merge traffic, you must disable the trunking protocol.

This command requires the FCoE license.

Examples This example shows how to disable the trunk protocol feature:

```
switch(config)# no trunk protocol enable
switch(config)#
```

This example shows how to enable the trunk protocol feature:

```
switch(config)# trunk protocol enable
switch(config)#
```

| Related Commands | Command | Description |
|------------------|----------------------------|-------------------------------------|
| | show trunk protocol | Displays the trunk protocol status. |

vsan

To create multiple fabrics that share the same physical infrastructure, assign ports to Virtual SANs (VSANs), turn on or off interop mode, load balance either per originator exchange or by source-destination ID, and create VSAN membership, use the **vsan** command. To remove a configuration, use the **no** form of this command.

```
vsan vsan-id [interface {fc slot/port | san-port-channel port | vfc vfc-id} | interop [mode]
[loadbalancing {src-dst-id | src-dst-ox-id}] | loadbalancing {src-dst-id | src-dst-ox-id} |
name name [interop [mode] [loadbalancing {src-dst-id | src-dst-ox-id}] | loadbalancing
{src-dst-id | src-dst-ox-id}] | suspend [interop [mode] [loadbalancing {src-dst-id |
src-dst-ox-id}] | loadbalancing {src-dst-id | src-dst-ox-id}] | suspend [interop [mode]
[loadbalancing {src-dst-id | src-dst-ox-id}] | loadbalancing {src-dst-id | src-dst-ox-id}]]]
```

```
no vsan vsan-id [interface {fc slot/port | san-port-channel port | vfc vfc-id} | interop [mode]
[loadbalancing {src-dst-id | src-dst-ox-id}] | loadbalancing {src-dst-id | src-dst-ox-id} |
name name [interop [mode] [loadbalancing {src-dst-id | src-dst-ox-id}] | loadbalancing
{src-dst-id | src-dst-ox-id}] | suspend [interop [mode] [loadbalancing {src-dst-id |
src-dst-ox-id}] | loadbalancing {src-dst-id | src-dst-ox-id}] | suspend [interop [mode]
[loadbalancing {src-dst-id | src-dst-ox-id}] | loadbalancing {src-dst-id | src-dst-ox-id}]]]
```

Syntax Description

| | |
|-------------------------|--|
| vsan | Specifies the VSAN ID. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4094. |
| interface fc | (Optional) Specifies the Fibre Channel interface by slot and port number on the switch. |
| <i>slot/port</i> | Slot and port number. The slot range is from 1 to 12 and the port range is from 1 to 48. |
| san-port-channel | Configures the SAN port channel interface specified by the SAN port channel number. |
| <i>port</i> | Port channel number. The range is from 1 to 256. |
| vfc | Specifies the Virtual Fibre Channel interface. |
| <i>vfc-id</i> | Virtual Fibre Channel interface ID. The range is from 1 to 8192. |
| interop | (Optional) Turns on interoperability mode. |
| <i>mode</i> | (Optional) Interop mode. The range is from 1 to 4. |
| loadbalancing | (Optional) Configures the load balancing scheme. |
| src-dst-id | Sets src-id/dst-id for load-balancing. |
| src-dst-ox-id | Sets ox-id/src-id/dst-id for load balancing (default). |
| name | Assigns a name to the VSAN. |
| <i>name</i> | VSAN name. The maximum size is 32 alphanumeric characters. |
| suspend | Suspends the VSAN. |

Command Default

None

Command Modes

VSAN database configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines

To use this command, change to the VSAN database mode.

The interface range must be in ascending order and nonoverlapping. You can specify a range using a hyphen and several interfaces using commas:

- The interface range format for a Virtual Fibre Channel interface range is `fcslot/port - port , fcslot/port , fcslot/port`:

For example, `show int fc2/1 - 3 , fc2/4 , fc3/2`

- The format for a SAN port channel is `san-port-channel portchannel-number.subinterface-number`:

For example, `show int san-port-channel 5.1`

There are four interop modes:

- Interop mode 1 — Standard-based interop mode that requires all other vendors in the fabric to be in interop mode.
- Interop mode 2 — Brocade native mode (Core PID 0).
- Interop mode 3 — Brocade native mode (Core PID 1).
- Interop mode 4 — McData native mode. Before you configure Interop mode 4 (or remove the configuration), you must suspend the VSAN. You should unsuspend the VSAN only after you configure a VSAN-dependent switch WWN with the McData Organisational Unit Identifier (OUI) [08:00:88].

The **no** form of the `vsan vsan-id interface` command is not supported. To remove a VSAN membership of an interface (for example, interface `fc1/8` from VSAN 7), you must assign the interface to another VSAN. The best practice is to assign the interface back to the default VSAN (VSAN 1).

This command requires the FCoE license.

Examples

This example shows how to create multiple fabrics sharing the same physical infrastructure and how to assign ports to VSANs:

```
switch(config)# vsan database
switch-config-vsan-db# vsan 2
switch(config-vsan-db)# vsan 2 name TechDoc
switch(config-vsan-db)# vsan 2 loadbalancing src-dst-id
switch(config-vsan-db)# vsan 2 loadbalancing src-dst-ox-id
switch(config-vsan-db)# vsan 2 suspend
switch(config-vsan-db)# no vsan 2 suspend
switch(config-vsan-db)# end
```

This example shows how to suspend a VSAN and enable Interop mode 4:

```
switch(config)# vsan database
switch(config-vsan-db)# vsan 100 suspend
switch(config-vsan-db)# vsan 100 interop 4
switch(config-vsan-db)# exit
```

This example shows how to configure a VSAN to create a Fibre Channel over Ethernet (FCOE)-VLAN to VSAN mapping:

```

switch(config)# vsan database
switch(config-vsan-db)# vsan 377
switch(config-vsan-db)# exit
switch(config)# vlan 30
switch(config-vlan)# fcoe vsan 337
switch(config-vlan)#

```

This example shows how to remove interface fc2/1 from VSAN 7:

```

switch(config)# vsan database
switch(config-vsan-db)# vsan 1 interface fc2/1
switch(config-vsan-db)#

```

Related Commands

| Command | Description |
|-----------------------------|--|
| show vsan | Displays the configuration information of VSANs. |
| show vlan fcoe | Displays the FCoE VLAN to VSAN mappings. |
| show vsan membership | Displays VSAN membership information. |
| wwn vsan | Configures a WWN for a suspended VSAN that has interop mode 4 enabled. |

vsan database

To enter VSAN database mode to configure VSAN information and membership, use the **vsan database** command.

vsan database

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines To exit from the VSAN database configuration mode, use the **exit** command.
This command requires the FCoE license.

Examples This example shows how to enter the VSAN database configuration mode:

```
switch(config)# vsan database
switch(config-vsan-db)# exit
switch(config)#
```

| Related Commands | Command | Description |
|------------------|-----------------------------|--|
| | show vsan | Displays the configuration information of VSANs. |
| | show vlan fcoe | Displays the Fibre Channel over Ethernet (FCoE) VLAN to VSAN mappings. |
| | show vsan membership | Displays VSAN membership information. |
| | vsan | Configures VSAN information or membership. |

wwn secondary-mac

To allocate a secondary MAC address to a SAN node, use the **wwn secondary-mac** command.

wwn secondary-mac *wwn-id* **range** *address-range*

| Syntax Description | | |
|----------------------|---|--|
| <i>wwn-id</i> | Secondary MAC address. The format is <i>hh:hh:hh:hh:hh:hh</i> . | |
| range | Specifies the range for the specified WWN. | |
| <i>address-range</i> | Range integer. The only valid value is 64. | |

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines

This command cannot be undone.

Changes to the worldwide names are only performed as required. They should not be changed on a daily basis. These changes should be made by an administrator or individual who is completely familiar with switch operations.

This command requires the FCoE license.

Examples This example shows how to allocate a secondary range of MAC addresses:

```
switch(config)# wwn secondary-mac 00:99:55:77:55:55 range 64
```

wwn vsan

To configure a WWN for a suspended VSAN that has interop mode 4 enabled, use the **wwn vsan** command. To discard the configuration, use the **no** form of this command.

```
wwn vsan vsan-id vsan-wwn wwn
```

```
no wwn vsan vsan-id vsan-wwn wwn
```

| Syntax Description | | |
|--------------------|-----------------|--|
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |
| | vsan-wwn | Specifies the WWN for the VSAN. |
| | <i>wwn</i> | VSAN WWN. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> . |

| Command Default | |
|-----------------|------|
| | None |

| Command Modes | |
|---------------|---------------------------|
| | Global configuration mode |

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

| Usage Guidelines | |
|------------------|---|
| | <p>This command can succeed only if the following conditions are satisfied:</p> <ul style="list-style-type: none"> • The VSAN must be suspended. • The VSAN must have interop mode 4 enabled before you can specify the switch WWN for it. • The switch WWN must be unique throughout the entire fabric. • The configured switch WWN must have McData OUI [08:00:88]. |

This command requires the FCoE license.

| Examples | |
|----------|--|
| | <p>This example shows how to assign a WWN to a VSAN:</p> <pre>switch(config)# wwn vsan 100 vsan-wwn 20:64:08:00:88:0d:5f:81 switch(config)# vsan database switch(config-vsan-db)# vsan 100 suspend switch(config-vsan-db)# exit switch(config)# wwn vsan 100 vsan-wwn 20:64:08:00:88:0d:5f:81</pre> |

| Related Commands | Command | Description |
|------------------|----------------------|---|
| | vsan database | Creates multiple fabrics sharing the same physical infrastructure, assigns ports to a VSAN, turns on or off interop mode, load balances either per originator exchange or source-destination ID, and creates VSAN membership. |

zone clone

To clone a zone name, use the **zone clone** command.

```
zone clone current-zone-name new-zone-name vsan vsan-id
```

| Syntax Description | | |
|--------------------------|--|--|
| <i>current-zone-name</i> | | Zone attribute group name. The name can be a maximum of 64 characters. |
| <i>new-zone-name</i> | | |
| vsan | | Specifies the VSAN ID. |
| <i>vsan-id</i> | | VSAN ID. The range is from 1 to 4093. |

Command Default None

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines Use the **no** form of the **zone name (configuration mode)** command to delete the zone name. This command requires the FCoE license.

Examples This example shows how to create a clone of the original zone group called origZone into the clone zone group cloneZone on VSAN 45:

```
switch(config)# zone clone origZone cloneZone vsan 45
```

| Related Commands | Command | Description |
|------------------|------------------|----------------------------|
| | show zone | Displays zone information. |

zone commit

To commit zoning changes to a VSAN, use the **zone commit** command. To negate the command, use the **no** form of this command.

zone commit vsan *vsan-id* [**force**]

no zone commit vsan *vsan-id* [**force**]

| Syntax Description | Parameter | Description |
|--------------------|----------------|---------------------------------------|
| | vsan | Specifies the VSAN ID. |
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |
| | force | (Optional) Forces the commit. |

| Command Default | Default Value |
|-----------------|---------------|
| | None |

| Command Modes | Mode |
|---------------|---------------------------|
| | Global configuration mode |

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

| Usage Guidelines | Guidelines |
|------------------|---|
| | Use the no form of the zone commit command to clear a session lock on a switch where the lock originated. |
| | This command requires the FCoE license. |

| Examples | Example |
|----------|---|
| | This example shows how to commit zoning changes to VSAN 200: <pre>switch(config)# zone commit vsan 200</pre> |

| Related Commands | Command | Description |
|------------------|------------------|----------------------------|
| | show zone | Displays zone information. |

zone compact

To compact a zone database in a VSAN, use the **zone compact** command.

zone compact vsan *vsan-id*

| Syntax Description | vsan | Specifies the VSAN ID. |
|--------------------|----------------|---------------------------------------|
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default None

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines

8000 zones are supported in a Cisco NX-OS switch.

If you attempt to merge VSANs, the merge fails if more than 2000 zones are present in a VSAN and the neighboring VSAN cannot support more than 2000 zones.

Activation fails if more than 2000 zones are present in the VSAN and one or more switches in the fabric cannot support more than 2000 zones.

This command requires the FCoE license.

Examples This example shows how to compact a zone database in VSAN 1:

```
switch(oongif)# zone compact vsan 1
```

| Related Commands | Command | Description |
|------------------|---------------------------|---|
| | show zone | Displays zone information. |
| | show zone analysis | Displays detailed analysis and statistical information about the zoning database. |

zone convert smart-zoning

To configure smart zoning convert commands, use the **zone convert smart-zoning** command in configuration mode.

```
zone convert smart-zoning {fcalias name fcalias-name vsan vsan-id | vsan vsan-id | zone name
zone-name vsan vsan-id | zoneset name zoneset-name vsan vsan-id}
```

| Syntax Description | Parameter | Description |
|--------------------|---------------------|--|
| | fcalias name | Specifies auto-convert commands for a fcalias. |
| | <i>fcalias-name</i> | Specifies the fcalias name. The maximum size is 64 characters. |
| | vsan | Specifies the auto convert commands for a VSAN. |
| | <i>vsan-id</i> | Specifies the VSAN ID. The range is from 1 to 4093. |
| | zone name | Specifies the auto convert commands for a given zone. |
| | <i>zone-name</i> | Specifies the zone name. The maximum size is 64 characters. |
| | zoneset name | Specifies the auto convert commands for a zoneset. |
| | <i>zoneset-name</i> | Specifies the zoneset name. The maximum size is 64 characters. |
| | vsan | Specifies the VSAN. |
| | <i>vsan-id</i> | Specifies the VSAN ID. The range is from 1 to 4093. |

Defaults None.

Command Modes Configuration mode.

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 6.1(3) | This command was introduced. |

Usage Guidelines None.

Examples The following example shows how to Specify the auto convert commands for a VSAN.

```
switch# config terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# zone convert smart-zoning vsan 1
switch(config)#
```

| Related Commands | Command | Description |
|------------------|--|--|
| | show zone smart-zoning auto conv status | Displays the status of the auto conversion that just happened. |

zone copy

To copy the active zone set to the full zone set, use the **zone copy** command. To negate the command or revert to the factory defaults, use the **no** form of this command.

```
zone copy active-zoneset full-zoneset [include-auto-zones] vsan vsan-id
```

```
zone copy vsan vsan-id active-zoneset { bootflash: | ftp: | full-zoneset | scp: | sftp: | tftp: | volatile: }
```

```
no zone copy
```

| Syntax Description | |
|---------------------------|---|
| active-zoneset | Copies from the active zone set. |
| full-zoneset | Copies the active zone set to the full zone set. |
| include-auto-zones | (Optional) Specifies that auto-zones be included when copying the active zone set. |
| vsan | Configures to copy the active zone set on a VSAN to the full zone set. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |
| bootflash: | Copies the active zone set to a location in the bootflash: directory. |
| ftp: | Copies the active zone set to a remote location using the File Transfer Protocol (FTP). |
| scp: | Copies the active zone set to a remote location using the SCP protocol. |
| sftp: | Copies the active zone set to a remote location using the SFTP protocol. |
| tftp: | Copies the active zone set to a remote location using the TFTP protocol. |
| volatile: | Copies the active zone set to a location in the volatile: directory. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to copy the active zone set to the full zone set:

```
switch# zone copy active-zoneset full-zoneset vsan 1
```

This example shows how to copy the active zone set in VSAN 3 to a remote location using SCP:

```
switch# zone copy vsan 3 active-zoneset scp://guest@myserver/tmp/active_zoneset.txt
```

Related Commands

| Command | Description |
|------------------|----------------------------|
| show zone | Displays zone information. |

zone default-zone

To define whether a default zone (assigned to nodes not assigned to a created zone) permits or denies access to all nodes in the default zone, use the **zone default-zone** command. To negate the command or revert to the factory defaults, use the **no** form of this command.

```
zone default-zone permit vsan vsan-id
```

```
no zone default-zone permit vsan vsan-id
```

Syntax Description

| | |
|----------------|--|
| permit | Permits access to all nodes in the default zone. |
| vsan | Sets default zoning behavior for the specified VSAN. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default

All default zones are permitted access.

Command Modes

Global configuration mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

Use the **zone default-zone permit vsan** command to define the operational values for the default zone in a VSAN. This command applies to existing VSANs; it has no effect on VSANs that have not yet been created.

Use the **system default zone default-zone permit** command to use the default values defined for the default zone for all VSANs. The default values are used when you initially create a VSAN and it becomes active.

This command requires the FCoE license.

Examples

This example shows how to permit the default zoning in VSAN 2:

```
switch(config)# zone default-zone permit vsan 2
```

Related Commands

| Command | Description |
|--|---------------------------------------|
| system default zone default-zone permit | Configures default values for a zone. |
| show zone | Displays zone information. |

zone merge-control restrict vsan

To restrict zone database merging, use the **zone merge-control restrict vsan** command. To disable this feature, use the **no** form of this command.

zone merge-control restrict vsan *vsan-id*

no zone merge-control restrict vsan *vsan-id*

| Syntax Description | vsan | Specifies the VSAN ID. |
|--------------------|----------------|---------------------------------------|
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default Disabled

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|----------------|------------------------------|
| | Release 2.0(1) | This command was introduced. |

Usage Guidelines If merge control is set to restricted and the two databases are not identical, the merge fails and Inter-Switch Links (ISLs) between the switches become isolated.

This command requires the FCoE license.

Examples This example shows how to set the zone merge control for VSAN 10 to restricted:

```
switch(config)# zone merge-control restrict vsan 10
```

| Related Commands | Command | Description |
|------------------|------------------|----------------------------|
| | show zone | Displays zone information. |

zone mode enhanced

To enable enhanced zoning for a VSAN, use the **zone mode enhanced** command. To disable this feature, use the **no** form of this command.

zone mode enhanced vsan *vsan-id*

no zone mode enhanced vsan *vsan-id*

Syntax Description

| | |
|----------------|---------------------------------------|
| vsan | Specifies the VSAN ID. |
| <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default

Disabled

Command Modes

Global configuration mode

Command History

| Release | Modification |
|---------|------------------------------|
| 5.2(1) | This command was introduced. |

Usage Guidelines

Before using the **zone mode enhanced** command, verify that all switches in the fabric are capable of working in enhanced zoning mode. If one or more switches are not capable of working in enhanced zoning mode, the request to enable enhanced zoning mode is rejected.

When the **zone mode enhanced vsan** command completes successfully, the software automatically starts a session, distributes the zoning database using the enhanced zoning data structures, applies the configuration changes, and sends a Release Change Authorization (RCA) to all switches in the fabric. All switches in the fabric then enable enhanced zoning mode.

This command requires the FCoE license.

Examples

This example shows how to enable enhanced zoning mode for VSAN 10:

```
switch(config)# zone mode enhanced vsan 10
WARNING: This command would distribute the zoning database of this switch throug
hout the fabric. Do you want to continue? (y/n) [n] y
Set zoning mode command initiated. Check zone status
switch(config)#
```

Related Commands

| Command | Description |
|------------------|----------------------------|
| show zone | Displays zone information. |

zone name (configuration mode)

To create a zone, use the **zone name** command. To negate the command or revert to the factory defaults, use the **no** form of this command.

```
zone name zone-name vsan vsan-id
member
```

```
zone name zone-name vsan vsan-id
no member
```

```
no zone name zone-name vsan vsan-id
```

| Syntax Description | | |
|--------------------|------------------|---|
| | <i>zone-name</i> | Name of the zone. The name can be a maximum of 64 characters. |
| | vsan | Specifies the VSAN ID. |
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default None

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines Zones are assigned to zone sets. Zone sets are then activated from one switch and propagate across the fabric to all switches. Zones allow security by permitting and denying access between nodes (hosts and storage). Enter the **zone name** commands from the configuration mode. Configure a zone for a VSAN from the config-zone mode.

Use the **show wwn switch** command to retrieve the switch world wide name (sWWN). If you do not provide an sWWN, the software automatically uses the local sWWN.

This command requires the FCoE license.

Examples This example shows how to configure attributes for the specified zone (Zone1) based on the member type (pWWN, fabric pWWN, FC ID, or Fibre Channel alias) and value specified:

```
switch(config)# zone name Zone1 vsan 10
switch(config-zone)# member device-alias device1
```

This example shows how to configure the members for the specified zone (Zone2) based on the member type (pWWN, fabric pWWN, FCID, or Fibre Channel alias) and value specified:

```
switch(config)# zone name Zone2 vsan 10
switch(config-zone)# member fcalias Payroll
switch(config-zone)# member domain-id 2 portnumber 23
```

Related Commands

| Command | Description |
|----------------------------------|-----------------------------------|
| show zone | Displays zone information. |
| zone rename | Renames zones. |
| zone-attribute-group name | Configures zone attribute groups. |

zone name (zone set configuration mode)

To configure a zone in a zone set, use the **zone name** command. To delete the zone from the zone set, use the **no** form of this command.

zone name *zone-name*

no zone name *zone-name*

| | | |
|---------------------------|------------------|---|
| Syntax Description | <i>zone-name</i> | Name of the zone. The name can be a maximum of 64 characters. |
|---------------------------|------------------|---|

| | |
|------------------------|------|
| Command Default | None |
|------------------------|------|

| | |
|----------------------|-----------------------------|
| Command Modes | Zone set configuration mode |
|----------------------|-----------------------------|

| | | |
|------------------------|----------------|------------------------------|
| Command History | Release | Modification |
| | 5.2(1) | This command was introduced. |

| | |
|-------------------------|---|
| Usage Guidelines | This command requires the FCoE license. |
|-------------------------|---|

| | |
|-----------------|---|
| Examples | This example shows how to configure a zone in a zone set: |
|-----------------|---|

```
switch(config)# zoneset name Sample vsan 1
switch(config-zoneset)# zone name MyZone
```

This example shows how to delete a zone from a zone set:

```
switch(config-zoneset)# no zone name Zone2
switch(config-zoneset)#
```

| | | |
|-------------------------|---------------------------------------|---------------------------------|
| Related Commands | Command | Description |
| | show zoneset | Displays zone set information. |
| | zone name (configuration mode) | Configure zones. |
| | zoneset | Configures zone set attributes. |

zone rename

To rename a zone, use the **zone rename** command.

```
zone rename current-name new-name vsan vsan-id
```

| Syntax Description | | |
|---------------------|--|---|
| <i>current-name</i> | | Current fcalias name. The name can be a maximum of 64 characters. |
| <i>new-name</i> | | New fcalias name. The name can be a maximum of 64 characters. |
| vsan | | Specifies the VSAN ID. |
| <i>vsan-id</i> | | VSAN ID. The range is from 1 to 4093. |

Command Default None

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines This command requires the FCoE license.

Examples This example shows how to rename a zone:

```
switch# zone rename ZoneA ZoneB vsan 10
Rename requested for a non existing zone
switch(config)#
```

| Related Commands | Command | Description |
|------------------|------------------|-------------------------------|
| | show zone | Displays zone information. |
| | zone name | Creates and configures zones. |

zone rscn address-format port

To switch the port-address format, use the **zone rscn address-format port** command. To revert to the default format, use the **no** form of this command.

zone rscn address-format port vsan *vsan-id*

no zone rscn address-format port vsan *vsan-id*

| Syntax Description | vsan | Specifies the smart zoning feature on the given VSAN. |
|--------------------|----------------|---|
| | <i>vsan-id</i> | VSAN ID. The range is from 1 to 4093. |

Command Default fabric address

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 6.2.2 | This command was introduced. |

Usage Guidelines This command does requires a license.

Examples This example shows how to switch the port-address format:

```
switch# configure terminal
switch(config)# zone rscn address-format port vsan 4
switch(config)#
```

This example shows how to revert to the default port-address format:

```
switch(config)# no zone rscn address-format port vsan 4
switch(config)#
```

| Related Commands | Command | Description |
|------------------|------------------------------|--|
| | show zone status vsan | Displays the distribution status for the specified VSAN. |

zone smart-zoning enable

To enable the smart zoning feature, use the **zone smart-zoning enable** command. To disable this feature, use the **no** form of this command.

zone smart-zoning enable vsan *vsan-id*

no zone smart-zoning enable vsan *vsan-id*

| Syntax Description | vsan | Specifies the smart zoning feature on the given VSAN. |
|--------------------|----------------|---|
| | <i>vsan-id</i> | Specifies the VSAN ID. The range is 1 to 4093. |

Defaults None.

Command Modes Configuration mode.

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 6.1(3) | This command was introduced. |

Usage Guidelines None.

Examples The following example shows how to enable the smart zoning feature on the given VSAN:

```
switch# zone smart-zoning enable vsan 10
```

| Related Commands | Command | Description |
|------------------|------------------|--------------------------------|
| | show zone | Displays the zone information. |

zoneset (configuration mode)

To group zones under one zone set, use the **zoneset** command. To negate the command or revert to the factory defaults, use the **no** form of this command.

```
zoneset { activate [name zoneset-name] vsan vsan-id | capability change-abort distribute full |
clone zoneset-currentName zoneset-cloneName vsan vsan-id | distribute full vsan vsan-id
name zoneset-name vsan vsan-id | rename current-name new-name vsan vsan-id }
```

```
no zoneset { activate [name zoneset-name] vsan vsan-id | capability change-abort distribute full
| clone zoneset-currentName zoneset-cloneName vsan vsan-id | distribute full vsan vsan-id
name zoneset-name vsan vsan-id | rename current-name new-name vsan vsan-id }
```

| Syntax Description | | |
|----------------------------|--|--|
| activate | | Activates a zone set. |
| name | | (Optional) Specifies a name for a zone set. |
| <i>zoneset-name</i> | | (Optional) Zone set name. The name can be a maximum of 64 alphanumeric characters. |
| vsan | | Activates a zone set on the specified VSAN. |
| <i>vsan-id</i> | | VSAN ID. The range is from 1 to 4093. |
| capability | | Specifies the zone server capability. |
| change-abort | | Enables the change abort capability. |
| distribute | | Enables the zoneset propagation. |
| full | | Enables the full zoneset propagation. |
| clone | | Clones a zone set from the current name to a new name. The name can be a maximum of 64 characters. |
| <i>zoneset-currentName</i> | | |
| <i>zoneset-cloneName</i> | | |
| distribute full | | Enables zone set propagation. |
| rename | | Renames a zone set. |
| <i>current-name</i> | | Current fcalias name. |
| <i>new-name</i> | | New fcalias name. |

Command Default None

Command Modes Global configuration mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines Zones are activated by activating the parent zone set.

Use the **zoneset distribute full vsan** command to distribute the operational values for the default zone to all zone sets in a VSAN. If you do not want to distribute the operation values, use the **system default zone distribute full** command to distribute the default values. The default values are used when you initially create a VSAN and it becomes active.

The **zoneset distribute full vsan** command applies to existing VSANs; it has no effect on VSANs that have not yet been created.

This command requires the FCoE license.

Examples

This example shows how to activate a zone set called zSet1 in VSAN 333:

```
switch(config)# zoneset activate name zSet1 vsan 333
```

This example shows how to clone a zone set called zSet1 into a new zone set called zSetClone in VSAN 45:

```
switch(config)# zoneset clone existing zSet1 zSetClone vsan 45
```

This example shows how to distribute the operational values for the default zone to all zone sets in VSAN 22:

```
switch(config)# zoneset distribute full vsan 22
```

Related Commands

| Command | Description |
|--|---|
| system default zone distribute full | Configures default values for distribution to a zone set. |
| show zoneset | Displays zone set information. |

zoneset (EXEC mode)

To merge zone set databases, use the **zoneset** command.

```
zoneset { distribute | export | import interface { vfc vfc-id } vsan vsan-id
```

| Syntax Description | | |
|--------------------|--|---|
| distribute | | Distributes the full zone set in the fabric. |
| export | | Exports the zone set database to the adjacent switch on the specified VSAN. The active zone set in this switch becomes the activated zone set of the merged SAN. |
| import | | Imports the zone set database to the adjacent switch on the specified interface. The active zone set in the adjacent switch becomes the activated zone set of the merged SAN. |
| interface | | Configures the interface. |
| vfc | | Specifies the virtual Fibre Channel interface. |
| <i>vfc-id</i> | | Virtual interface ID. The range is from 1 to 8192. |
| vsan | | Merges the zone set database of a VSAN on the specified interface. |
| <i>vsan-id</i> | | VSAN ID. The range is from 1 to 4093. |

Command Default None

Command Modes EXEC mode

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 5.2(1) | This command was introduced. |

Usage Guidelines

You can also enter the **zoneset import** and the **zoneset export** commands for a range of VSANs. The **zoneset distribute vsan vsan-id** command is supported in interop 2 and interop 3 modes but not in interop 1 mode.

This command requires the FCoE license.

Examples

This example shows how to import the zone set database from the adjacent switch connected through the VSAN 2 interface:

```
switch# zoneset import interface fc2/3 vsan 2
```

This example shows how to export the zone set database to the adjacent switch connected through VSAN 5:

```
switch# zoneset export vsan 5
```

This example shows how to distribute the zone set in VSAN 333:

```
switch# zoneset distribute vsan 333
```

Related Commands

| Command | Description |
|------------------------------------|--|
| <code>show zone status vsan</code> | Displays the distribution status for the specified VSAN. |
| <code>show zoneset</code> | Displays zone set information. |

