ZebOS-XP®
Network Platform

Version 1.4
Extended Performance

Transparent Interconnection of Lots of Links
Command Reference

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Contents

Preface

This document describes the ZebOS-XP commands for XPTransparent Interconnection of Lots of Links (TRILL).

Audience

This document is intended for network administrators and other engineering professionals who configure and manage TRILL.

Conventions

Table P-1 shows the conventions used in this guide.

Table P-1: Conventions

Convention	Description
Italics	Emphasized terms; titles of books
Note:	Special instructions, suggestions, or warnings
`monospaced type`	Code elements such as commands, functions, parameters, files, and directories

Contents

This document contains these chapters:

- Chapter 1, *Command Line Interface*
- Chapter 2, *RBridge Commands*
- Chapter 5, *TRILL Commands*
- Chapter 4, *TRILL IS-IS Commands*

Related Documents

The following guides are related to this document:

- *Transparent Interconnection of Lots of Links Configuration Guide*
- *Transparent Interconnection of Lots of Links Developer Guide*
- *Installation Guide*

Note: All ZebOS-XP technical manuals are available to licensed customers at http://www.ipinfusion.com/support/document_list.

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CHAPTER 1 Command Line Interface

This chapter introduces the ZebOS-XP Command Line Interface (CLI) and how to use its features.

Overview

You use the CLI to configure, monitor, and maintain ZebOS-XP devices. The CLI is text-based and each command is usually associated with a specific task.

You can give the commands described in this manual locally from the console of a device running ZebOS-XP or remotely from a terminal emulator such as `putty` or `xterm`. You can also use the commands in scripts to automate configuration tasks.

Starting the Command Line Interface

You must start daemons as described in this section before you can use the CLI. The general steps are listed below. For details about the ZebOS-XP daemons, see the *Installation Guide.*

1. Start your terminal emulator and connect to the device or go to the console of the device running ZebOS-XP.
2. Connect to the directory where you installed the ZebOS-XP executables.
3. Start the Network Services Module (NSM).
   ```
   # ./nsm -d
   ```
4. Start the protocol module daemons that your organization uses, such as `mstpd`, `ospf6d`, or `ripd`.
   ```
   # ./mstpd -d
   ```
5. Start the Integrated Management Interface (IMI) daemon.
   ```
   # ./imi -d
   ```
6. Start the IMI shell.
   ```
   # ./imish
   ```
   Note: Your organization may use a ZebOS-XP build that does not include `imish`. If that is the case, you must connect to a port on which a protocol daemon is listening. For details, see the *Installation Guide.*

You can now begin using the CLI.

Command Line Interface Help

You access the CLI help by entering a full or partial command string and a question mark “?”. The CLI displays the command keywords or parameters along with a short description. For example, at the CLI command prompt, type:

```
> show ?
```

The CLI displays this keyword list with short descriptions for each keyword:

```
show ?
  application-priority            Application Priority
```

```
  arp                              Internet Protocol (IP)
  bfd                              Bidirectional Forwarding Detection (BFD)
  bgp                              Border Gateway Protocol (BGP)
  bi-lsp                           Bi-directional lsp status and configuration
  bridge                           Bridge group commands
  ce-vlan                          COS Preservation for Customer Edge VLAN
  class-map                        Class map entry
  cli                              Show CLI tree of current mode
  clns                             Connectionless-Mode Network Service (CLNS)
  control-adjacency                Control Adjacency status and configuration
  control-channel                  Control Channel status and configuration
  cspf                             CSPF Information
  customer                         Display Customer spanning-tree
  cvlan                            Display CVLAN information
  debugging                        Debugging functions (see also 'undebug')
  dot1x                            IEEE 802.1X Port-Based Access Control
  etherchannel                     LACP etherchannel
  ethernet                         Layer-2
...
```

If you type the ? in the middle of a keyword, the CLI displays help for that keyword only.

```
> show de?
debugging  Debugging functions (see also 'undebug')
```

If you type the ? in the middle of a keyword, but the incomplete keyword matches several other keywords, ZebOS-XP displays help for all matching keywords.

```
> show i? (CLI does not display the question mark).
interface  Interface status and configuration
ip         IP information
isis       ISIS information
```

Command Completion

The CLI can complete the spelling of a command or a parameter. Begin typing the command or parameter and then press the tab key. For example, at the CLI command prompt type `sh`:

```
> sh
```

Press the tab key. The CLI displays:

```
> show
```

If the spelling of a command or parameter is ambiguous, the CLI displays the choices that match the abbreviation. Type `show i` and press the tab key. The CLI displays:

```
> show i
  interface  ip         ipv6       isis
> show i
```

The CLI displays the `interface` and `ip` keywords. Type `n` to select `interface` and press the tab key. The CLI displays:

```
> show in
> show interface
```

Type ? and the CLI displays the list of parameters for the `show interface` command.

```
> show interface
  IFNAME  Interface name
  |       Output modifiers
```



```
>       Output redirection
<cr>
```

The CLI displays the only parameter associated with this command, the `IFNAME` parameter.

Command Abbreviations

The CLI accepts abbreviations that uniquely identify a keyword in commands. For example:

```
> sh in eth0
```

is an abbreviation for:

```
> show interface eth0
```

Command Line Errors

Any unknown spelling causes the CLI to display the error `Unrecognized command` in response to the ?. The CLI displays the command again as last entered.

```
> show dd?
% Unrecognized command
> show dd
```

When you press the Enter key after typing an invalid command, the CLI displays:

```
(config)#router ospf here
                          ^
% Invalid input detected at '^' marker.
```

where the ^ points to the first character in error in the command.

If a command is incomplete, the CLI displays the following message:

```
> show
% Incomplete command.
```

Some commands are too long for the display line and can wrap mid-parameter or mid-keyword, as shown below. This does *not* cause an error and the command performs as expected:

```
area 10.10.0.18 virtual-link 10.10.0.19 authent
ication-key 57393
```

Command Negation

Many commands have a `no` form that resets a feature to its default value or disables the feature. For example:

- The `ip address` command assigns an IPv4 address to an interface
- The `no ip address` command removes an IPv4 address from an interface

Syntax Conventions

Table 1-1 describes the conventions used to represent command syntax in this reference.

Table 1-1: Syntax conventions

Convention	Description	Example
`monospaced font`	Command strings entered on a command line	`show running-config rbridge trill`
`lowercase`	Keywords that you enter exactly as shown in the command syntax.	`show running-config rbridge trill`
`UPPERCASE`	See Variable Placeholders	`IFNAME`
`()`	Optional parameters, from which you must select one. Vertical bars delimit the selections. Do not enter the parentheses or vertical bars as part of the command.	`(A.B.C.D|<0-4294967295>)`
`()`	Optional parameters, from which you select one or none. Vertical bars delimit the selections. Do not enter the parentheses or vertical bars as part of the command.	`(A.B.C.D|<0-4294967295>|)`
`()`	Optional parameter which you can specify or omit. Do not enter the parentheses or vertical bar as part of the command.	`(IFNAME|)`
`{}`	Optional parameters, from which you must select one or more. Vertical bars delimit the selections. Do not enter the braces or vertical bars as part of the command.	`{intra-area <1-255>|inter-area <1-255>|external <1-255>}`
`[]`	Optional parameters, from which you select zero or more. Vertical bars delimit the selections. Do not enter the brackets or vertical bars as part of the command. A '?' before a parameter in square brackets limits that parameter to one occurrence in a command string.	`[<1-65535>|AA:NN|internet|local-AS|no-advertise|no-export]`
`.`	Repeatable parameter. The parameter that follows a period can be repeated more than once. Do not enter the period as part of the command.	`set as-path prepend .<1-65535>`

Variable Placeholders

Table 1-2 shows the tokens used in command syntax use to represent variables for which you supply a value.

Table 1-2: Variable placeholders

Token	Description
`WORD`	A contiguous text string (excluding spaces)
`LINE`	A text string, including spaces; no other parameters can follow this parameter
`IFNAME`	Interface name whose format varies depending on the platform; examples are: `eth0`, `Ethernet0`, `ethernet0`, `xe0`
`A.B.C.D`	IPv4 address
`A.B.C.D/M`	IPv4 address and mask/prefix
`X:X::X:X`	IPv6 address
`X:X::X:X/M`	IPv6 address and mask/prefix
`HH:MM:SS`	Time format
`AA:NN`	BGP community value
`XX:XX:XX:XX:XX:XX`	MAC address

`<1-5>`
`<1-65535>`
`<0-2147483647>`
`<0-4294967295>`
	Numeric range

Command Description Format

Table 1-3 explains the sections used to describe each command in this reference.

Table 1-3: Command descriptions

Section	Description
Command Name	The name of the command, followed by what the command does and when should it be used
Command Syntax	The syntax of the command
Parameters	Parameters and options for the command
Default	The state before the command is executed
Command Mode	The mode in which the command runs; see Command Modes
Example	An example of the command being executed

Keyboard Operations

Table 1-4 lists the operations you can perform from the keyboard.

Table 1-4: Keyboard operations

Key combination	Operation
Left arrow or Ctrl+b	Moves one character to the left. When a command extends beyond a single line, you can press left arrow or Ctrl+b repeatedly to scroll toward the beginning of the line, or you can press Ctrl+a to go directly to the beginning of the line.
Right arrow or Ctrl-f	Moves one character to the right. When a command extends beyond a single line, you can press right arrow or Ctrl+f repeatedly to scroll toward the end of the line, or you can press Ctrl+e to go directly to the end of the line.
Esc, b	Moves back one word
Esc, f	Moves forward one word
Ctrl+e	Moves to end of the line
Ctrl+a	Moves to the beginning of the line
Ctrl+u	Deletes the line
Ctrl+w	Deletes from the cursor to the previous whitespace
Alt+d	Deletes the current word
Ctrl+k	Deletes from the cursor to the end of line
Ctrl+y	Pastes text previously deleted with Ctrl+k, Alt+d, Ctrl+w, or Ctrl+u at the cursor

Table 1-4: Keyboard operations (Continued)

Key combination	Operation
Ctrl+t	Transposes the current character with the previous character
Ctrl+c	Ignores the current line and redisplays the command prompt
Ctrl+z	Ends configuration mode and returns to exec mode
Ctrl+l	Clears the screen
Up Arrow or Ctrl+p	Scroll backward through command history
Down Arrow or Ctrl+n	Scroll forward through command history

Show Command Modifiers

You can use two tokens to modify the output of a `show` command. Enter a question mark to display these tokens:

```
# show users ?
  | Output modifiers
  > Output redirection
```

You can type the | (vertical bar character) to use output modifiers. For example:

```
> show rsvp | ?
  begin     Begin with the line that matches
  exclude   Exclude lines that match
  include   Include lines that match
  redirect  Redirect output
```

Begin Modifier

The `begin` modifier displays the output beginning with the first line that contains the input string (everything typed after the `begin` keyword). For example:

```
# show run | begin eth1
...skipping
interface eth1
 ipv6 address fe80::204:75ff:fee6:5393/64
!
interface eth2
 ipv6 address fe80::20d:56ff:fe96:725a/64
!
line con 0
 login
!
end
```

You can specify a regular expression after the `begin` keyword, This example begins the output at a line with either “eth3” or “eth4”:

```
# show run | begin eth[3-4]

...skipping
interface eth3
```

```
 shutdown
!
interface eth4
 shutdown
!
interface svlan0.1
 no shutdown
!
route-map myroute permit 3
!
route-map mymap1 permit 10
!
route-map rmap1 permit 3
!
line con 0
 login
line vty 0 4
 login
!
end
```

Include Modifier

The `include` modifier includes only those lines of output that contain the input string. In the output below, all lines containing the word “input” are included:

```
# show interface eth1 | include input
    input packets 80434552, bytes 2147483647, dropped 0, multicast packets 0
    input errors 0, length 0, overrun 0, CRC 0, frame 0, fifo 1, missed 0
```

You can specify a regular expression after the `include` keyword. This examples includes all lines with “input” or “output”:

```
#show int eth0 | include (in|out)put
    input packets 597058, bytes 338081476, dropped 0, multicast packets 0
    input errors 0, length 0, overrun 0, CRC 0, frame 0, fifo 0, missed 0
    output packets 613147, bytes 126055987, dropped 0
    output errors 0, aborted 0, carrier 0, fifo 0, heartbeat 0, window 0
```

Exclude Modifier

The `exclude` modifier excludes all lines of output that contain the input string. In the following output example, all lines containing the word “input” are excluded:

```
# show interface eth1 | exclude input
Interface eth1
  Scope: both
  Hardware is Ethernet, address is 0004.75e6.5393
  index 3 metric 1 mtu 1500 <UP,BROADCAST,RUNNING,MULTICAST>
  VRF Binding: Not bound
  Administrative Group(s): None
  DSTE Bandwidth Constraint Mode is MAM
  inet6 fe80::204:75ff:fee6:5393/64
    output packets 4438, bytes 394940, dropped 0
    output errors 0, aborted 0, carrier 0, fifo 0, heartbeat 0, window 0
    collisions 0
```

You can specify a regular expression after the `exclude` keyword. This example excludes lines with “output” or “input”:


```
# show interface eth0 | exclude (in|out)put
Interface eth0
  Scope: both
  Hardware is Ethernet  Current HW addr: 001b.2139.6c4a
  Physical:001b.2139.6c4a  Logical:(not set)
  index 2 metric 1 mtu 1500 duplex-full arp ageing timeout 3000
  <UP,BROADCAST,RUNNING,MULTICAST>
  VRF Binding: Not bound
  Bandwidth 100m
  DHCP client is disabled.
  inet 10.1.2.173/24 broadcast 10.1.2.255
  VRRP Master of :  VRRP is not configured on this interface.
  inet6 fe80::21b:21ff:fe39:6c4a/64
    collisions 0
```

Redirect Modifier

The `redirect` modifier writes the output into a file. The output is not displayed.

```
# show history | redirect /var/frame.txt
```

The output redirection token (>) does the same thing:

```
# show history >/var/frame.txt
```

Command Modes

Commands are grouped into modes arranged in a hierarchy. Each mode has its own set of commands. Table 1-5 lists the command modes common to all protocols.

Table 1-5: Common command modes

Name	Description
Executive mode	Also called *view* mode, this is the first mode to appear after you start the CLI. It is a base mode from where you can perform basic commands such as `show`, `exit`, `quit`, `help`, `list`, and `enable`.
Privileged executive mode	Also called *enable* mode, in this mode you can run additional basic commands such as `debug`, `write`, and `show`.
Configure mode	Also called *configure terminal* mode, in this mode you can run configuration commands and go into other modes such as interface, router, route map, key chain, and address family.
Interface mode	In this mode you can configure protocol-specific settings for a particular interface. Any setting you configure in this mode overrides a setting configured in router mode.
Router mode	This mode is used to configure router-specific settings for a protocol such as RIP or OSPF.

Command Mode Tree

The diagram below shows the common command mode hierarchy.

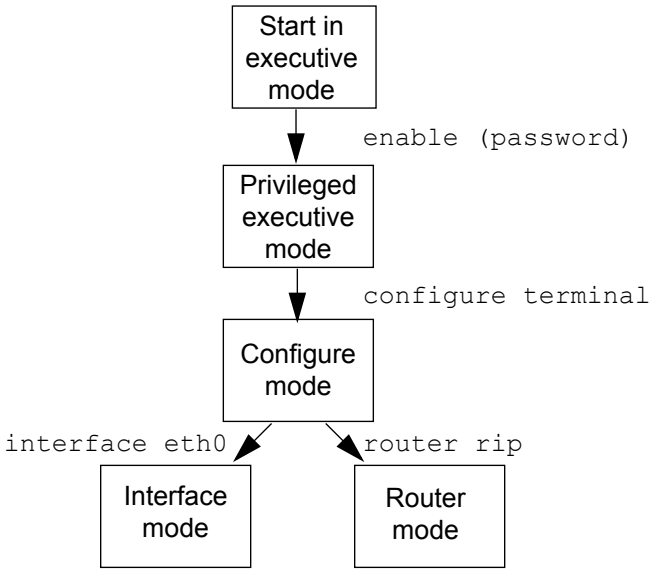

Figure 1-1: Common command modes

To change modes:

1. Enter privileged executive mode by entering `enable` in Executive mode.
2. Enter configure mode by entering `configure terminal` in Privileged Executive mode.

The example below shows starting `imish` and then moving from executive mode to privileged executive mode to configure mode and finally to router mode:

```
# ./imish
> enable mypassword
# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
(config)# router rip
(config-router)#
```

Note: Each protocol can have modes in addition to the common command modes. See the command reference for the respective protocol for details.

Debug Command

Whether the settings you make for a `debug` command persist between sessions depends on the mode where you make the settings:

- When you make settings for a `debug` command in executive mode, the configuration is valid for the current session only and is not saved in the `ZebOS.conf` file.
- When you make settings for a `debug` command in configuration mode, the configuration is retained and saved in `ZebOS.conf` and used even after the session restarts.

CHAPTER 2 RBridge Commands

This chapter provides information about the RBridge (routing bridge) commands.

add static fdb neighbor-nickname

Use this command to add information to the static neighbor table. Information could include neighbor nickname, outgoing port information, and the neighbor MAC address. This command can be used in either unicast or multicast configurations.

Use the `no` parameter with this command to reset the configuration; that is, to remove the information from the static neighbor table.

Command Syntax

```
add static fdb neighbor-nickname X egress-interface IFNAME mac-address X:X:X
no add static fdb neighbor-nickname X egress-interface IFNAME
```

Parameters

`X`	Specifies the nickname in hexadecimal range <0x0001 - 0xFFC0>.
`egress-interface`	Indicate the `egress-interface` parameter.
`IFNAME`	Specify the actual egress interface.
`mac-address`	Indicate the `mac-address` parameter.
`X:X:X`	Specifies the actual neighbor MAC address.

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#add static fdb neighbor-nickname 3 egress-interface eth2 mac-
address 1:2:1

(config-rb)#no add static fdb neighbor-nickname 3 egress-interface eth2
```

add static l2-unicast-trill-fdb

Use this command to specify a TRILL route for VLAN, along with adding a native MAC address.

Use the `no` parameter with this command to reset this configuration.

Command Syntax

```
add static l2-unicast-trill-fdb destination-mac X:X:X vlan <1-4094> egress-nickname
  X
no add static l2-unicast-trill-fdb destination-mac X:X:X vlan <1-4094>
```

Parameters

`destination-mac`	
	Indicate the `destination-mac` parameter.
`X:X:X`	Specify the actual destination MAC access of the downstream multicast listener.
`vlan`	Indicate the `vlan` parameter.
`1-4094`	Specify the actual VLAN identifier.
`egress-nickname`	
	Indicate the `egress-nickname` parameter.
`X`	Specify the actual egress nickname.

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#add static l2-unicast-trill-fdb destination-mac 2:3:4 vlan 3
egress-nickname 4

(config-rb)#no add static l2-unicast-trill-fdb destination-mac 2:3:4 vlan 3
```

add static multicast-fdb d-tree ingress-nickname

Use this command to set the d-tree (distribution tree) root, its neighbor and the interface on which frames are expected. This configuration is used for reverse path forwarding (RPF).

Use the `no` parameter with this command to reset this configuration.

Command Syntax

```
add static multicast-fdb d-tree X ingress-nickname X ingress-interface IFNAME
no add static multicast-fdb d-tree X ingress-nickname X
```

Parameters

`X`	Specify the actual egress nickname.
`ingress-nickname`	Indicate the `ingress-nickname` parameter.
`IFNAME`	Specify the actual incoming interface.

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#add static multicast-fdb d-tree e5 ingress-nickname 677 ingress-
interface eth2

(config-rb)#no add static multicast-fdb d-tree e5 ingress-nickname 677
```

add static multicast-fdb d-tree neighbor-nickname

Use this command to configure an adjacency check, including specifying an adjacent neighbor port pair for d-tree and specifying downstream VLANs.

Use the `no` parameter with this command to reset this configuration; that is, remove the adjacent neighbor port pair for the specified d-tree.

Command Syntax

```
add static multicast-fdb d-tree X neighbor-nickname X vlan-range <1-4094> to <1-
  4094>
no add static multicast-fdb d-tree X neighbor-nickname X (vlan-range <1-4094> to
  <1-4094> |)
```

Parameters

`X`	Specify the actual egress nickname.
`vlan-range`	Indicate the `vlan-range` parameter.
`<1-4094>`	Specifies a VLAN start value in decimal.
`to`	Specifies a VLAN range separator.
`<1-4094>`	Specifies a VLAN end value in decimal.

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#add static multicast-fdb d-tree 5e neighbor-nickname 444 vlan-
range 2 to 3

(config-rb)#no add static multicast-fdb d-tree 5e ingress-nickname 444
```

add static multicast-trill-fdb ingress-d-tree

Use this command to statically add the ingress d-tree nickname to the forwarding database (FDB).

Use the `no` parameter with this command to reset the configuration to the default value; that is, remove the ingress d-tree nickname from the FDB.

Command Syntax

```
add static multicast-trill-fdb ingress-d-tree X hop-count <1-255>
no add static multicast-trill-fdb ingress-d-tree X
```

Parameters

`hop-count`	Specify the `hop-count` parameter.
`<1-255>`	Specify the actual hop count.

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#add static multicast-trill-fdb ingress-d-tree 33 hop-count 3

(config-rb)#no add static multicast-trill-fdb ingress-d-tree 33
```

add static multicast-trill-fdb multicast-listener

Use this command to specify each multicast MAC address for a neighbor that has a downstream multicast listener.

Use the `no` parameter with this command to reset this configuration; that is, remove the multicast MAC address and the downstream multicast listener.

Command Syntax

```
add static multicast-trill-fdb multicast-listener mcastmac-address X:X:X vlan <1-
  4094> nbr-nickname X d-tree X
no add static multicast-trill-fdb multicast-listener mcastmac-address X:X:X nbr-
  nickname X d-tree X
```

Parameters

`mcastmac-address`	
	Indicate the `mcastmac-address` parameter.
`X:X:X`	Specify the actual MAC address of the neighbor.
`nbr-nickname`	Indicate the `nbr-nickname` parameter.
`X`	Specify the actual nickname of a neighbor.
`d-tree`	Indicate the `d-tree` parameter.

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#add static multicast-trill-fdb multicast-listener mcastmac-address
5254.001A.E361 vlan 1 nbr-nickname new d-tree n675

(config-rb)#no add static multicast-trill-fdb multicast-listener mcastmac-
address 5254.001A.E361 nbr-nickname n782 d-tree n345
```

add static unicast-trill

Use this command to add a static route for unicast to reach an egress RBridge.

Use the `no` parameter with this command to reset the configuration; that is, remove the static route for unicast to reach the egress Rbridge.

Command Syntax

```
add static unicast-trill egress-nickname X nxt-hop-nickname X hop-count <1-255>
no add static unicast-trill egress-nickname X nxt-hop-nickname X
```

Parameters

`X`	Specify a nickname in hexadecimal range.
`nxt-hop-nickname`	
	Indicate the `nxt-hop-nickname` parameter.
`X`	Specify the actual nickname in hexadecimal range.
`hop-count`	Indicate the `hop-count` parameter.
`<1-255>`	Specifies the actual hop count.

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#add static unicast-trill egress-nickname 1 nxt-hop-nickname 1 hop-
count 1

(config-rb)#no add static unicast-trill egress-nickname 1 nxt-hop-nickname 1
```

bridge confidence

Use this command to set the confidence information of a RBridge.

Use the `no` parameter with this command to disable the confidence information.

Command Syntax

```
bridge <1-32> confidence <1-254>
no bridge <1-32> confidence
```

Parameter

`<1-32>`	Specify the bridge group ID.
`<1-254>`	Specify the confidence of a RBridge is by default 20.

Command Mode

Configure mode

Example

```
#configure terminal
(config)#bridge 2 confidence 123

(config)#no bridge 2 confidence
```

channel-protocol

Use this command to enable channel protocol.

Use the `no` parameter with this command to disable this configuration.

Command Syntax

```
channel-protocol enable
no channel-protocol enable
```

Parameters

`enable`	Specify to enable the channel protocol.

Command Mode

RBridge mode

Example

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#channel-protocol enable

(config-rb)#no channel-protocol enable
```

clear rbridge trill

Use this command to reset TRILL instance IDs.

Command Syntax

```
clear rbridge trill (<1-32>|) process
```

Parameters

`<1-32>`	Specify the TRILL instance identifier.
`process`	Specify the reset TRILL process.

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#clear rbridge trill 1 process
```

clear rbridge trill counter

Use this command to reset TRILL counters.

Command Syntax

```
clear rbridge trill counter
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#clear rbridge trill counter
```

clear rbridge trill interface counter

Use this command to reset the specified TRILL counters or all TRILL counters.

Command Syntax

```
clear rbridge trill interface counter (IFNAME|)
```

Parameters

IFNAME	Specify the interface as a character string.

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#clear rbridge trill interface counter c1
```

clear rbridge trill mac

Use this command to reset TRILL mac address.

Command Syntax

```
clear rbridge trill mac-address-table (vlan <1-4094> | egress-nickname X | all)
  bridge <1-32>
```

Parameters

`<1-4094>`	Specify the actual VLAN identifier.
`X`	Specify the actual egress nickname.
`all`	Specify to clear all TRILL mac address table.
`<1-32>`	Specify the bridge group ID.

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#clear rbridge trill mac-address-table vlan 3 bridge 1

#clear rbridge trill mac-address-table egress-nickname 4 bridge 1

#clear rbridge trill mac-address-table all bridge 1
```

confidence

Use this command to set the confidence information for this process.

Use the `no` parameter with this command to disable the confidence information.

Command Syntax

```
confidence (static|native|decap) <0-255>
no confidence (static|native|decap)
```

Parameters

`static`	Specify a confidence level associated with MAC addresses that are statically configured.
`native`	Specify a confidence level associated with MAC addresses learned from native frames.
`decap`	Specify a confidence level associated with MAC addresses learned after decapsulation of frames.
`<0-255>`	Specify a confidence level associated with a MAC address.

Command Mode

RBridge mode

Example

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#confidence 123

(config-rb)#no bridge 2 confidence
```

dtree-in-use

Use this command to configure the d-trees to be used by the RBridge. Specified d-trees are stored in a list.

Use the no parameter with this command to reset the configuration; that is, remove specified d-trees from an RBridge.

Command Syntax

```
dtree-in-use NAME
no dtree-in-use (NAME|all)
```

Parameters

NAME	Specify the d-tree name in hexadecimal range <0x0001 - 0xFFC0>.
all	Specify to remove all d-tree names.

Command Mode

RBridge mode

Examples

Add one specified d-tree to the list:

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#detree-in-use dd
```

Add all d-trees to the list:

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#detree-in-use all
```

Remove d-trees:

```
(config-rb)#detree-in-use dd
(config-rb)#detree-in-use all
```

dtree-nickname-to-compute

Use this command to set the d-trees nickname to be used by all RBridges.

Use the no parameter with this command to reset the configuration to the default value.

Command Syntax

```
dtree-nickname-to-compute NAME
no dtree-nickname-to-compute (NAME|all)
```

Parameters

NAME	Specify the d-tree name in Hexadecimal range <0x0001 - 0xFFC0>.
all	Specify to remove all d-tree names.

Command Mode

RBridge mode

Examples

Set one d-tree:

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-br)#dtree-nickname-to-compute dd
```

Set one d-tree:

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-br)#dtree-nickname-to-compute all
```

Reset d-trees:

```
(config-br)#dtree-nickname-to-compute dd
(config-br)#dtree-nickname-to-compute all
```

forward-delay

Use this command to set the TRIL forward delay for the specified instance

Use the no parameter with this command to remove the configuration,

Command Syntax

```
forward-delay <4-30>
no forward-delay <4-30>
```

Parameters

<4-30>	Specify the forward delay value <4-30> in seconds.

Command Mode

RBridge mode

Examples

Set one d-tree:

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-br)#forward-delay 5

(config-br)#no forward-delay
```

ignore-lsp-errors

Use this command to ignore any Link State Packet (LSP) errors indicated by the checksum field.

Use the no parameter with this command to reset this configuration; that is, respond to LSP errors indicated by the checksum field.

Command Syntax

```
ignore-lsp-errors
no ignore-lsp-errors
```

Parameters

None

Command Mode

RBridge mode

Example

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config-rb)#ignore-lsp-errors

(config-rb)#no ignore-lsp-errors
```

lsp-gen-interval

Use this command to set the interval between generating link state protocol (LSP) data units.

Use the no parameter with this command to reset this configuration to the default value.

Command Syntax

```
lsp-gen-interval <1-120>
no lsp-gen-interval
```

Parameters

<1-120>	Specify the LSP generating interval in seconds.

Command Mode

RBridge mode

Default

30 seconds

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#lsp-gen-interval 20

(config-rb)#no lsp-gen-interval
```

lsp-refresh-interval

Use this command to set the LSP data unit refresh interval in seconds.

Use the no parameter with this command to reset this configuration to the default value:

Command Syntax

```
lsp-refresh-interval <1-65535>
no lsp-refresh-interval
```

Parameters

<1-65535>	Specify the interval in seconds.

Command Mode

RBridge mode

Default

900 seconds.

Example

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#lsp-gen-interval 45

(config-rb)#no lsp-gen-interval
```

max-lsp-lifetime

Use this command to set the maximum lifetime for the LSP data unit.

Use the no parameter with this command to reset this configuration to the default value.

Command Syntax

```
max-lsp-lifetime <350-65535>
no max-lsp-lifetime
```

Parameters

<350-65535>	Specify the maximum lifetime of the LSP in seconds.

Command Mode

RBridge mode

Default

1200 seconds

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-br)#max-lsp-lifetime 345
```

max-nickname

Use this command to set the maximum number of nicknames for an RBridge.

Command Syntax

```
max-nickname <1-256>
```

Parameters

<1-256>	Specify both the minimum and maximum number of nicknames supported. Enter zero (0) if no nicknames are supported.

Command Mode

RBridge mode

Default

Zero (0) bridges

Examples

```
>enable
#configure terminal
(config)#rbridge trill 1
(config-br)#max-nickname 123
```

mcast-pruning

Use this command to enable multicast pruning.

Use the no parameter with this command to disable multicast pruning.

Command Syntax

```
mcast-pruning
no mcast-pruning
```

Parameters

None

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#mcast-pruning

(config-rb)#no mcast-pruning
```

mtu-probe

Use this command to enable MTU probing.

Use the no parameter with this command to reset the configuration.

Command Syntax

```
mtu-probe enable
no mtu-probe enable
```

Parameters

`enable`	Specify to enable MTU probing.

Command Mode

RBridge mode

Default

MTU probing is disabled

Example

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#mtu-probe enable

(config-rb)#no mtu-probe enable
```

multipath

Use this command for multipath(ECMP) of unicast/multicast data traffic.

Use no form of this command for disabling the same.

Command Syntax

```
multipath (unicast | multicast)
no multipath (unicast | multicast)
```

Parameters

`unicast`	Enable multipath for unicast.
`multicast`	Enable multipath for multicast.

Command Mode

RBridge mode

Example

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#multipath unicast

(config-rb)#no multipath unicast
```

nickname

Use this command to set the nickname, the priority of the nickname and the priority as a d-tree.

Use the no parameter with this command to reset this configuration:

Command Syntax

```
nickname X nickname-priority <128-255> root-priority <0-65535>
no nickname X
```

Parameters

`X`	Specify a nickname value in hexadecimal range.
`nickname-priority`	Indicate the `nickname-priority` parameter.
`<128-255>`	Specify the priority of the nickname.
`root-priority`	Indicate the `root-priority` parameter.
`<0-65535>`	Specify the actual priority of the d-tree.

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#nickname ee nickname-priority 155 root-priority 4000

(config-rb)#no nickname ee
```

nickname-priority

Use this command to set the nickname priority for a configured nickname

Use the no parameter with this command to reset this configuration:

Command Syntax

```
nickname-priority <1-255> nickname X
no nickname-priority X
```

Parameters

nickname-priority	
	Indicate the `nickname-priority` parameter.
<1-255>	Specify the actual priority of the nickname.
nickname	Indicate the `nickname` parameter.
X	Specify the actual nickname value in hexadecimal range.

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#nickname-priority 155 nickname 123

(config-rb)#no nickname-priority 155
```

number-of-dtrees-to-compute

Use this command to set the number of d-trees to be computed by all BRidges. This applies to the RBridge with the highest root priority.

Use the no parameter with this command to reset the configuration to the default value.

Command Syntax

```
number-of-dtrees-to-compute <1-8>
no number-of-dtrees-to-compute
```

Parameters

<1-8>	Specify the number of d-trees to compute.

Command Mode

RBridge mode

Default

1 d-tree

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-br)#number-of-dtrees-to-compute 5

(config-br)#no number-of-dtrees-to-compute
```

number-of-d-trees-to-use

Use this command to configure the number of d-trees for an RBridge to use.

Use the no parameter with this command to reset the configuration to the default value.

Command Syntax

```
number-of-dtrees-to-use <0-8>
no number-of-dtrees-to-use
```

Parameters

<0-8>	Specify the number of d-tree.

Command Mode

Router mode

Default

1 d-tree

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-br)#number-of-dtrees-to-use 5

(config-br)#no number-of-dtrees-to-use
```

number-of-mtu-probes

Use this command set the number of MTU probes. This value is the maximum number of probes that can be used by an RBridge before determining that a neighboring RBridge does not support a published MTU.

Use the no parameter with this command to reset the configuration to the default value: 3.

Command Syntax

```
number-of-mtu-probes <1-255>
no number-of-mtu-probes
```

Parameters

<1-255>	Specify the maximum number of MTU probes.

Command Mode

RBridge mode

Default

3 MTU probes

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#number-of-mtu-probes 225

(config-rb)#no number-of-mtu-probes
```

oam-protocol

Use this command to enable OAM protocol.

Use the `no` parameter with this command to disable this configuration.

Command Syntax

```
oam-protocol enable
no oam-protocol enable
```

Parameters

`enable`	Specify to enable OAM protocol.

Command Mode

RBridge mode

Example

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#oam-protocol enable

(config-rb)#no oam-protocol enable
```

rbridge-ping

Use this command to set the CLI to ping RBridge.

Command Syntax

```
rbridge-ping NAME
```

Parameters

NAME	Set the nickname to be pinged. The nickname can be in a hexadecimal range <0x0001 - 0xFFC0>.

Command Mode

Exec mode and Privilege Exec mode

Examples

```
>enable
#rbridge-ping new-server
```

rbridge-ping count

Use this command to set the CLI count to ping RBridge.

Command Syntax

```
rbridge-ping NAME count COUNT
```

Parameters

NAME	Set the nickname to be pinged. The nickname can be in a hexadecimal range <0x0001 - 0xFFC0>.
count	Set the number of pings to send.
COUNT	Set the actual number in a specified range <1 - 65535>.

Command Mode

Exec mode and Privilege Exec mode

Examples

```
>enable
#rbridge-ping newserver count 123
```

rbridge-ping count ping-interval

Use this command to set the CLI count to ping-interface for RBridge.

Command Syntax

```
rbridge-ping NAME count COUNT ping-inteval INTERVAL
```

Parameters

NAME	Set the nickname to be pinged. The nickname can be in a hexadecimal range <0x0001 - 0xFFC0>.
count	Set the number of pings to send.
COUNT	Set the actual number in a specified range <1 - 65535>.
ping-inteval	Set the time to wait for the next ping.
INTERVAL	Set the actual interval number in interval in seconds <1 - 65535>.

Command Mode

Exec mode and Privilege Exec mode

Examples

```
>enable
#rbridge-ping NAME count 123 ping-inteval 456
```

rbridge-ping count ping-interval timeout

Use this command to set the CLI count to ping-interface for RBridge.

Command Syntax

```
rbridge-ping NAME count COUNT ping-inteval INTERVAL timeout TIMEOUT
```

Parameters

NAME	Set the nickname to be pinged. The nickname can be in a hexadecimal range <0x0001 - 0xFFC0>.
count	Set the number of pings to send.
COUNT	Set the actual number in a specified range <1 - 65535>.
ping-inteval	Set the time to wait for the next ping.
INTERVAL	Set the actual interval number in interval in seconds <1 - 65535>.
timeout	Set the time to wait for a response.
TIMEOUT	Set the actual timeout value in seconds <1 - 65535>.

Command Mode

Exec mode and Privilege Exec mode

Examples

```
>enable
#rbridge-ping new count 12 ping-inteval 12
```

rbridge-ping-interval

Use this command to set the ping interval.

Command Syntax

```
rbridge-ping-interval INTERVAL
no rbridge-ping-interval
```

Parameters

INTERVAL	Specify the time interval between sending successive ping packets.
<1-65535>	Specify the actual ping interval in seconds.

Command Mode

Exec mode and Privilege Exec mode

Examples

```
>enable
#rbridge-ping-interval INTERVAL 12345

#no rbridge-ping-interval
```

rbridge-ping-timeout

Use this command to set the ping timeout value.

Command Syntax

```
rbridge-ping-timeout INTERVAL <1-65535>
no rbridge-ping-timeout
```

Parameters

INTERVAL	Specify the time to wait for a ping response.
<-65535>	Specify the actual timeout interval in seconds.

Command Mode

Exec mode and Privilege Exec mode

Examples

```
>enable
#rbridge-ping-timeout INTERVAL 12345

#no rbridge-ping-timeout
```

rbridge-traceroute

Use this command to set the nickname to trace route.

Command Syntax

```
rbridge-traceroute NAME
```

Parameters

NAME	Set the nickname to trace route. The nickname can be in a hexadecimal range <0x0001 - 0xFFC0>.

Command Mode

Exec mode and Privilege Exec mode

Examples

```
>enable
#rbridge-traceroute new-route
```

rbridge-traceroute timeout

Use this command to set a timeout value for the nickname to trace route.

Command Syntax

```
rbridge-traceroute NAME timeout TIMEOUT
```

Parameters

NAME	Set the nickname to trace route. The nickname can be in a hexadecimal range <0x0001 - 0xFFC0>.
timeout	Set the time to wait for a response.
TIMEOUT	Set the actual timeout value in seconds <1 - 65535>.

Command Mode

Exec mode and Privilege Exec mode

Examples

```
>enable
#rbridge-traceroute new-route timeout 123
```

rbridge-mping

Use this command to send a number of echo requests to target nicknames based on count value and VLAN ID of a distribution tree.

Command Syntax

```
rbridge-mping dtree NAME (|LINE)
```

Parameters

NAME	DTree name in hexadecimal range <0x0001 - 0xFFC0>.
LINE	Fields for traceroute options, including one of the following:
-v	VLAN ID <1- 4094>. Default VLAN is 1.
-c	Retry count value in seconds <1- 65535>. Default value is 4 seconds.
-I	Ping interval in seconds <1 - 65535>. Default value is 3 seconds.
-t	Ping timeout value in seconds <1 - 65535>. Default value is 10 seconds.
-d	Dtree nicknames in hexadecimal. Range <0x0001 - 0xFFC0>

Command Mode

Enable and Privilege Enable mode

Examples

```
>enable
#rbridge-mtraceroute dtree 1111 -v 2 -c 5 -i 4 -t 15 -d 1212 1313
```

rbridge-mtraceroute

Use this command to send a number of echo requests to target nicknames based on a VLAN ID of a particular dtree.

Command Syntax

```
rbridge-mtraceroute dtree NAME (|LINE)
```

Parameters

NAME	DTree name in hexadecimal range <0x0001 - 0xFFC0>.
LINE	Fields for traceroute options, including one of the following:
-v	VLAN ID <1- 4094>. Default VLAN is 1.
-j	Jitter in milliseconds <1- 65535>. Default value is 0.
-t	Timeout value in seconds <1 - 65535>. Default value is 10 seconds.
-d	Dtree nicknames in hexadecimal. Range <0x0001 - 0xFFC0>

Command Mode

Enable and Privilege Enable mode

Examples

```
>enable
#rbridge-mtraceroute dtree 1111 -v 1 -t 20 -d 2323 -j 100
```

rbridge trill

Use this command to create an RBridge TRILL instance. When this command is used, the command mode changes to RBridge mode.

Use the `no` parameter with this command to reset the configuration.

Command Syntax

```
bridge trill (<1-32>|)
no rbridge trill (<1-32>|)
```

Parameters

`<1-32>`	Specify the ISO routing area tag information.

Command Mode

Configure mode

Examples

```
>enable
#configure terminal
(config)#rbridge trill 1
(config-rb)#

(config-rb)#no rbridge trill 1
```

rbridge trill bridge

Use this command create an RBridge TRILL instance and bind it to a bridge instance. Only one instance is supported; entering a second instance results in a return error.

Use the `no` parameter with this command to reset the configuration.

Command Syntax

```
rbridge trill (<1-32>|) bridge <1-32>
no rbridge trill (<1-32>|) bridge <1-32>
```

Parameters

`<1-32>`	Specify the RBridge instance.
`<1-32>`	Specify the bridge instance.

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#rbridge trill 1 bridge 31

(config-rb)#no rbridge trill 1 bridge 31
```

root-priority

Use this command to configure a nickname for which root priority is set.

Use the no parameter with this command to reset this configuration:

Command Syntax

```
root-priority <0-65535> nickname X
no root-priority X
```

Parameters

<0-65535>	Specify the actual root priority of the nickname.
X	Specify the actual nickname value in hexadecimal range.

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#root-priority 155 nickname 123

(config-rb)#no root-priority 155
```

show running-config rbridge

Use this command to show the current running RBridge system configuration.

Command Syntax

```
show running-config rbridge trill
```

Parameters

None

Command Mode

Privileged Exec mode, Interface Mode, and Configure Mode

Example

```
(config-rb)#show running-config rbridge trill
!
rbridge trill 1
 max-nickname 123
 originating-dtree 00ee
!
(config-rb)#
```

spf-interval-exp

Use this command to set exponential backoff delays (minimum and maximum) between shortest path first (SPF) calculations.

Use the no parameter with this command to reset this configuration to the default value.

Command Syntax

```
spf-interval-exp <0-2147483647> <0-2147483647>
no spf-interval-exp
```

Parameters

`<0-2147483647>`	Specify the minimum delay in milliseconds.
`<0-2147483647>`	Specify the maximum delay in milliseconds.

Command Mode

RBridge mode

Default

1 millisecond

Example

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-br)#spf-interval-exp 437 50000

(config-br)#no spf-interval-exp
```

systemid

Use this command to set the system identifier of an RBridge. If a system ID is not specified, the default address is used, which is the MAC address of the device.

Use the `no` parameter with this command to reset the configuration.

Command Syntax

```
systemid SYSTEMID
no systemid SYSTEMID
```

Parameters

`SYSTEMID`	Specify the system identification (use an xx.xx.xx.xx.xx.xx notation).

Command Modes

RBridge mode

Default

MAC address of a device

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#systemid ff.ff.ff.ff.ff.ff

(config-rb)#no systemid ff.ff.ff.ff.ff.ff
```

vlan-pruning

Use this command to enable VLAN pruning.

Use the no parameter with this command to disable VLAN pruning.

Command Syntax

```
vlan-pruning
no vlan-pruning
```

Parameters

None

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#vlan-pruning

(config-rb)#no vlan-pruning
```

CHAPTER 3 ESADI Commands

This chapter provides information about the ESADI (End System Address Distribution Information) commands. These commands are used when configuring a routing bridge and are found in the RBridge mode. This chapter includes the following commands:

esadi confidence

Use this command to enable set the confidence level for the ESADI protocol.

Use the no parameter with this command to disable the confidence level.

Command Syntax

```
esadi confidence <0-255> vlan <1-4094>
no esadi confidence vlan <1-4094>
```

Parameters

<0-255>	Specify a confidence level.
<1-4094>	Specify the actual VLAN ID.

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#esadi confidence 1 vlan 112


(config-rb)#no esadi confidence vlan 123
```

esadi csnp-timer

Use this command to configure the duration of the CSNP (complete sequence number PDU) timer for the ESADI protocol.

Use the no parameter with this command to disable the CSNP timer.

Command Syntax

```
esadi csnp-timer <0-255> vlan <1-4094>
no esadi csnp-timer vlan <1-4094>
```

Parameters

<1-65535>	Specify the CSNP timer value in seconds.
<1-4094>	Specify the actual VLAN ID.

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#esadi csnp-timer 1 vlan 112


(config-rb)#no esadi csnp-timer vlan 123
```

esadi disable

Use this command to disable the ESADI protocol.

Use the `esabi enable` command to enable the ESADI protocol (refer to esadi enable on page 73).

Command Syntax

```
esadi disable
```

Parameters

None

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#esadi disable
```

esadi enable

Use this command to enable the ESADI protocol.

Use the `esabi disable` command to disable the ESADI protocol (refer to esadi disable on page 72).

Command Syntax

```
esadi enable
```

Parameters

None

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#esadi enable
```

esadi instance

Use this command to enable an ESADI instance.

Use the no parameter with this command to disable an ESADI instance.

Command Syntax

```
esadi instance enable vlan (<1-4094>| X | all)
no esadi instance enable vlan (<1-4094>| X | all)
```

Parameters

`<1-4094>`	Specify the actual VLAN ID.
`X`	Specify a range of VLANs (for example, 1-4).
`all`	Specify enable all VLANs.

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#esadi instance enable vlan all

(config-rb)#no esadi instance enable vlan all
```

esadi l2-learning

Use this command to enable the layer 2 learning feature for the ESADI protocol.

Use the no parameter with this command to disable the layer 2 learning feature from the ESADI protocol.

Command Syntax

```
esadi l2-learning enable (|vlan <1-4094>)
no esadi l2-learning enable (|vlan <1-4094>)
```

Parameters

<1-4094>	Specify the actual VLAN range.

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#esadi l2-learning enable vlan 1

(config-rb)#no esadi l2-learning enable vlan 1
```

esadi lsp-gen-interval

Use this command to set the interval between generating link state protocol (LSP) data units the ESADI protocol.

Use the no parameter with this command to reset this configuration to the default value.

Command Syntax

```
esadi lsp-gen-interval <33-120>
no esadi lsp-gen-interval
```

Parameters

<33-120>	Specify the LSP generating interval in seconds.

Command Mode

RBridge mode

Default

30 seconds

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#esadi lsp-gen-interval 33

(config-rb)#no esadi lsp-gen-interval
```

esadi priority

Use this command to set a priority level for the ESADI protocol.

Use the no parameter with this command to disable the priority level from the ESADI protocol.

Command Syntax

```
esadi priority <0-255> vlan <1-4094>"
no esadi priority vlan <1-4094>
```

Parameters

<0-255>	Specify the priority level.
<1-4094>	Specify the actual VLAN range.

Command Mode

RBridge mode

Examples

```
>enable
#configure terminal
(config)#bridge 1 protocol trill
(config)#rbridge trill 1
(config-rb)#esadi priority 1 vlan 123

(config-rb)#no esadi priority vlan 123
```

show trill esadi-instance

Use this command to display instance information for TRILL ESADI.

Command Syntax

```
show trill esadi-instance (vlan <1-4094>|)
```

Parameters

<1-4094>	Display a VLAN identifier.

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#show trill esadi-instance
VLAN    ESADI-priority    CSNP-timer    state     confidence   DRB-system-id
-------------------------------------------------------------------------------
123         45              300            1          12

#
```

show trill esadi-lsp

Use this command to display the LSP database information for TRILL ESADI.

Command Syntax

```
show trill esadi-lsp (vlan <1-4094>|detail|)
```

Parameters

`<1-4094>`	Display a VLAN identifier.
`detail`	Display LSP TLV and sub TLV.

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#show trill esadi-lsp vlan 12 detail
TRILL ESADI LSP Details
RBridge Instance: 1

#
```

show trill esadi-native-l2-table

Use this command to display the native layer 2 MAC table information for TRILL ESADI.

Command Syntax

```
show trill esadi-native-l2-table (vlan <1-4094>|)
```

Parameters

<1-4094>	Display VLAN identifier.

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#show trill esadi-native-l2-table vlan 123
VLAN  Confidence  MACs
------------------------------------------------------------------------------
123    123

#
```

show trill esadi-remote-l2-table

Use this command to display the remote layer 2router bridges (RBs) for TRILL ESADI, along with the MAC table information of each RB.

Command Syntax

```
show trill esadi-remote-l2-table (vlan  <1-4094>|)
```

Parameters

<1-4094>	Display a VLAN range between <1-4094>.

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#show trill esadi-remote-l2-table vlan 123
VLAN  Confidence  Egress_Name  MACs
--------------------------------------------------------------------------------

#
```

show trill esadi-statistics

Use this command to display statistics of TRILL ESADI.

Command Syntax

```
show trill esadi-statistics (vlan  <1-4094>|)
```

Parameters

<1-4094>	Display the VLAN range.

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#show trill esadi-statistics vlan 123

**********ESADI-STATISTICS**********

#
```

CHAPTER 4 TRILL IS-IS Commands

This chapter describes the TRILL IS-IS commands. Most of these commands are used when configuring an interface.

trill-isis csnp-interval

Use this command to configure the duration of the CSNP interval.

Use the `no` parameter with this command to reset the configuration to the default interval.

Command Syntax

```
trill-isis csnp-interval <1-65535>
no trill-isis csnp-interval
```

Parameters

`<1-65535>`	Specify the CSNP interval in seconds.

Command Mode

Interface mode

Default

10 seconds.

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill-isis csnp-interval 120

(config-if)#no trill-isis csnp-interval
```

trill-isis hello-interval

Use this command to configure the duration of the hello interval.

Use the `no` parameter with this command to reset the configuration to the default interval.

Command Syntax

```
trill-isis hello-interval <1-65535>
no trill-isis hello-interval
```

Parameters

`<1-65535>`	Specify the hello interval in seconds.

Command Mode

Interface mode

Default

10 seconds.

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill-isis hello-interval 220

(config-if)#no trill-isis hello-interval
```

trill-isis hello-interval minimal

Use this command to configure the holdtime of the hello interval to one (1) second.

Use the `no` parameter with this command to reset the configuration.

Command Syntax

```
trill-isis hello-interval minimal
no trill-isis hello-interval minimal
```

Parameters

None

Command Mode

Interface mode

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill-isis hello-interval minimal


(config-if)#no trill-isis hello-interval minimal
```

trill-isis hello-multiplier

Use this command to configure the hello multiplier holding time.

Use the `no` parameter with this command to reset the configuration to the default value.

Command Syntax

```
trill-isis hello-multiplier <2-100>
no trill-isis hello-multiplier
```

Parameters

`<2-100>`	Specifies the multiplier in seconds

Command Mode

Interface mode

Default

3 seconds.

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill-isis hello-multiplier 5

(config-if)#no trill-isis hello-multiplier
```

trill-isis lsp-interval

Use this command to configure the LSP interval for an interface.

Use the `no` parameter with this command to reset the configuration to the default value.

Command Syntax

```
trill-isis lsp-interval <1-4294967295>
no trill-isis lsp-interval
```

Parameters

`<1-4294967295>` Specifies the duration of the LSP in milliseconds

Command Mode

Interface mode

Default

33 milliseconds.

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill-isis lsp-interval 3343

(config-if)#no trill-isis lsp-interval
```

trill-isis metric

Use this command to configure a metric value for an interface.

Use the no parameter with this command to reset the configuration to the default value. The default value is calculated based on the interface bandwidth.

Command Syntax

```
trill-isis metric <1-16777214>
no trill-isis metric
```

Parameters

<1-16777214>	Specify the metric value.

Command Mode

Interface mode

Examples

```
>enable
#configure terminal
(config)#interface eth2
(configif)#trill-isis metric 87721

(config-if)#no trill-isis metric
```

trill-isis port-priority

Use this command to set the priority of the designated router election.

Use the `no` parameter with this command to reset the configuration to the default value.

Command Syntax

```
trill-isis port-priority <0-127>
no trill-isis port-priority
```

Parameters

`<0-127>`	Specify the port priority for the designated router election

Command Mode

Interface mode

Default

No priority.

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill-isis port-priority 65

(config-if)#trill-isis port-priority
```

trill-isis retransmit-interval

Use this command to set the retransmission interval of one LSP in seconds.

Use the `no` parameter with this command to reset the configuration to the default value.

Command Syntax

```
trill-isis retransmit-interval <0-65535>
no trill-isis retransmit-interval
```

Parameters

`<0-65535>`	Specifies the duration of the interval in seconds.

Command Mode

Interface mode

Default

5 seconds.

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill-isis retransmit-interval 10

(config-if)#no trill-isis retransmit-interval
```

CHAPTER 5 TRILL Commands

This chapter describes all of the TRILL commands. Most of these commands are used when configuring an interface.

debug trill all

Use this command to enable debugging for all modules, including IFSM, NFSM, EVENTS, PDU, LSP and NSM.

Use the `no` parameter with this command to disable all debugging.

Command Syntax

```
debug trill (all|)
no debug trill (all|)
no debug all
undebug all
undebug all trill
undebug trill (all|)
undebug trill all
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#debug trill all

#no debug trill all
```

debug trill events

Use this command to enable debugging on only TRILL events.

Use the `no` parameter with this command to disable this debug function.

Command Syntax

```
debug trill events
no debug trill events
undebug trill events
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#debug trill events
#no debug trill events
```

debug trill ifsm

Use this command to enable debugging for a TRILL interface finite state machine (IFSM).

Use the `no` parameter with this command to disable this debug function.

Command Syntax

```
debug trill ifsm
no debug trill ifsm
undebug trill ifsm
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#debug trill ifsm
#no debug trill ifsm
```

debug trill lsp

Use this command to enable debugging for TRILL link state PDUs (LSP).

Use the `no` parameter with this command to disable this debug function.

Command Syntax

```
debug trill lsp
no debug trill lsp
undebug trill lsp
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#debug trill lsp
#no debug trill lsp
```

debug trill nfsm

Use this command to enable debugging for a TRILL neighbor finite state machine (NFSM).

Use the `no` parameter with this command to disable this debug function.

Command Syntax

```
debug trill nfsm
no debug trill nfsm
undebug trill nfsm
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#debug trill nfsm
#no debug trill nfsm
```

debug trill nsm

Use this command to enable debugging for the TRILL network services module (NSM).

Use the `no` parameter with this command to disable this function.

Command Syntax

```
debug trill nsm
no debug trill nsm
undebug trill nsm
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#debug trill nsm
#no debug trill nsm
```

debug trill pdu

Use this command to enable debugging the TRILL Protocol Data Unit (PDU).

Use the `no` parameter with this command to disable this function.

Command Syntax

```
debug trill pdu
no debug trill pdu
undebug trill pdu
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#debug trill pdu
#no debug trill pdu
```

debug trill spf

Use this command to enable debugging the Shortest Path First (SPF) module.

Use the `no` parameter with this command to disable this function.

Command Syntax

```
debug trill spf
no debug trill spf
undebug trill spf
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#debug trill spf
#no debug trill spf
```

max-ecmp-path

Use this command to set the maximum neighbor count on a broadcast link.

Use `no` command to set the maximum neighbor count on a broadcast link to its default (4).

Command Syntax

```
max-ecmp-path (<1-100>)
no max-ecmp-path
```

Parameters

`<1-100>`	Maximum neighbor count.

Command Mode

Privileged mode

Example

```
#max-ecmp-path 99
```

show bridge trill

Use this command to view BRIDGE TRILL information

Command Syntax

```
show bridge trill
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#show bridge trill
```

show debug trill

Use this command to display debugging settings.

Command Syntax

```
show debug trill
```

Parameters

None

Command Mode

Privileged Exec mode, Interface Mode, and Configure Mode

Example

```
(config-if)#show debug trill
```

show nsm trill adjacency

Use this command to view NSM TRILL adjacency information.

Command Syntax

```
show nsm trill adjacency
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Example

```
#show nsm trill adjacency
```

show nsm trill appointed-forwarder

Use this command to view NSM TRILL appointed forwarder.

Command Syntax

```
show nsm trill adjacency
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Example

```
#show nsm trill appointed-forwarder
```

show nsm trill details

Use this command to view NSM TRILL details.

Command Syntax

```
show nsm trill details
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Example

```
#show nsm trill details
```

show nsm trill l2-table

Use this command to view NSM TRILL layer 2 MAC table.

Command Syntax

```
show nsm trill l2-table
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Example

```
#show nsm trill l2-table
```

show nsm trill mfdb

Use this command to view NSM TRILL multicast FDB.

Command Syntax

```
show nsm trill mfdb
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Example

```
#show nsm trill mfdb
```

show nsm trill multicast-pruning

Use this command to view NSM TRILL multicast-pruning information.

Command Syntax

```
show nsm trill multicast-pruning
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Example

```
#show nsm trill multicast-pruning
```

show nsm trill portinfo

Use this command to view NSM TRILL port information.

Command Syntax

```
show nsm trill portinfo
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Example

```
#show nsm trill portinfo
```

show nsm trill rpf

Use this command to view NSM TRILL RPF (reverse path forwarding) information.

Command Syntax

```
show nsm trill rpf
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Example

```
#show nsm trill rpf
```

show nsm trill ufdb

Use this command to view NSM TRILL UFDB (Unicast FDB) information.

Command Syntax

```
show nsm trill ufdb
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Example

```
#show nsm trill ufdb
```

show nsm trill vlan-pruning

Use this command to view NSM TRILL VLAN pruning information.

Command Syntax

```
show nsm trill vlan-pruning
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Example

```
#show nsm trill vlan-pruning
```

show running-config interface trill

Use this command to show the current running RBridge system configuration.

Command Syntax

```
show running-config interface IFNAME trill
```

Parameters

IFNAME	Display the interface name.

Command Mode

Privileged Exec mode, Interface Mode, and Configure Mode

Example

```
(config-if)#show running-config interface eth1 trill
!
interface eth1
!
(config-if)#
```

show trill detail

Use this command to display information from the LSP database and its type, length and value (TLV).

Command Syntax

```
show trill detail (lsp|)
```

Parameters

`lsp`	Specifies the link state PDU.

Command Mode

Exec mode and Privilege Exec mode

Examples

Show TRILL detail:

```
#show trill detail
TRILL Link State Database
RBridge Instance 1:
LSP_ID LSP_Seq_Num LSP_Checksum LSP_Holdtime
3154.0B31.2F54.00-00 0x00000007 0x157B 1064
3154.1114.20B1.00-00* 0x00000005 0xE73A 1064
3154.7F5D.E3BE.00-00 0x00000006 0xCA9A 1063
3154.7F5D.E3BE.01-00 0x00000005 0x7B7A 1063
Show TRILL detail LSP:
#

#show trill detail lsp
TRILL Link State Database
RBridge Instance 1:
LSP_ID LSP_Seq_Num LSP_Checksum LSP_Holdtime
3154.0B31.2F54.00-00 0x00000007 0x157B 726
Extended IS Reachability TLV:
Metric: 10 IS-Extended 3154.7F5D.E3BE.01
Router Capabaility TLV:
Trill Version = 1
Nickname sub-TLV:
Nickname Priority Root_Priority
5551 254 65530
Tree sub-TLV:
Number_of_trees_to_compute = 1
Max_trees_able_to_compute = 8
Number_of_trees_to_use = 1
3154.1114.20B1.00-00* 0x00000005 0xE73A 726
Extended IS Reachability TLV:
Metric: 10 IS-Extended 3154.7F5D.E3BE.01
Router Capabaility TLV:
Trill Version = 1
Nickname sub-TLV:
Nickname Priority Root_Priority
5553 254 65530
Tree sub-TLV:
Number_of_trees_to_compute = 1
```

```
Max_trees_able_to_compute = 8
Number_of_trees_to_use = 1
3154.7F5D.E3BE.00-00 0x00000006 0xCA9A 725
Extended IS Reachability TLV:
Metric: 10 IS-Extended 3154.7F5D.E3BE.01
Router Capabaility TLV:
Trill Version = 1
Nickname sub-TLV:
Nickname Priority Root_Priority
cfbc 64 32768
Tree sub-TLV:
Number_of_trees_to_compute = 1
Max_trees_able_to_compute = 8
Number_of_trees_to_use = 1
3154.7F5D.E3BE.01-00 0x00000005 0x7B7A 725
Extended IS Reachability TLV:
Metric: 0 IS-Extended 3154.7F5D.E3BE.00
Metric: 0 IS-Extended 3154.0B31.2F54.00
Metric: 0 IS-Extended 3154.1114.20B1.00
#
```

show trill dtree

Use this command to display information from the d-tree database.

Command Syntax

```
show trill dtree
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Example

```
#show trill dtree
TRILL Distribution Tree Information
RBridge Instance : 1
Number of Trees to Compute : 3
Number of Trees to Use : 3
Maximum Number of Trees to Compute : 8
DTree Nicknames to compute
8001 8000 8002 8003
DTree Nicknames to use
8001 8002 8003
Dtree Root Priority
Dtree Active Trees
Dtree Max Trees
Dtree Desired Use Trees
Dtree Table
DtreeNumber DtreeNickName DTreeIngress
#
```

show trill fdb

Use this command to display the forwarding database information; including, unicast forwarding table, multicast forwarding table, and configured forwarding path information.

Command Syntax

```
show trill fdb (unicast|multicast|detail|)
```

Parameters

`unicast`	Display the unicast forwarding table information.
`multicast`	Display the multicast forwarding table information.
`detail`	Display the configured forwarding path information.

Command Mode

Exec mode and Privilege Exec mode

Examples

Show TRILL FDB unicast:

```
#show trill fdb unicast
RBridge Instance 1:
TRILL Unicast Forwarding Database
Eg_Nick Eg_SysId Metric HopCnt NH_Nick NH_SysId Interface
SNPA
5551 3154.0B31.2F54 0010 001 5551 3154.0B31.2F54 eth1
5254.004c.650d
cfbc 3154.7F5D.E3BE 0010 001 cfbc 3154.7F5D.E3BE eth1
5254.0047.7c0c
Show TRILL FDB multicast:
#

#show trill fdb multicast
RBridge Instance 1:
TRILL Multicast Forwarding Database
Highest tree root priority Rbridge is 0x5553. LSP ID is 3154.1114.20B1.00-00
D-Tree_Name D-tree-system-id Hop-count
5553 3154.1114.20B1 001
Adj_Nickname Adj_System_id Interface SNPA
cfbc 3154.7F5D.E3BE eth1 5254.0047.7c0c
5551 3154.0B31.2F54 eth1 5254.004c.650d
Show TRILL FDB detail:
#show trill fdb detail
RBridge Instance 1:
TRILL Unicast Forwarding Database
Eg_Nick Eg_SysId Metric HopCnt NH_Nick NH_SysId Interface
SNPA
5551 3154.0B31.2F54 0010 001 5551 3154.0B31.2F54 eth1
5254.004c.650d
cfbc 3154.7F5D.E3BE 0010 001 cfbc 3154.7F5D.E3BE eth1
5254.0047.7c0c
RBridge Instance 1:
TRILL Multicast Forwarding Database
```

```
Highest tree root priority Rbridge is 0x5553. LSP ID is 3154.1114.20B1.00-00
D-Tree_Name D-tree-system-id Hop-count
5553 3154.1114.20B1 001
Adj_Nickname Adj_System_id Interface SNPA
cfbc 3154.7F5D.E3BE eth1 5254.0047.7c0c
5551 3154.0B31.2F54 eth1 5254.004c.650d
RBridge Instance 1:
TRILL Static Destination MAC Table
DMAC VLANID Eg_Nickname
000200030004 3 0004
TRILL Static Neighbour Nickname Table
Eg_Nickname NHop_Nickname Hop_Cnt
0004 0003 2
TRILL Static Neighbour Nickname Info Table
NHop_Nickname Interface NHop_MAC
0003 eth2 000100020003
TRILL Static DTree Nickname Table
DTree_Name NHop_Name VLAN_Range
0005 0003 2-6
0006 0003 2-6
TRILL Static RPF Table
DTree_Name Ingress_Nickname Interface
0005 0006 eth2
0006 0005 eth2
TRILL Static Multicast Pruning Table
Multicast_Address Vlan Neighbour_Nickname
#
```

show trill interface

Use this command to display TRILL interface information.

Command Syntax

```
show trill interface
show trill interface IFNAME
```

Parameters

IFNAME	Display the actual interface.

Command Mode

Exec mode and Privilege Exec mode

Example

```
#show trill interface
lo is up, line protocol is up
TRILL not enabled on this interface
eth0 is up, line protocol is up
TRILL not enabled on this interface
eth4 is up, line protocol is up
TRILL not enabled on this interface
eth5 is up, line protocol is up
TRILL not enabled on this interface
svlan0.1 is down, line protocol is down
TRILL not enabled on this interface
vlan1.1 is up, line protocol is up
TRILL not enabled on this interface
vlan1.2 is up, line protocol is up
TRILL not enabled on this interface
vlan1.3 is up, line protocol is up
TRILL not enabled on this interface
vlan1.4 is up, line protocol is up
TRILL not enabled on this interface
vlan1.5 is up, line protocol is up
TRILL not enabled on this interface
eth2 is up, line protocol is up
TRILL not enabled on this interface
eth3 is up, line protocol is up
TRILL not enabled on this interface
eth1 is up, line protocol is up
Bridge Protocol: TRILL (1)
Network Type: Broadcast
Circuit Type: level-1
Local circuit ID: 0x01
Extended Local circuit ID: 0x00000003
Local SNPA: 5254.0047.7c0c
Port Priority: 120
Circuit ID: 3154.7F5D.E3BE.01
Number of active level-1 adjacencies: 2
Level-1 LSP MTU: 1492
Next TRILL LAN Level-1 Hello in 2 seconds
```

```
Port State = Enabled
Inhibition time = 30 sec
Desired Designated Vlan = 2
Designated Vlan = 2
Port STP wiring closet = inactive
AF list
------------------------------------------------------
Self Vlan
3154.7F5D.E3BE 1 3 6 [8-10]
Neighbor Vlan
3154.0B31.2F54 2 4
3154.1114.20B1 5 7
vlan1.6 is up, line protocol is up
TRILL not enabled on this interface
vlan1.7 is up, line protocol is up
TRILL not enabled on this interface
vlan1.8 is up, line protocol is up
TRILL not enabled on this interface
vlan1.9 is up, line protocol is up
TRILL not enabled on this interface
vlan1.10 is up, line protocol is up
TRILL not enabled on this interface
================================================================================
```

show trill l2mcast

Use this command to display TRILL L2 multicast table information.

Command Syntax

```
show trill l2mcast
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Example

```
#show trill l2mcast
RBridge Instance 1:
VLAN      MAC

TSUP-173#
#
```

show trill neighbor

Use this command to display TRILL neighbor information.

Command Syntax

```
show trill neighbor (<1-32>|)
```

Parameters

<1-32>	Display the identification of a TRILL neighbor.

Command Mode

Exec mode and Privilege Exec mode

Example

```
#show trill neighbor
TRILL Neighbor Table Instance = 1
NbrMacAddr NbrMtu NbrSysId NbrNickname PortId
Interface
------------------------------------------------------------------------------
5254.004C.650D 0 3154.0B31.2F54 5551 0 eth1
5254.0069.2262 0 3154.1114.20B1 5553 0 eth1
HoldingTime NbrPriority DesiredVlan State DeadTime
-----------------------------------------------------
23 64 1 REPORT 3
25 44 1 REPORT 3
#
```

show trill nicknamedatabase

Use this command to view RBridge nicknames, associated hostname, priority of use and the VLAN forwarder flag.

Command Syntax

```
show trill nicknamedatabase
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Example

```
#show trill nicknamedatabase
localhost.localdomain#show trill nicknamedatabase
TRILL Nickname Database
RBridge Instance 1:
Nickname SystemID Priority Root_Priority Status
Self Nickname List:
5553 3154111420B1 254 65530 Active
3ee9* 3154111420B1 64 32768 NotActive
Nickname Database:
3ee9* 3154111420B1 64 32768 NotActive
5551 31540B312F54 254 65530 Active
5553 3154111420B1 254 65530 Active
cfbc 31547F5DE3BE 64 32768 Active
#
```

show trill pruning

Use this command to display TRILL pruning information.

Command Syntax

```
show trill pruning (vlan|multicast|) (dtree-name X|)
```

Parameters

`vlan`	Display TRILL VLAN pruning information.
`multicast`	Display TRILL multicast pruning information.
`dtree-name`	Display pruning information for a specific d-tree.
`X`	Display d-tree name in hexadecimal format.

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#show trill pruning multicast

RBridge Instance : 1
    Multicast Pruning Information for All D-Trees

#
```

show trill rpfinfo

Use this command to display TRILL RPF (reverse path forwarding) table information.

Command Syntax

```
show trill rpfinfo
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#show trill rpfinfo
RBridge Instance 1:
TRILL RPF Table
Dtree_Name  Ingress_Nickname  If_Index  If_Name

#
```

show trill statistics

Use this command to display TRILL statistics information, include control and status information.

Command Syntax

```
show trill statistics <1-32>
```

Parameters

instance	ID Specifies the TRILL instance identification

Command Mode

Exec mode and Privilege Exec mode

Examples

```
#show trill statistics 1
************************TRILL Statistics************************
----------------------------------------------------------------
TrillVersion 1
NumPorts 0
ForwardDelay 15sec
UniMultipathEnable Disabled
MultiMultipathEnable Disabled
NicknameNumber 8
AcceptEncapNonadj 0
#show trill statistics 30
Error: Not configured
#
```

show trill topology

Use this command to view the topology of all the learned neighbors.

Command Syntax

```
show trill topology
```

Parameters

None

Command Mode

Exec mode and Privilege Exec mode

Example

```
#show trill topology
Bridge Instance 1:
TRILL paths to Campus Wide Rbridges
System Id Metric Next-Hop Interface SNPA
3154.0B31.2F54 10 3154.0B31.2F54 eth1
5254.004c.650d
3154.1114.20B1 --
3154.7F5D.E3BE 10 3154.7F5D.E3BE eth1
5254.0047.7c0c
#
```

show trill vlantable

Use this command to display information from the VLAN table.

Command Syntax

```
show trill vlantable (<1-32>|)
```

Parameters

<1-32>	Display the identification of a VLAN.

Command Mode

Exec mode and Privilege Exec mode

Example

```
#show trill vlantable
Information of VLANs on this RBridge
RBridge VLAN Table Instance = 1
Vlan  VlanForwarderLost VlanDisableLearning   VlanSnooping

Rbridge VLAN Port Table
Port   Vlan  VlanPortInhibited VlanPortForwarder   VlanPortAnnouncing
VlanPortD
etectedVlanMapping

#
```

snmp restart trill

Use this command to restart SNMP in Transparent Interconnection of lots of links (TRILL)

Command Syntax

```
snmp restart trill
```

Parameters

None

Command Mode

Configure mode

Examples

```
#snmp restart trill
```

trill access-port

Use this command to configure a TRILL port as an access port.

Use the no parameter with this command to reset the configuration to the default setting.

Command Syntax

```
trill access-port enable
no trill access-port
```

Parameter

`enable`	Specify to enable an access port.

Command Mode

Interface mode

Default

Disabled

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill access-port enable

(config-if)#no trill access-port enable
```

trill announcing-vlan

Use this command to announce the VLAN; that is to add a specified VLAN or VLANs to the VLAN table.

Use the no parameter with this command to remove a specified VLAN or VLANs from the VLAN table.

Command Syntax

```
trill announcing-vlan (<1-4094>| X | all)
no trill announcing-vlan (<1-4094>|all)
```

Parameters

X	Specify a range of VLANs to be configured (for example, 1-4).
<1-4094>	Specify a range of TRILL announcing VLANs.
all	Specify enable all VLANs.

Command Mode

Interface mode

Examples

Announce one VLAN:

```
>enable
#configure terminal
#(config)#interface eth1
#(config-if)#trill announcing-vlan 1
```

Announce a range of VLANs:

```
>enable
#configure terminal
#(config)#interface eth1
#(config-if)#trill announcing-vlan <1-5>
```

Announce one VLAN:

```
>enable
#configure terminal
#(config)#interface eth1
#(config-if)#trill announcing-vlan all
```

Removing VLAN(s) from the table:

```
#(config-if)#trill announcing-vlan 1
#(config-if)#trill announcing-vlan <1-5>
#(config-if)#trill announcing-vlan all
```

trill bpdu-handling

Use this command to enable the BPDU-handling feature on an interface for TRILL.

Use the `no` parameter with this command to reset the configuration to the default value.

Command Syntax

```
trill bpdu-handling enable
no trill bpdu-handling enable
```

Parameters

`enable`	Specify to enable BPDU-handling.

Command Mode

Interface mode

Default

BPDU-handling is disabled by default.

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill bpdu-handling enable
```

trill designated-vlan

Use this command to designate a VLAN for an interface.

Use the no parameter with this command to reset the configuration to the default value.

Command Syntax

```
trill designated-vlan <1-4094>
no trill designated-vlan
```

Parameters

<1-4094>	Specify a VLAN ID.

Command Mode

Interface mode

Default

1 VLAN

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill designated-vlan 101
(config-if)#trill designated-vlan
```

trill disable-port

Use this command to designate a port as disabled for an interface.

Use the `no` parameter with this command to reset the configuration to the default value.

Command Syntax

```
trill disable-port enable
no trill disable-port
```

Parameters

`enable`	Specify a port as disabled.

Command Mode

Interface mode

Default

Port is enabled by default.

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill designated-vlan 101
(config-if)#trill designated-vlan
```

trill end-station-service-vlan

Use this command to add a VLAN end station service. You can add one VLAN, a range of VLANs or all VLANs to an end station service.

Use the no parameter with this command to remove VLANs from an end station service.

Command Syntax

```
trill end-station-service-vlan (<1-4094>| X | all)
no trill end-station-service-vlan (<1-4094>|all)
```

Parameters

X	Specify a range of VLANs to be configured (for example, 1-4).
<1-4094>	Specify either a single VLAN or range of VLANs (for example, 2-5).
all	Specify enable all VLANs.

Command Mode

Interface mode

Examples

Add one VLAN to end station service:

```
>enable
#configure terminal
#(config)#interface eth1
(config-if)#trill end-station-service-vlan 1
```

Add a range of VLANs to end station service:

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill end-station-service-vlan <1-5>
```

Add all VLANs to end station service:

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill end-station-service-vlan all
```

Remove VLAN(s) from end station service:

```
(config-if)#no trill end-station-service-vlan 1
(config-if)#no trill end-station-service-vlan <1-5>
(config-if)#no trill end-station-service-vlan all
```

trill inhibition-time

Use this command to configure the inhibition time for the database port.

Use the no parameter with this command to reset this configuration to the default setting.

Command Syntax

```
trill inhibition-time <1-30>
no trill inhibition-time
```

Parameters

<1-30>	Specify the inhibition time in seconds.

Command Mode

Interface mode

Default

30 seconds

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill inhibition-time 22

(config-if)#no trill inhibition-time
```

trill instance

Use this command to bind the interface to a specified TRILL instance.

Use the `no` parameter with this command to remove the interface from a specified TRILL instance.

Command Syntax

```
trill instance (<1-32>|)
no trill instance (<1-31>|)
```

Parameters

`<1-31>`	Specify a TRILL instance

Command Mode

Interface mode

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill instance 1

(config-if)#no trill instance 1
```

trill link-type

Use this command to configure a TRILL link type for an interface.

Command Syntax

```
trill link-type (broadcast|point-to-point)
```

Parameters

`broadcast`	Specifies the interface link as broadcast.
`point-to-point`	Specifies the interface link as point-to-point.

Command Mode

Interface mode

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill link-type point-to-point
```

trill max-neighbor

Use this command to configure the maximum number of neighbors on a broadcast link.

Use the no parameter with this command to reset this configuration to the default setting.

Command Syntax

```
trill max-neighbor (<0-500>| )
no trill max-neighbor
```

Parameters

<0-500>	Specify a maximum number of neighbors on a broadcast link in a decimal range of 0 to 500.

Command Mode

Interface mode

Default

Zero (0) neighbors

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill max-neighbor 123

(config-if)#no trill max-neighbor
```

trill overload-flag

Use this command to enable overload flag in pseudo-node for LSP.

Use the no parameter with this command to reset this configuration.

Command Syntax

```
trill overload-flag enable
no trill overload-flag
```

Parameters

None

Command Mode

Interface mode

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill overload-flag enable

(config-if)#no trill overload-flag
```

trill pseudonode

Use this command to enable the pseudonode flag for an interface.

Use the `no` parameter with this command to disable this function.

Command Syntax

```
trill pseudonode enable
no trill pseudonode enable
```

Parameters

None

Command Mode

Interface mode

Default

Disabled

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill pseudonode enable

(config-if)#no trill pseudonode enable
```

trill root-inhibition-time

Use this command to configure a root inhibition time for the database port.

Use the no parameter with this command to reset this configuration to the default setting.

Command Syntax

```
trill root-inhibition-time (<0-30>| )
no trill root-inhibition-time
```

Parameters

<0-30>	Specify the inhibition time in seconds.

Command Mode

Interface mode

Default

30 seconds

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill root-inhibition-time 22

(config-if)#no trill root-inhibition-time
```

trill trunk-port

Use this command to configure a port as a trunk port for an interface.

Use the no parameter with this command to reset the configuration to the default setting.

Command Syntax

```
trill trunk-port enable
no trill trunk-port
```

Parameters

None

Command Mode

Interface mode

Default

Disabled

Examples

```
>enable
#configure terminal
(config)#interface eth1
(config-if)#trill trunk-port enable
(config-if)#no trill trunk-port enable
```

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