set spantree priority

Use the **set spantree priority** command to set the bridge priority for a VLAN.

set spantree priority *bridge_priority* [*vlan*]

Syntax Description

bridge_priority	Number representing the priority of the bridge; vaild values are **0**, **4096**, **8192**, **12288**, **16384**, **20480**, **24576**, **28672**, **32768**, **36864**, **40960**, **45056**, **49152**, **53248**, **57344**, and **6144**, with **0** indicating high priority and **61440**, low priority.
vlan	(Optional) Number of the VLAN. If you do not specify a VLAN number, VLAN 1 is used; valid values are from **1** to **1005**.

Defaults

The default configuration has the bridge priority set to 32768.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

This feature is not supported for the RSM.

Examples

This example shows how to set the bridge priority of VLAN 1 to 4096:

```
Console> (enable) set spantree priority 4096
VLAN 1 bridge priority set to 4096.
Console> (enable)
```

Related Commands

show spantree

set spantree root

Use the **set spantree root** command to set the primary or secondary root for specific VLANs of the switch or for all VLANs of the switch.

set spantree root [**secondary**] [*vlan_list*] [**dia** *network_diameter*] [**hello** *hello_time*]

Syntax Description

secondary	(Optional) Keyword to designate this switch as a secondary root, if the primary root fails.
vlan_list	(Optional) Number of the VLAN. If you do not specify a VLAN number, VLAN 1 is used; valid values are from **1** to **1005**.
dia*network_diameter*	(Optional) Keyword to specify the maximum number of bridges between any two points of attachment of end stations. Valid values of *network_diameter* are 2 through 7.
hello *hello_time*	(Optional) Keyword to specify the duration in seconds between generation of configuration messages by the root switch; valid values of *hello_time* are from **1** to **10**.

Defaults

If the **secondary** keyword is not specified, the default is to make the switch the primary root.

The default value of the *network_diameter* is 7.

If not specified, the current value of *hello_time* from the NVRAM is used.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

This command runs on backbone or distribution switches.

You can run the secondary root many times to create backup switches in case of a root failure.

The secondary command reduces the bridge priority value to 16384.

This command increases path costs to a value greater than 3000.

Examples

This example shows how to use the **set spantree root** command:

```
Console>(enable) set spantree root 1-10 dia 4
VLANs 1-10 bridge priority set to 8192
VLANs 1-10 bridge max aging time set to 14 seconds.
VLANs 1-10 bridge hello time set to 2 seconds.
VLANs 1-10 bridge forward delay set to 9 seconds.
Switch is now the root switch for active VLANs 1-6.
Console> (enable)
```

This example shows that setting the bridge priority to 8192 was not sufficient to make this switch the root. The priority was further reduced to 7192 (100 less than the current root switch) to make this switch the root switch. However, reducing the priority did not make it the root switch for active VLANs 16 and 17.

```
Console>(enable) set spantree root 11-20.
VLANs 11-20 bridge priority set to 7192
VLANs 11-10 bridge max aging time set to 20 seconds.
VLANs 1-10 bridge hello time set to 2 seconds.
VLANs 1-10 bridge forward delay set to 13 seconds.
Switch is now the root switch for active VLANs 11-15,18-20.
Switch could not become root switch for active VLAN 16-17.
Console> (enable)

Console>(enable) set spantree root secondary 22,24 dia 5 hello 1
VLANs 22,24 bridge priority set to 16384.
VLANs 22,24 bridge max aging time set to 10 seconds.
VLANs 22,24 bridge hello time set to 1 second.
VLANs 22,24 bridge forward delay set to 7 seconds.
Console> (enable)
```

Related Commands

clear spantree root
show spantree

set spantree uplinkfast

Use the **set spantree uplinkfast** command to enable fast switchover to alternate ports when the root port fails. This command applies to a switch, not to a WAN.

set spantree uplinkfast enable [**rate** *station_update_rate*] [**all-protocols** {**off** | **on**}]

set spantree uplinkfast disable

Syntax Description

enable	Keyword that enables a fast switchover.
rate	(Optional) Keyword to specify the number of multicast packets transmitted per 100 milliseconds when an alternate port is chosen after the root port goes down.
station_update_rate	(Optional) Number of multicast packets transmitted per 100 milliseconds when an alternate port is chosen after the root port goes down.
all-protocols	(Optional) Keyword to specify whether the switch generates dummy multicast packets for all protocol groups (IP, IPX, and Group) in a network with switches using protocol filtering.
off	(Optional) Keyword to prevent the switch from generating multicasts for all protocol groups.
on	(Optional) Keyword to cause the switch to generate multicasts for all protocol groups.
disable	Keyword that disables fast switchover.

Defaults

The default *station_update_rate* is 15 packets per 100 milliseconds.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

The **set spantree uplinkfast enable** command has the following results:

- Changes the bridge priority to 49152 for all VLANs (allowed VLANs).
- Increases the path cost and portvlancost of all ports to a value greater than 3000.
- On detecting the failure of a root port, an instant cutover occurs to an alternate port selected by Spanning Tree Protocol.

If you run **set spantree uplinkfast enable** on a switch that has this feature already enabled, only the station update rate is updated. The rest of the parameters are not modified.

If you run **set spantree uplinkfast disable** on a switch, the UplinkFast feature is disabled but the switch priority and port cost values are not reset to the factory defaults. To reset the values to the factory defaults, enter the **clear spantree uplinkfast** command.

The default *station_update_rate* value is 15 packets per 100 milliseconds, which is equivalent to a 1 percent load on a 10-Mbps Ethernet port. If you specify this value as 0, the switch does not generate station-update-rate packets.

Use the **all-protocols on** keywords on switches that have UplinkFast enabled but do not have protocol filtering enabled, and that are connected to upstream switches in the network that have protocol filtering enabled. The **all-protocols on** keywords cause the switch to generate multicasts for each protocol-filtering group.

On switches with both UplinkFast and protocol filtering enabled, or if no other switches have protocol filtering enabled, you do not need to use the **all-protocols on** keywords.

Examples

This example shows how to enable the spantree UplinkFast feature and specify the number of multicast packets transmitted to 40 packets per 100 milliseconds:

```
Console>(enable) set spantree uplinkfast enable rate 40
VLANs 1-1000 bridge priority set to 49152.
The port cost and portvlancost of all ports increased to above 3000.
Station update rate set to 40 packets/100ms.
uplinkfast turned on for bridge.
Console> (enable)
```

This example shows how to disable the spantree UplinkFast feature:

```
console> (enable) set spantree uplinkfast disable
Uplinkfast disabled for switch.
Use clear spantree uplinkfast to return stp parameters to default.
console>(enable) clear spantree uplink
This command will cause all portcosts, portvlancosts, and the
bridge priority on all vlans to be set to default.
Do you want to continue (y/n) [n]? y
VLANs 1-1005 bridge priority set to 32768.
The port cost of all bridge ports set to default value.
The portvlancost of all bridge ports set to default value.
uplinkfast disabled for bridge.
Console> (enable)
```

This example shows how to enable the all-protocols feature:

```
Console> (enable) set spantree uplinkfast enable all-protocols on
uplinkfast update packets enabled for all protocols.
uplinkfast already enabled for bridge.
```

This example shows how to disable the all-protocols feature:

```
Console> (enable) set spantree uplinkfast disable all-protocols off
uplinkfast all-protocols field set to off.
uplinkfast already enabled for bridge.
Console> (enable)
```

Related Commands

clear spantree uplinkfast
show spantree uplinkfast

set standbyports

Use the **set standbyports** command to enable or disable the standby ports feature. The standby ports feature allows the ports on the standby supervisor engine module to pass traffic. If this feature is disabled, the ports are in standby mode.

set standbyports enable | disable

Syntax Description

enable	Keyword to enable the standby ports feature.
disable	Keyword to disable the standby ports feature.

Defaults

The default is disabled. However, if upgrading from supervisor engine software release 4.1 or 4.2, the standby ports feature remains enabled.

Command Types

Switch command.

Command Modes

Privileged.

Examples

This example shows how to enable the standby ports feature:

```
Console> (enable) set standbyports enable
Standby ports feature enabled.
Please wait while the standby ports are coming up.
Console> (enable)
```

This example shows how to disable the standby ports feature:

```
Console> (enable) set standbyports disable
Standby ports feature disabled.
Console> (enable)
```

Related Commands

show standbyports

set station softerror

Use the **set station softerror** command to enable or disable the collection of soft error statistics, and define error thresholds and sampling intervals on a Token Ring module or on a specific port on the module.

set station softerror *mod*[*/port*] **disable** | **enable** [**threshold** *thres_num* **interval** *int_num*]

Syntax Description

mod	Number of the module and (optional) port on the module.
port	(Optional) number of the port on the module.
disable	Keyword to specify soft error statistics to not be collected for the stations on a module or on a specific port on a module.
enable	Keyword to specify soft error statistics to be collected for the stations on a module or on a specific port on a module.
threshold *thres_num*	(Optional) Keyword and variable to specify the number of soft errors reported from a station connected to a port that if exceeded causes a soft error exceeded trap to be issued; valid values are from **1** to **255**.
interval *int_num*	(Optional) Keyword and variable to specify the sampling period (in seconds) during which the number of soft errors is monitored for each station connected to a port; valid values are from **0** to **65534** seconds.

Defaults

The default configuration has soft error monitoring disabled. The default error threshold is 100. The default interval is 60.

Command Types

Switch command

Command Modes

Privileged

Usage Guidelines

To disable soft error exceeded traps, set the **interval** *int_num* value to zero. Without traps, soft errors can still be monitored through the console.

Examples

This example shows how to enable the collection of soft error statistics for port 10 on module 3:

```
Console> (enable) set station softerror 3/10 enable
Port 3/10 soft error monitoring enabled.
Console> (enable)
```

This example sets the error threshold to 100 and the sampling interval to 200 for port 10 on module 3:

```
Console> (enable) set station softerror 3/10 threshold 100 interval 200
Port 3/10 station soft error threshold set to 100, interval set to 200
Console> (enable)
```

Related Commands

clear station
clear station counters
show station softerror config
show station softerror counters

set summertime

Use the **set summertime** command to specify whether the system should set the clock ahead one hour during daylight saving time.

set summertime {**enable** | **disable**} [*zone*]

set summertime recurring [{*week*} {*day*} {*month*} {*hh*:*mm*} {*week* | *day* | *month* | *hh*:*mm*} [*offset*]]

set summertime date {*month*} {*date*} {*year*} {*hh*:*mm*}{*month* | *date* | *year* | *hh*:*mm*} [*offset*]

Syntax Description

enable	Keyword to cause the system to set the clock ahead one hour during daylight saving time.
disable	Keyword to prevent the system from setting the clock ahead one hour during daylight saving time.
zone	(Optional) Time zone used by the **set summertime** command.
recurring	Keyword to specify the summertime dates which recur every year.
week	Week of the month (first, second, third, fourth, last, 1...5).
day	Day of the week (Sunday, Monday, Tuesday, and so forth).
month	Month of the year (January, February, March, and so forth).
hh:mm	Hours and minutes.
offset	(Optional) Amount of offset in minutes (**1** to **1440** minutes).
date	Day of the month (**1** to **31**).
year	Number of the year (**1993** to **2035**).

Defaults

By default, the **set summertime** command is disabled. When the command is enabled, the default for *offset* is 60 minutes, following U.S. standards.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

When you enter the **clear config** command, the dates and times are set back to the default.

Unless otherwise configured, this command advances the clock one hour at 2:00 a.m. on the first Sunday in April and moves back the clock one hour at 2:00 a.m. on the last Sunday in October.

Examples

This example shows how to cause the system to set the clock ahead one hour during daylight saving time:

```
Console> (enable) set summertime enable PDT
Summertime is enabled and set to "PDT".
Console> (enable)
```

This example shows how to prevent the system from setting the clock ahead one hour during daylight saving time:

```
Console> (enable) set summertime disable
Summertime disabled.
Console> (enable)
```

This example shows how to set daylight saving time to zonename "AUS," repeat every year, starting from the third Monday of February at noon and ending at the second Saturday of August at 3:00 p.m. with an offset of 30 minutes:

```
Console> (enable) set summertime recurring 3 Mon Feb 03:00 4 Thursday oct 08:00 500
Command authorization none.
Summertime is enabled and set to ''
   start: Mon Feb 21 2000, 03:00:00
   end:   Fri Oct 20 2000. 08:00:00
   offset: 1..1440 minutes (default 60)
   Recurring: yes, starting at 03:00:00am of third Monday of February and ending on
08:00am of fourth Thursday of October.
Console> (enable)
```

This example shows how to set the daylight saving time to start on January 29, 1999 at 2:00 a.m. and end on August 19, 2004 at 3:00 p.m. with an offset of 30 minutes:

```
Console> (enable) set summertime date jan 29 1999 02:00 aug 19 2004 15:00 30
Summertime is disabled and set to ''
Start : Fri Jan 29 1999, 02:00:00
End   : Thu Aug 19 2004, 15:00:00
Offset: 30 minutes
Recurring: no
Console> (enable)
```

Related Commands

show summertime

set system baud

Use the **set system baud** command to set the console port baud rate.

set system baud *rate*

Syntax Description

rate	Baud rate. Valid rates are **600**, **1200**, **2400**, **4800**, **9600**, **19200**, and **38400**.

Defaults

The default value is 9600 baud.

Command Types

Switch command.

Command Modes

Privileged.

Examples

This example shows how to set the system baud rate to 19200:

```
Console> (enable) set system baud 19200
System console port baud rate set to 19200.
Console> (enable)
```

Related Commands

show system

set system contact

Use the **set system contact** command to identify a contact person for the system.

set system contact [*contact_string*]

Syntax Description

contact_string	(Optional) Text string that contains the name of the person to contact for system administration. If no contact string is specified, the system contact string is cleared.

Defaults

The default configuration has no system contact configured.

Command Types

Switch command.

Command Modes

Privileged.

Examples

This example shows how to set the system contact string:

```
Console> (enable) set system contact Xena ext.24
System contact set.
Console> (enable)
```

Related Commands

show system

set system core-dump

Use the **set system core-dump** command to enable or disable the core dump feature.

set system core-dump {**enable** | **disable**}

Syntax Description

enable	Keyword to enable the core dump feature.
disable	Keyword to disable the core dump feature.

Defaults

The default is disabled.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

The core dump feature generates a report of images when your system fails due to a software error. The core image is stored in the file system. From this file, you can examine an error condition of a process when it is terminated due to an exception.

The size of the file system depends on the memory card size. The core dump file generated is proportional to the size of the system DRAM. Make sure that you have enough memory available to store the core dump file.

In order to maintain the core dump image, the yield CPU is disabled during the core dump process. You should have a standby supervisor engine installed to take over normal operations. If the switch has a redundant supervisor engine setup, the standby supervisor engine takes over automatically before the core dump occurs. The previously active supervisor engine resets itself after the core dump completes.

Examples

This example shows how to enable the core dump feature:

```
Console> (enable) set system core-dump enable
Have all GDB breakpoints been deleted (y/n) [n]?y
(1) In the event of a system crash, this feature will
     cause a core file to be written out.
(2) Core file generation may take up to 20 minutes.
(3) Selected core file is slot0:crash.hz
(4) Please make sure the above device has been installed,
    and ready to use
Core-dump enabled
Console> (enable)
```

This example shows how to disable the core dump feature:

```
Console> (enable) set system core-dump disable
Core-dump disabled
Console> (enable)
```

Related Commands

set system core-file

set system core-file

Use the **set system core-file** command to specify the core image filename.

set system core-file {*device*:[*filename*]}

Syntax Description

device	Device where the core image file resides; valid values are **bootflash** and **slot0**.
filename	(Optional) Name of the core image file.

Defaults

The default *filename* is "crashinfo."

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

A device name check is performed when you enter the **set system core-file** command. If a valid device name is not found, an error message displays.

When a core dump occurs, the actual file written out will append the date to the filename in this format: _{yymmdd}-{hhmmss}.

Examples

This example shows how to use the default core image filename:

```
Console> (enable) set system core-file bootflash:
Attach default filename crashinfo to the device
System core-file set.
Console> (enable)
```

This example shows how to set the core image filename:

```
Console> (enable) set system core-file slot0:abc
System core-file set.
Console> (enable)
```

Related Commands

set system core-dump

set system countrycode

Use the **set system countrycode** command to specify the country where the system is physically located.

set system countrycode *code*

Syntax Description

code	Country code; see the "Usage Guidelines" section for format information.

Defaults

The default is US (United States).

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

The country code is a two-letter country code obtained from the ISO-3166 standard (for example, VA=Holy See (Vatican City State), VU=Vanuatu, and TF=French Southern Territories).

Examples

This example shows how to set the system country code:

```
Console> (enable) set system countrycode US
Country code is set to US.
Console> (enable)
```

set system location

Use the **set system location** command to identify the location of the system.

set system location [*location_string*]

Syntax Description

location_string	(Optional) Text string to indicate where the system is located. If no location string is specified, the system location is cleared.

Defaults

This command has no default settings.

Command Types

Switch command.

Command Modes

Privileged.

Examples

This example shows how to set the system location string:

```
Console> (enable) set system location Closet 230 4/F
System location set.
Console> (enable)
```

Related Commands

show system

set system modem

Use the **set system modem** command to enable or disable modem control lines on the console port.

set system modem {**enable** | **disable**}

Syntax Description

enable	Keyword to activate modem control lines on the console port.
disable	Keyword to deactivate modem control lines on the console port.

Defaults

The default configuration has modem control lines disabled.

Command Types

Switch command.

Command Modes

Privileged.

Examples

This example shows how to enable modem control lines on the console port:

```
Console> (enable) set system modem enable
Modem control lines enabled on console port.
Console> (enable)
```

This example shows how to disable modem control lines on the console port:

```
Console> (enable) set system modem disable
Modem control lines disabled on console port.
Console> (enable)
```

Related Commands

show system

set system name

Use the **set system name** command to configure a name for the system.

set system name [*name_string*]

Syntax Description

name_string	(Optional) Text string to identify the system.

Defaults

The default configuration has no system name configured.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

In Catalyst 5000 family software release 4.1(1) and later, if you use the **set system name** command to assign a name to the switch, the switch name is used as the prompt string. However, if you specify a different prompt string using the **set prompt** command, that string is used for the prompt. If no name is specified, the system name is cleared.

In Catalyst 5000 family software release 4.1(1) and later, if you do not specify a system name, the system name is cleared, and a DNS lookup is initiated for a system name. If a name is found, that is the name used; if no name is found, no name is designated.

The system name can be 255 characters long, and the prompt can be 20 characters long. The system name is truncated appropriately when used as a prompt; a greater-than symbol (>) is appended to the truncated system name. If the system name was found from a DNS lookup, it is truncated to remove the domain name. If the prompt is obtained using the system name, it is updated whenever the system name changes. You can overwrite this prompt any time by setting the prompt manually. Any change in the prompt is reflected in all current open sessions.

Examples

This example shows how to set the system name to Information Systems:

```
Console> (enable) set system name Information Systems
System name set.
Console> (enable)
```

Related Commands

set prompt
show system

set tacacs attempts

Use the **set tacacs attempts** command to configure the maximum number of login attempts allowed to the TACACS+ server.

set tacacs attempts *count*

Syntax Description

count	Number of login attempts allowed (**1** to **10**).

Defaults

The default value for this command is 3.

Command Types

Switch command.

Command Modes

Privileged.

Examples

This example shows how to configure the TACACS+ server to allow a maximum of six login attempts:

```
Console> (enable) set tacacs attempts 6
Tacacs number of attempts set to 6.
Console> (enable)
```

Related Commands

show tacacs

set tacacs directedrequest

Use the **set tacacs directedrequest** command to enable or disable the TACACS+ directed-request feature. When enabled, you can direct a request to any of the configured TACACS+ servers and only the username is sent to the specified server.

set tacacs directedrequest {**enable** | **disable**}

Syntax Description

enable	Keyword to send the portion of the address before the @ sign (the username) to the host specified after the @ sign.
disable	Keyword to send the entire address string to the default TACACS+ server.

Defaults

This default configuration has the TACACS+ directed-request option disabled.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

When **tacacs directedrequest** is enabled, you must specify a configured TACACS+ server after the @ sign. If the specified host name does not match the IP address of a configured TACACS+ server, the request is rejected. When **tacacs directedrequest** is disabled, the Catalyst 5000 family switch queries the list of servers beginning with the first server in the list and then sends the entire string, accepting the first response from the server. This command is useful for sites that have developed their own TACACS+ server software to parse the entire address string and make decisions based on the contents of the string.

Examples

This example shows how to enable the TACACS+ directed-request feature:

```
Console> (enable) set tacacs directedrequest enable
Tacacs direct request has been enabled.
Console> (enable)
```

Related Commands

show tacacs

set tacacs key

Use the **set tacacs key** command to set the key for TACACS+ authentication and encryption.

set tacacs key *key*

Syntax Description

key	Printable ASCII characters used for authentication and encryption. Key length must be less than 100 characters.

Defaults

The default value of *key* is null.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

The key must be the same as the key used on the TACACS+ server. All leading spaces are ignored. Spaces within the key and at the end of the key are included. Double quotation marks are not required, even if there are spaces between words in the key, unless the quotation marks themselves are part of the key. The key can consist of any printable ASCII characters except the tab character.

Examples

This example shows how to set the authentication and encryption key:

```
Console> (enable) set tacacs key Who Goes There
The tacacs key has been set to Who Goes There.
Console> (enable)
```

Related Commands

clear tacacs key
show tacacs

set tacacs server

Use the **set tacacs server** command to define a TACACS+ server.

set tacacs server *ip_addr* [**primary**]

Syntax Description

ip_addr	IP address of the server on which the TACACS+ server resides.
primary	(Optional) Keyword to designate the specified server as the primary TACACS+ server.

Defaults

This command has no default settings.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

You can configure a maximum of three servers. The primary server, if configured, is contacted first. If no primary server is configured, the first server configured becomes the primary server.

Examples

This example shows how to configure the server on which the TACACS+ server resides and to designate it as the primary server:

```
Console> (enable) set tacacs server 170.1.2.20 primary
170.1.2.20 added to TACACS server table as primary server.
Console> (enable)
```

Related Commands

clear tacacs key
show tacacs

set tacacs timeout

Use the **set tacacs timeout** command to set the response timeout interval for the TACACS+ server daemon. The TACACS+ server must respond to a TACACS+ authentication request before this interval expires or the next configured server is queried.

set tacacs timeout *seconds*

Syntax Description

seconds	Timeout response interval in seconds (**1** to **255**).

Defaults

The default value for this command is 5 seconds.

Command Types

Switch command.

Command Modes

Privileged.

Examples

This example shows how to set the response timeout interval for the TACACS+ server to 8 seconds:

```
Console> (enable) set tacacs timeout 8
Tacacs timeout set to 8 seconds.
Console> (enable)
```

Related Commands

show tacacs

set test diaglevel

Use the **set test diaglevel** command to set the level of packet buffer testing.

set test diaglevel {**complete** | **minimal** | **bypass**}

Syntax Description

complete	Keyword to specify complete packet buffer testing.
minimal	Keyword to specify minimal packet buffer testing.
bypass	Keyword to specify to bypass packet buffer testing.

Defaults

The default is minimal diagnostics. See the "Usage Guidelines" section for more information about the three diagnostic levels.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

Setting the diagnostic level determines the level of testing that occurs when the system or module is reset. The three levels are as follows:

- **complete**—This level runs all tests.
- **minimal**—This level runs only EARL tests for the supervisor engine and loopback tests for all ports in the system.
- **bypass**—This level skips all tests.

Note Although the default is **minimal**, we recommend that you set the diagnostic level at **complete**.

Examples

This example shows how to set the packet buffer testing level to complete:

```
Console> (enable) set test diaglevel complete
Diagnostic level set to complete.
Console> (enable)
```

This example shows how to set the packet buffer testing level to minimal:

```
Console> (enable) set test diaglevel minimal
Diagnostic level set to minimal.
Console> (enable)
```

This example shows how to set the packet buffer testing level to bypass:

```
Console> (enable) set test diaglevel bypass
Diagnostic level set to bypass.
Console> (enable)
```

Related Commands

set test packetbuffer
show test
test packetbuffer

set test packetbuffer

Use the **set test packetbuffer** command to schedule packet buffer tests on a regular basis.

set test packetbuffer {**enable** | **disable**}

set test packetbuffer {*day_of_week*} {*hh*:*mm* | **continuous**}

Syntax Description

enable	Keyword to enable packet buffer testing.
disable	Keyword to disable packet buffer testing.
day_of_week	Day to test packet buffers; valid days are Monday through Sunday.
hh:*mm*	Time to start packet buffer testing in hours:minutes format.
continuous	Keyword to specify continuous testing of packet buffers.

Defaults

A default pattern value of 0x55aa55aa55aa is used for complement.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

This command is supported on Catalyst 5000 family switches that have 100BASE-FX and 10/100BASE-TX Fast EtherChannel modules containing the Saint ASIC chip.

You can run packet buffer testing on both disabled and enabled ports. When a port is disabled, the testing is faster and more comprehensive because the port does not have user traffic passing through it.

User traffic continues to pass through an enabled port. When the port is enabled, the testing is slower and a small amount of data is lost. The majority of user traffic (more than 99.9%) is switched during testing. If data loss is unacceptable in your network environment, do not run packet buffer testing during operating hours.

For a disabled port, packet buffer testing takes up to one minute. For an enabled port, packet buffer testing takes up to one hour.

Clock adjustments affect packet buffer testing. If the internal clock moves past the scheduled test time (for example, when daylight savings time begins), the test may be skipped. Similarly, if the internal clock moves back before the scheduled test time (for example, when daylight savings time is over), the test may run twice.

Note To run a packet buffer test on a port immediately, use the **test packetbuffer** command.

Examples

This example shows how to enable packet buffer testing:

```
Console > (enable) set test packetbuffer enable
Packet buffer test enabled.
Console > (enable)
```

This example shows how to set packet buffer testing to occur weekly on Saturdays at 1:00 p.m.:

```
Console > (enable) set test packetbuffer sat 1:00
Packet buffer test will be run weekly on Saturdays at 01:00.
Console > (enable)
```

This example shows how to set packet buffer testing to occur daily at 6:00 p.m.:

```
Console > (enable) set test packetbuffer 18:00
Packet buffer test will be run daily at 18:00.
Console > (enable)
```

This example shows how to continously test packet buffers:

```
Console > (enable) set test packetbuffer continuous
Packet buffer test will be run continuously.
```

This example shows how to disable packet buffer testing:

```
Console > (enable) set test packetbuffer disable
Packet buffer test disabled.
Console > (enable)
```

Related Commands

set test diaglevel
show test
test packetbuffer

set time

Use the **set time** command to change the time of day on the system clock.

set time [*day_of_week*] [*mm/dd/yyyy*] [*hh:mm:ss*]

Syntax Description

day_of_week	(Optional) Day of the week.
mm/dd/yyyy	(Optional) Month, day, and year.
hh:mm:ss	(Optional) Current time in 24-hour format.

Defaults

This command has no default settings.

Command Types

Switch command.

Command Modes

Privileged.

Examples

This example shows how to set the system clock to Sunday, March 21, 2000, 7:50 a.m:

```
Console> (enable) set time sun 3/21/2000 7:50
Sun Mar 21 2000, 07:50:00
Console> (enable)
```

Related Commands

show time

set timezone

Use the **set timezone** command to set the time zone for the system.

set timezone [*zone_name*] [*hours* [*minutes*]]

Syntax Description

zone_name	(Optional) Name of the time zone to be displayed.
hours	(Optional) Number of hours offset from UTC; valid values are **-12** to **12**.
minutes	(Optional) Number of minutes offset from UTC. If the specified hours value is a negative number, then the minutes value is assumed to be negative as well; valid values are **0** to **59**.

Defaults

By default, the time zone is set to UTC.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

The **set timezone** command is effective only when NTP is running. If you set the time explicitly and NTP is disengaged, the **set timezone** command has no effect. If you have enabled NTP and have not entered the **set timezone** command, UTC is displayed by default.

Examples

This example shows how to set the time zone to Pacific Standard Time with an offset of minus 8 hours from UTC:

```
Console> (enable) set timezone PST -8
Timezone set to "PST", offset from UTC is -8 hours.
Console> (enable)
```

Related Commands

clear timezone
show timezone

set tokenring acbits

Use the **set tokenring acbits** command to specify whether AC bits are set unconditionally or conditionally when a port forwards certain LLC frames.

set tokenring acbits *mod/port* {**enable** | **disable** | **sronly** | **never** | **always**}

Syntax Description

mod/port	Number of the module and the port on the module.
enable	Keyword to unconditionally set the AC bits on source-routed frames with a RIF length greater than 2 and on all explorer frames, and to set the AC bits on all frames forwarded to another port.
disable	Keyword to specify that the AC bits be set based exclusively on whether the frame is forwarded to another port.
sronly	Keyword to specify that the AC bits be set only on source-routed frames with a RIF length greater than 2 and on all explorer frames.
never	Keyword to specify that the AC bits never be set on LLC frames.
always	Keyword to specify that the AC bits always be set on LLC frames.

Defaults

The default configuration when local address learning is enabled on a Token Ring port, the default is **disable**. When local address learning is disabled on a Token Ring port, the default is **always**.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

You can use the **set tokenring acbits** command to specify whether the AC bits should be set unconditionally on repeated source-routed LLC frames, which include source-routed frames with a RIF length greater than two and all Spanning Tree Explorer and All-Routes Explorer frames.

If you set this parameter to **disable**, the setting of these bits is based on whether the frame was actually forwarded. This parameter is only valid when local address learning is enabled on a port. Therefore, specifying **disable** automatically enables local address learning on the port.

The **enable** keyword is valid only when local address learning is enabled on a port. Therefore, specifying **enable** automatically enables local address learning on the port.

The **always** keyword is valid only when local address learning is disabled on a port. Therefore, specifying **always** automatically disables local address learning on the port.

The **never** keyword is valid only when local address learning is disabled on the port. Therefore, specifying **never** automatically disables local address learning on the port.

Examples

This example shows port 4 on module 4 is enabled to set unconditionally the AC bits when forwarding certain LLC frames:

```
Console> (enable) set tokenring acbits 4/4 enable
Port 4/4 acbits enabled.
Console> (enable)
```

This example shows port 4 on module 4 is disabled to set conditionally the AC bits when forwarding certain LLC frames:

```
Console> (enable) set tokenring acbits 4/4 disable
Port 4/4 acbits disabled.
Console> (enable)
```

This example shows how to set the AC bits to always be set on LLC frames on port 2 on module 3:

```
Console> (enable) set tokenring acbits 3/2 always
Warning: Disable Local learning: 3/2
Port 3/2 acbits always
Console> (enable)
```

Related Commands

show tokenring

set tokenring configloss

Use the **set tokenring configloss** command to specify thresholds that cause the port to be administratively disabled when the thresholds are exceeded during the user-specified interval.

set tokenring configloss *mod/port* [**threshold** *thresh_num*] [**interval** *int_num*]

Syntax Description

mod/port	Number of the module and the port on the module.
threshold *thresh_num*	(Optional) Keyword and variable to set the threshold for configuration losses; valid values are from **1** to **100**.
interval *int_num*	(Optional) Keyword to set the interval at which the configuration loss is measured; valid values are from **1** to **99** minutes.

Defaults

The default threshold configuration is 8; the default interval is 10.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

Configuration loss occurs when a port completes a connection, allows data traffic to flow, and subsequently closes. The configuration loss threshold is used to control the number of configuration losses that can occur within a specified time. When the threshold is exceeded, the port is disabled and you must enable it by using the **set port enable** command or an SNMP manager.

Examples

The following example shows how to set a configuration loss threshold of 25 and an interval of 5 minutes for port 1 on module 4:

```
Console> (enable) set tokenring configloss 4/1 threshold 25 interval 5
Port 4/1 configloss threshold set to 25, interval set to 5.
Console> (enable)
```

Related Commands

show tokenring

set tokenring distrib-crf

Use the **set tokenring distrib-crf** command to enable or disable distribution of TrCRF VLANs.

set tokenring distrib-crf {**enable** | **disable**}

Syntax Description

enable	Keyword to enable distribution of TrCRF VLANs.
disable	Keyword to disable distribution of TrCRF VLANs.

Defaults

This command has no default settings.

Command Types

Switch command.

Command Modes

Privileged.

Examples

This example shows how to enable distribution of TrCRF VLANs:

```
Console> (enable) set tokenring distrib-crf enable
Distribution of TR CRFs enabled.
Warning: Ports will NOT be inactivated for distributed crfs. NETWORK LOOPS MAY .
Console> (enable)
```

This example shows how to disable distribution of TrCRF VLANs:

```
Console> (enable) set tokenring distrib-crf disable
Distribution of TR CRFs disabled.
Console> (enable)
```

Related Commands

show tokenring

set tokenring etr

Use the **set tokenring etr** command to enable or disable a Token Ring port's use of the early token release procedure when transmitting frames.

set tokenring etr *mod/port* {**enable** | **disable**}

Syntax Description

mod/port	Number of the module and the port on the module.
enable | **disable**	Keyword to specify that early token release should be used (enable) or not used (disable) when transmitting frames.

Defaults

For 16-Mbps and autospeed-detection ports, the default configuration is to enable early token release.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

You cannot enable early token release for 4-Mbps ports. Enabling or disabling early token release on a port causes the port to close and reopen.

Examples

This example shows how to enable early token release on port 2 on module 3:

```
Console> (enable) set tokenring etr 3/2 enable
Port 3/2 Early Token Release enabled.
Console> (enable)
```

This example shows how to disable early token release on port 2 on module 3:

```
Console> (enable) set tokenring etr 3/2 disable
Port 3/2 Early Token Release disabled.
Console> (enable)
```

Related Commands

show tokenring

set tokenring explorer-throttle

Use the **set tokenring explorer-throttle** command to control the number of incoming explorer frames per second allowed on a Token Ring module port.

set tokenring explorer-throttle *mod/port maximum_explorers*

Syntax Description

mod/port	Number of the module and the port on the module.
maximum_explorers	Maximum number of incoming explorer frames per second allowed on the specified Token Ring port.

Defaults

The default is 0, no explorer frame throttling.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

This command requires Token Ring module software release 3.2(3) or later.

To disable explorer frame throttling, set the *maximum_explorers* value to 0.

If the configured threshold is reached, any subsequent explorer frames received on the port are dropped until the next one-second window.

set tokenring locallearning

Use the **set tokenring locallearning** command to enable or disable local MAC address learning on a Token Ring port.

set tokenring locallearning *mod/port* **enable | disable**

Syntax Description

mod/port	Number of the module and the port on the module.
enable | disable	Keyword to specify whether local MAC address learning is enabled or disabled.

Defaults

The default is for local address learning to be enabled.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

We recommend that you use the **set tokenring locallearning** command only in those rare circumstances in which network communications are disrupted because of invalid frames. This command should be used in conjunction with the **set tokenring portaging** and **set tokenring acbits** commands.

The **set tokenring locallearning** command allows you to enable or disable local MAC address learning on a Token Ring port. The default is for local address learning to be enabled.

When local address learning is enabled, the value of the address recognized (A) bit and the frame copied (C) bit in LLC frames is set by the ports on the Token Ring module based on whether the frame was actually forwarded. However, when local address learning is disabled, the AC bits cannot be set by the ports on the Token Ring module based on whether the frame was forwarded because all frames are forwarded to the Catalyst 5000 family switching backplane.

When local address learning is disabled on a Token Ring port, the AC bits must be set based on the type of frame that has been received. When you disable local address learning on a Token Ring port, the default is for the AC bits to always be set on LLC frames, however, you can configure how the AC bits are to be set using the **set tokenring acbits** command.

Examples

This example shows how to disable local address learning:

```
Console> (enable) set tokenring locallearning 3/2 disable
Warning: Resetting acbit value to ALWAYS: 3/2
Local learning disabled for port 3/2
Console> (enable)
```

Related Commands

set tokenring acbits
set tokenring portaging
show tokenring

set tokenring portaging

Use the **set tokenring portaging** command to configure fast port aging on a Token Ring.

set tokenring portaging *mod/port agingtime*

Syntax Description

mod/port	Number of the module and the port on the module.
agingtime	Time (in seconds) an inactive MAC address will remain in the port's address table; valid values are **0** and from **5** to **65535** seconds.

Defaults

The default is 0 seconds.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

We recommend that you use the **set tokenring portaging** command only in those rare circumstances in which network communications are disrupted because of invalid frames. This command should be used in conjunction with the **set tokenring locallearning** and **set tokenring acbits** commands.

When in a network environment in which a device is sending invalid frames, you can ensure that the Token Ring module port address tables contain correct MAC address entries by rapidly aging out the erroneous entries using the **set tokenring portaging** command. Rapidly aging out the Token Ring module port address table ensures that the Token Ring module port address tables do not contain invalid entries that might affect the Catalyst 5000 family switch and network communication.

The aging limit you define determines when inactive MAC addresses are removed from a port address table. The aging limit is the time (in seconds) a MAC address remains in the port's address table. Possible values are 0 and 5 through 65535 seconds. The default is 0. Zero indicates the Token Ring module port address table entries are aged out using the CAM aging time for the corresponding VLAN that has been configured using the **set cam agingtime** command.

To use the fast port aging feature effectively, we recommend that you configure an aging limit of 10.

Examples

This example shows how to define the address aging limits for Token Ring port on port 2 on module 3:

```
Console> (enable) set tokenring portaging 3/2 10
Agingtime set to 10 sec for port 3/2
Console> (enable)
```

Related Commands

set tokenring acbits
set tokenring locallearning
show tokenring

set tokenring portmode

Use the **set tokenring portmode** command to specify the connection type and access protocol used by a port.

set tokenring portmode *mod/port* {**auto** | **fdxcport** | **hdxcport** | **fdxstation** | **hdxstation** | **riro**}

Syntax Description

mod/port	Number of the module and the port on the module.
auto	Keyword to set the port to detect the connection mode.
fdxcport	Keyword to set the port to operate as a concentrator port in full-duplex mode.
hdxcport	Keyword to set the port to operate as a concentrator port in half-duplex mode.
fdxstation	Keyword to set the port to operate as a station in full-duplex mode.
hdxstation	Keyword to set the port to operate as a station in half-duplex mode.
riro	Keyword to specify the parameter applicable to fiber-optic modules only.

Defaults

The default configuration has the port detect the mode of connection.

Command Types

Switch command.

Command Modes

Privileged.

Examples

This example shows how to set the port mode to autosensing on port 1 on module 4:

```
Console> (enable) set tokenring portmode 4/1 auto
Port 4/1 mode set to auto.
Console> (enable)
```

This example shows how to set port 2 on module 4 to operate as a concentrator port in full-duplex mode:

```
Console> (enable) set tokenring portmode 4/2 fdxcport
Port 4/2 mode set to fdxcport.
Console> (enable)
```

Related Commands

show tokenring